



RIT

**National Technical
Institute for the Deaf**




2022

Annual Report

2022 Annual Report

National Technical
Institute for the Deaf



Note of Explanation

This Annual Report notes activities and accomplishments throughout Fiscal Year 2022 (October 1, 2021 - September 30, 2022), corresponding primarily to Academic Year 2021-2022. References to Fiscal Year 2023 correspond to characteristics and accomplishments as of fall semester Academic Year 2022-2023.

Throughout the report, RIT and NTID alumni are indicated by their graduation years appearing after their names. We apologize for any omissions.

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December 23, 2022

The Honorable Miguel Cardona
Secretary of Education
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC 20202

Dear Secretary Cardona:

We are pleased to submit the following report to fulfill the requirement of the Education of the Deaf Act that the National Technical Institute for the Deaf (NTID), a college of Rochester Institute of Technology (RIT), "... shall prepare and submit an annual report to the Secretary..."

As always, we begin our report as we begin each academic year and each new initiative – with our mission:

To provide deaf and hard-of-hearing students with outstanding state-of-the-art technical and professional education programs, complemented by a strong liberal arts and sciences curriculum, that prepare them to live and work in the mainstream of a rapidly changing global community and enhance their lifelong learning. Secondly, NTID prepares professionals to work in fields related to deafness; undertakes a program of applied research designed to enhance the social, economic and educational accommodation of deaf people; and shares its knowledge and expertise through outreach and other information dissemination programs.

In FY 2022, RIT welcomed the return of a more normal campus life as the COVID pandemic began to ease. Masking and distancing protocols have relaxed in most areas of campus, participation in clubs, organizations and sports events is back on track, and only a few hybrid and remote classes remain. In FY 2022, RIT continued its forward trajectory to becoming the top university in the nation integrating technology, the arts and design, with an expansion of its Ph.D. program offerings, construction of state-of-the-art facilities, national academic and athletic awards and a record \$92 million in sponsored research awards.

Despite the pandemic, NTID outcomes have continued to be impressive, due in large part to the support of the federal government. Funding from the Coronavirus Response and Relief Supplemental Appropriations Act of 2021 and the American Rescue Plan Act of 2021 provided direct support to students in the form of debt forgiveness, emergency grants, enrichment, mentorship, resources to meet basic needs and technology that allowed them to remain in college. We are pleased to report that NTID students continued to have a higher persistence rate and graduation rate than the national persistence and graduation rates for all students, hearing and otherwise, at two- and four-year colleges. In addition, NTID students who graduated in 2021 had a 96% employment rate in 2022. NTID also launched two new programs: a new BS degree in Community Development and Inclusive Leadership, an interdisciplinary program focusing on leadership, interpersonal communication, research and data management, and a Certificate in Deaf Interpreting, a 20-week program that trains Deaf professionals to interpret in myriad settings. NTID also offered its summer bridge program for the third year, helping first-year deaf and hard-of-hearing students to address academic as well as social emotional needs through 200 hours each of reading/writing, American Sign Language, math and social emotional/college preparedness instruction over five weeks at no additional cost.

With generous support from the U.S. Department of Education and Congress, RIT/NTID has weathered the worst of the pandemic and emerged stronger than ever, producing graduates who will make a difference for good in the workplace and the world. This report is a testament to our collective success and is available at:

rit.edu/ntid/about/media#annual-report

With warm regards,



David C. Munson, Jr.
President

Gerard J. Buckley '78
President, NTID
Vice President and Dean, RIT

Cover Photo

Omowunmi Ayangbaya, of Canton, Michigan, attended NTID's Career Fair, hosted by NTID Co-op and Career Center. A Business Administration major, Ayangbaya was able to meet and mingle with more than 30 employers to look for co-op and job opportunities.

Mission Statement

The primary mission of the National Technical Institute for the Deaf is to provide deaf and hard-of-hearing students with outstanding state-of-the-art technical and professional education programs, complemented by a strong arts and sciences curriculum, that prepare them to live and work in the mainstream of a rapidly changing global community and enhance their lifelong learning.

Secondarily, NTID prepares professionals to work in fields related to deafness; undertakes a program of applied research designed to enhance the social, economic and educational accommodation of deaf people; and shares its knowledge and expertise through outreach and other information dissemination programs.

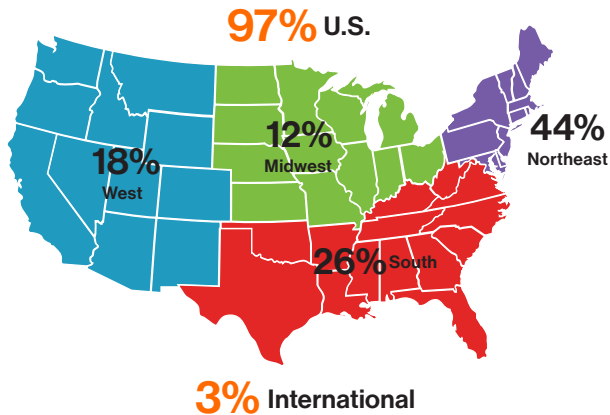
NTID by the Numbers

The National Technical Institute for the Deaf has grown exponentially since enrolling its first class in 1968. Numbers don't tell the whole story, but they do provide a glimpse of what NTID looks like today.

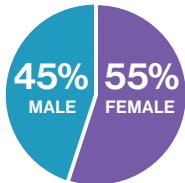
Student Enrollment

1,135 TOTAL ENROLLMENT

BREAKDOWN BY GEOGRAPHIC REGION:



BREAKDOWN BY GENDER:



ALMOST **10,000** ALUMNI

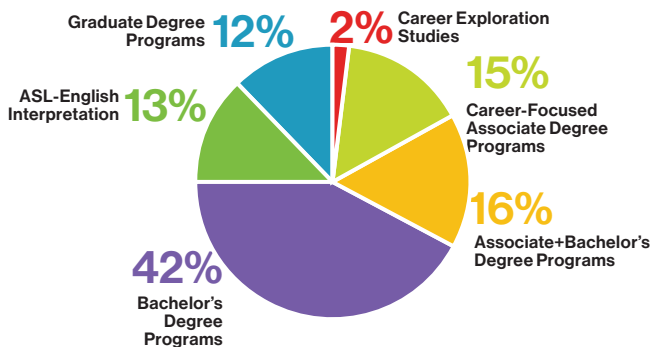
39% of RIT/NTID students are eligible for Pell Grants

Growing Diversity

49% of RIT/NTID deaf and hard-of-hearing students are from a minority background



Academics



Employment/Earnings After College

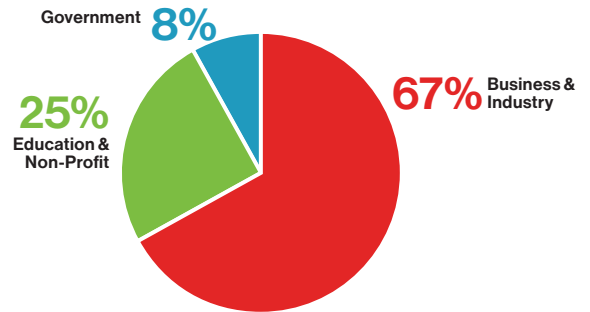
209 STUDENTS COMPLETED A CO-OP LAST YEAR

New RIT/NTID grads are ready to succeed



96% of students who sought jobs after graduation found one within a year

New RIT/NTID alumni thrive in all economic sectors



Employers include:

BNY Mellon, Dow Chemical, Fidelity Investments, GE Healthcare, IBM, L3 Harris Technologies, The Learning Center for the Deaf, PNC Financial Services Group Inc., U.S. Bureau of Reclamation

RIT/NTID graduates are competitive in the marketplace

RIT/NTID associate degree graduates earn

95%

more than deaf and hard-of-hearing graduates from other postsecondary institutions*.

RIT/NTID bachelor's degree graduates earn

178%

more than deaf and hard-of-hearing graduates from other postsecondary institutions*.

*median salary at age 50 compared to average

Student Access Services

Hours provided

	In Classroom	Outside Classroom
Interpreting	91,075	41,101
Captioning	28,051	4,266
Notetaking	39,989	

RIT/NTID Response to COVID-19 Pandemic

The RIT campus continued its efforts to respond to the changing COVID-19 pandemic landscape, and has transitioned from the “RIT Ready” system to the [RIT Safety Plan](#).

The following committee has reduced their regular meetings, with representation from NTID:

- Pandemic Planning Group

The majority of students, faculty and staff have returned to campus, although a few hybrid and remote classes remain. Masking and distancing protocols have relaxed in most areas on campus—the exceptions being the Student Health Center and NTID’s Communication Studies and Services Audiology and Speech/Language areas.

NTID’s Communications, Marketing and Multimedia Services and Access Services departments, working closely with RIT’s University Communications and Student Health Services, continued producing videotaped sign language translations of COVID-19 and health-related announcements from RIT’s administration and health professionals. Completed videos were then posted on RIT and NTID social media channels, COVID-related websites and digital display monitors to help ensure that deaf and hard-of-hearing students received this vital information.

The main RIT campus continued with a number of systems to ensure the health and safety of all members of the campus community:

- verified COVID-19 testing of all students and employees
- safety training modules for staff and students (with sign language translations)
- wastewater testing on a smaller scale in fall semester 2022
- proof of seasonal flu vaccines
- quarantine and isolation protocols
- education plan for preparation and prevention of the spread of the virus
- call center to answer questions from employees, students and families about all aspects of housing, opening, finance and more
- RIT Safety Plan website

Annual Highlights

Noteworthy accomplishments and statistics for the past year include the following:

- NTID's most recent employment rate for deaf and hard-of-hearing graduates in 2021 is 96%. The average employment rate over the past five years is 95%.
- NTID's first-year persistence rates and graduation rates for both sub-baccalaureate students and baccalaureate students were higher than the national rates for two- and four-year colleges.
- In December 2021, *World Around You*, a multilingual platform created by NTID, was a Zero Project 2022 award recipient for its goal of increasing global literacy for deaf children through greater access to sign languages, early-grade reading materials, vocabulary, reading instruction and digital games.
- In April 2022, NTID announced Project IRIS, a partnership with MITRE Corp. since 2019, to create a single-number phone system that encompasses the communications functions already built into smartphones. It includes video relay services, call captioning services, and Next Generation 911, an emergency response system that would make placing emergency calls accessible for deaf and hard-of-hearing people. Instead of relying on WiFi/data-dependent apps or multiple phone numbers for various services, Project IRIS would enable the phone number assigned to the device to be the means by which all these services can be accessed.
- In April 2022, the short film, *Say Cheese*, made by RIT/NTID MFA student Gabriel Ponte-Fleary '19 and RIT student Anna McClanahan, won the grand prize in the Coca-Cola Refreshing Films program. The film was shown nationwide in Cinemark theaters from July 2022 through September 8, 2022, reaching an estimated 10,000 screens nationwide.
- In April 2022, RIT held its first in-person Imagine RIT: Creativity and Innovation Festival in three years. Representatives from NTID's research labs, technology labs, visual communications department, ASL interpreting programs and Sunshine 2.0 presented to thousands of attendees from the community.
- In August 2022, NTID offered its summer bridge program for the third year, helping first-year deaf and hard-of-hearing students to address academic as well as social emotional needs through 200 hours each of reading/writing, American Sign Language, math and social emotional/college preparedness instruction over five weeks at no additional cost.
- In August 2022, NTID welcomed its first cohort of students into its new BS degree in Community Development and Inclusive Leadership. This program is an interdisciplinary program focusing on leadership, interpersonal communication, research and data management and partnering with RIT's Saunders College of Business, College of Liberal Arts, College of Health Sciences and Technology and School of Individualized Study.
- Almost half (49%) of NTID's fall 2022 new students, excluding MSSE and interpreting programs, are from minority groups. Excluding MSSE and interpreting programs, 49% of the total enrolled student body is from minority groups.
- In September 2022, NTID launched its Certificate in Deaf Interpreting, a non-credit, 20-week program that trains Deaf professionals to interpret in educational, legal, medical, business and government settings.
- In September 2022, NTID partnered with minor league baseball team, the Rochester Red Wings, and Seneca Park Zoo for a Rochester Deaf Awareness Weekend. On September 16, the Rochester Red Wings wore ASL jerseys, included a silent inning during their game, featured ASL performances of "The Star-Spangled Banner" and "God Bless America", and posted interpreters throughout the stadium. On September 17, NTID ASL-English Interpretation students were stationed throughout Seneca Park Zoo to interpret for docents, zookeepers, tours and Keeper Chats.

Executive Summary

New Fall Registrations*	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Deaf and Hard-of-Hearing Students	256	246	248	273	237
ASL-English Interpretation	50	51	48	48	41
Community Development and Inclusive Leadership	N/A	N/A	N/A	N/A	0
MS in Secondary Education	6	8	22	28	38
Total New Registrations	312	305	318	349	316
Enrollment (Deaf and Hard-of-Hearing Students Only)					
Career Exploration Studies (CES)	25	31	25	33	26
Sub-Baccalaureate Programs					
Career-Focused Programs	242	218	201	193	172
Associate+Bachelor's/Pre-Baccalaureate	182	171	173	177	182
Subtotal CES and Sub-Baccalaureate	449	420	399	403	380
Undergraduate Programs at RIT	506	470	421	455	468
Graduate Programs at RIT	50	53	66	71	56
Subtotal Undergraduate and Graduate at RIT	556	523	487	526	524
Subtotal Deaf and Hard-of-Hearing Students Only	1,005	943	886	929	904
Other Enrollments					
ASL-English Interpretation	148	155	170	168	144
Community Development and Inclusive Leadership	N/A	N/A	N/A	N/A	3
MS in Health Care Interpretation	12	9	11	13	12
MS in Secondary Education	17	22	34	56	72
Subtotal Other Enrollments	177	186	215	237	231
Total Deaf and Hard-of-Hearing Enrollment (Includes MSSE)	1,014	953	908	970	946
Total Enrollment	1,182	1,129	1,101	1,166	1,135

* New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

Executive Summary (continued)

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Withdrawn (All Students)	17%	17%	15%	17%	17%
Degrees Granted					
Total	302	292	319	235	277
<i>Degree Level</i>					
Certificate	3	1	1	1	0
Associate (AOS)	41	22	28	18	17
Associate (AS/AAS)	72	78	82	54	54
Associate (Interpreting)	0	0	0	0	0
Bachelor's (Interpreting)	29	35	23	30	44
Bachelor's	120	126	152	96	111
Advanced Certificate				1	3
Master's	24	17	15	24	25
Master's (MS Health Care Interpretation)	N/A	8	8	5	4
Master's (MSSE)	13	5	10	6	19
Post-Graduation Employment					
Post-Graduation Employment	134	116	124	92	N/A*
Post-Graduation Employment Rate	95%	95%	95%	96%	N/A*
<i>By Sector of the Economy</i>					
Business and Industry	65%	77%	72%	67%	N/A*
Education/Non-Profit	15%	16%	21%	25%	N/A*
Government	20%	7%	7%	8%	N/A*
Cooperative Work Experiences	270	232	181	218	209
Access/Support Services					
Notetaking Hours	52,945	47,181	40,475	30,263	39,989
Tutoring Hours	11,405	8,369	12,025	10,993	10,634
Interpreting Hours	136,036	145,284	118,240	117,831	132,176
Real-Time Captioning Hours	23,600	25,978	21,856	27,744	32,317

* Post-graduation employment numbers reflect status as of one year following graduation; employment numbers for September 1, 2021 through August 31, 2022 graduates will be reported next year.

Executive Summary (continued)

Outreach (Number of External Participants)	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Computer Science Week	N/A	26	N/A	N/A	N/A
Create Your Future	N/A	23	N/A	N/A	N/A
Digital Arts, Film and Animation	34	18	1	37	4
Discovering Agriculture through STEM	23	N/A	N/A	N/A	N/A
Droids and Drones	30	N/A	N/A	N/A	N/A
Explore Your Future	179	212	136	137	117
Health Care Careers Exploration Program	20	21	N/A	N/A	N/A
Health Science Week	N/A	20	N/A	N/A	N/A
Math Competition	149	168	N/A	74	107
NTID Co-op and Career Center	290	266	163	1,462	479
NTID Regional STEM Center	N/A	7,685	5,122	6,473	9,259
Project Fast Forward	118	158	306	196	252
SpiRIT Writing Contest	26	19	16	12	5
Steps to Success	17	19	N/A	N/A	N/A
TechGirlz/TechBoyz Camp	49	51	N/A	N/A	48
Financial Aid (Domestic Students)					
Grant-in-Aid	\$1,344,300	\$1,588,692	\$1,660,043	\$2,076,082	\$2,199,614
Vocational Rehabilitation	9,780,492	8,951,676	8,409,863	7,679,659	7,375,278
Pell Grants	2,619,065	2,492,605	2,353,799	2,215,865	2,479,200
State Grants	488,173	483,487	511,115	522,350	517,474
Federal Loans	3,566,895	3,246,844	2,936,663	2,417,667	2,814,436
Scholarships and Other	4,797,273	4,898,701	4,848,736	5,745,909	7,427,511
Total Financial Aid	\$22,596,198	\$21,630,327	\$20,720,219	\$20,657,532	\$22,813,513
Average Aid per Domestic Student (Excluding Loans)*	\$15,688	\$17,022	\$16,330	\$17,031	\$17,667

* Total financial aid, less loans, divided by domestic student enrollment.

Executive Summary (continued)

Domestic Student Rates*	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Tuition	\$16,518	\$17,162	\$17,814	\$18,330	\$18,926
Room	7,596	7,902	8,140	8,392	8,728
Board	5,662	5,800	5,836	6,040	6,250
Fees	584	646	676	726	798
Total	\$30,360	\$31,510	\$32,466	\$33,488	\$34,702

Fundraising Activity

Cash to Endowment and Restricted Funds	\$1,337,139	\$907,640	\$1,165,293	\$1,346,832	**
Equipment and Software	\$100,728	\$29,243	\$65,599	\$140,990	**
Federal Funds Matched***	\$362,598	\$353,855	\$285,201	\$354,669	**



RIT students and staff enjoy mask-free smiles as they welcome first-year RIT students during RIT's Tiger Walk, a hallmark of New Student Convocation.

* Per the Education of the Deaf Act, international students pay differing tuition rates, depending on whether they are from a developing or developed country. Their charges for room, board and fees are the same as for domestic students.

** Information not yet available.

*** Any monies matched must be funded through operating funds efficiencies.

The Education of the Deaf Act

The Education of the Deaf Act requires NTID to submit this report annually to the federal government.

Reporting Requirements of the Education of the Deaf Act and the Agreement with RIT

This section includes, verbatim, the section of the Education of the Deaf Act (EDA) that applies to reporting requirements for the National Technical Institute for the Deaf. The material below in brackets provides cross-references, indicating sections of this report that reflect NTID compliance

with these EDA provisions. In addition, reporting on inventions is included below based on a requirement of the Agreement with RIT.

NOTE: Where “...” appear, sections of the EDA that do not apply to NTID have been removed.

Reports for the EDA

... the Board of Trustees or other governing body of the institution of higher education with which the Secretary has an agreement [RIT] under section 4332 of this title shall prepare and submit an annual report to the Secretary, and to the Committee on Education and Labor of the House of Representatives and the Committee on Labor and Human Resources of the Senate, not later than 100 days after the end of each fiscal year, which shall include the following: [This *Annual Report* meets this requirement.]

- (1) The number of students during the preceding academic year who enrolled and whether these were first-time enrollments, who graduated, who found employment, or who left without completing a program of study, reported under each of the programs ... of NTID. [Refer to the Executive Summary section.]
- (2) For the preceding academic year, and to the extent possible, the following data on individuals who are deaf and from minority backgrounds and who are students (at all educational levels) or employees:
 - (A) The number of students enrolled full- and part-time. [Refer to the Academic Programs and Diversity and Inclusion sections.]
 - (B) The number of these students who completed or graduated from each of the educational programs. [Refer to the Persistence, Graduation & Employment and Diversity and Inclusion sections.]
 - (C) The disposition of these students upon graduation/completion on the date that is one year after the date of graduation or completion of programs at NTID ... in comparison to students from non-minority backgrounds. [Refer to the Persistence, Graduation & Employment and Diversity and Inclusion sections.]
 - (D) The number of students needing and receiving support services (such as tutoring and counseling) at all educational levels. [Refer to the Student Support Services section.]
 - (E) The number of recruitment activities by type and location for all educational levels. [Refer to the Outreach section of the Executive Summary.]
 - (F) Employment openings/vacancies and grade level/type of job and number of these individuals that applied and that were hired... [Refer to the Diversity and Inclusion section.]
- (3) (A) A summary of the annual audited financial statements and auditor's report ... as required under section 4353 of this title. [The audit of RIT is provided to the Secretary, as is a separate schedule for NTID.]
 - (B) A summary of the annual audited financial statements and auditor's report of NTID programs and activities of this title, and such supplementary schedules presenting financial information for NTID for the end of the federal fiscal year as determined by the Secretary. [The audit of RIT is provided to the Secretary, as is a separate schedule for NTID.]

Education of the Deaf Act (continued)

- (4) For the preceding fiscal year, a statement showing the receipts of ... NTID and from what federal sources, and a statement showing the expenditures ... by function, activity, and administrative and academic unit. [Refer to the Results of Financial Operations section.]
- (5) A statement showing the use of funds (both corpus and income) provided by the Federal Endowment Program under section 4357 of this title. [Refer to the External Funding Sources section.]
- (6) A statement showing how such Endowment Program funds are invested, what the gains or losses (both realized and unrealized) on such investments were for the most recent fiscal year, and what changes were made in investments during that year. [Refer to the External Funding Sources section.]
- (7) Such additional information as the Secretary may consider necessary. [NTID responds on a regular basis to requests for additional information from staff of the U.S. Department of Education.]

Agreement with RIT: Certification Regarding Inventions


The *Agreement for Establishment and Operation of the National Technical Institute for the Deaf Between the Secretary of Health, Education, and Welfare and Rochester Institute of Technology (RIT) (1966)* requires annual disclosure of any inventions developed during the year or a certification that no inventions were made during the applicable period. NTID hereby certifies that no new inventions were made during the year covered by this Annual Report.

Most recent inventions include:

Intellectual Property 2017-015-01 – Provisional Patent filed with U.S.P.T.O. for “Method for Measuring Sign Recognition Ability in Learners of American Sign Language (ASL) as a Second Language.” Application date: July 18, 2017. IP Inventors named: Joseph Bochner, Vincent Samar, Wayne M. Garrison. Converted to non-provisional patent June, 2018.

Intellectual Property 2019-013-02 – Non-provisional Patent filed with U.S.P.T.O. for “Method and System to Enhance Telecommunication Relay System for People with Disability.” Application date: February 14, 2020. IP Inventors named: Brian Trager '00, '05, Gary Behm '78, '81, Shareef Ali '15, '18, Mark Jeremy '96, '08, '18, Byron Behm. Published at USPTO, August 5, 2021.

Performance Indicators



Performance indicators, required by the Government Performance and Results Act, measure NTID's performance related to enrollment, persistence, graduation and employment.

Performance Indicators

Performance indicators are critical elements of the Congressionally mandated Government Performance and Results Act (GPRA), which requires the Department of Education to

measure the performance of all entities within its oversight receiving federal funds. There are four objectives, each with several measures to track performance.

Objective 1 of 4

Provide deaf, hard-of-hearing and hearing students in undergraduate and professional studies with outstanding state-of-the-art technical and professional education programs, complemented by a strong arts and sciences curriculum and supplemented with appropriate student support services.

Though not related directly to required performance indicators, the table below reports an overview of the total enrollment for the National Technical Institute for the Deaf (NTID), which includes:

- Deaf and hard-of-hearing sub-baccalaureate students;
- Deaf and hard-of-hearing baccalaureate students;
- Baccalaureate students in the ASL-English Interpretation program;
- Deaf and hard-of-hearing graduate students enrolled in colleges of RIT other than NTID;
- Deaf, hard-of-hearing and hearing students in NTID's Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) program; and
- Students in the Master of Science in Health Care Interpretation (MSHCI) program.

Fiscal Year	Total Enrollment
2014	1,432
2015	1,387
2016	1,413
2017	1,300
2018	1,262
2019	1,182
2020	1,129
2021	1,101
2022	1,166
2023	1,135

Performance Indicators (continued)

Measure 1.1 of 3: The number of NTID-supported deaf and hard-of-hearing undergraduates (desired direction: increase)

Fiscal Year	Target	Number	Status
2014	1,200	1,195	Target Not Met
2015	1,200	1,153	Target Not Met
2016	1,200	1,167	Made Progress From Prior Year
2017	1,200	1,078	Target Not Met
2018	1,200	1,025	Target Not Met
2019	1,045	955	Target Not Met
2020	1,045	890	Target Not Met
2021	1,045	820	Target Not Met
2022	1,045	858	Made Progress From Prior Year
2023	1,045	851	Target Not Met

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses for completion of their degrees.

Target Context: In September 2011, the target for the number of undergraduates who are deaf and hard of hearing enrolled in NTID was increased from 1,045 students to 1,200 students, as NTID enrolled more than 1,200 undergraduate students in FY 2009, FY 2010 and FY 2011. For FY 2019, the target was decreased back to the original 1,045 to better reflect the recent enrollment contraction.

Explanation: Below is a table showing the number of undergraduate students who are deaf or hard of hearing who were enrolled in sub-baccalaureate programs at NTID and in baccalaureate programs at RIT.

Fiscal Year	Sub-Baccalaureate	Baccalaureate	Total
2014	669	526	1,195
2015	624	529	1,153
2016	624	543	1,167
2017	571	507	1,078
2018	505	520	1,025
2019	449	506	955
2020	420	470	890
2021	399	421	820
2022	403	455	858
2023	388	463	851

As seen in the above table, NTID experienced a decrease in the undergraduate enrollment of students who are deaf and hard of hearing from 858 students during AY 2021-2022 (FY 2022) to 851 students in AY 2022-2023 (FY 2023).

Performance Indicators (continued)

Measure 1.2 of 3: The number of students enrolled in NTID's ASL-English Interpretation program (desired direction: increase)

Fiscal Year	Target	Number	Status
2014	140	147	Target Surpassed
2015	160	146	Target Not Met
2016	160	151	Made Progress From Prior Year
2017	140	140	Target Met
2018	140	147	Target Surpassed
2019	140	148	Target Surpassed
2020	140	155	Target Surpassed
2021	140	170	Target Surpassed
2022	140	168	Target Surpassed
2023	140	144	Target Surpassed

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data for students in the ASL-English Interpretation program does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses toward completion of their degrees.

Target Context: NTID has reported that the ASL-English Interpretation program receives more applicants than they are able to accept. NTID allowed this program to expand in FY 2009 to help meet the increasing demand for qualified interpreters. As a result of the expansion, the target increased to 120 students for FY 2011, and again to 140 students for FY 2012, and finally to 160 students for FY 2015. In FY 2017, the target was changed back to an overall enrollment goal of 140 students.

Explanation: The number of students currently enrolled in the program in FY 2023 (AY 2022-2023) is 144. This measure previously included Associate in Applied Science (AAS) degree students in ASL-English Interpretation, a now-closed degree program track. Between FY 2009 and FY 2016, just four AAS degree students were enrolled as they finished their degree requirements.

Performance Indicators (continued)

Measure 1.3 of 3: The number of students enrolled in NTID's Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE), Master of Science program in Health Care Interpretation (MSHCI) and deaf or hard-of-hearing students pursuing graduate degrees in other RIT colleges (desired direction: increase)

Fiscal Year	Target	Number	Status
2014	95	90	Target Not Met
2015	95	88	Target Not Met
2016	95	95	Target Met
2017	95	82	Target Not Met
2018	95	90	Made Progress From Prior Year
2019	95	79	Target Not Met
2020	95	92	Made Progress From Prior Year
2021	95	111	Target Surpassed
2022	95	140	Target Surpassed
2023	95	140	Target Surpassed

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses toward completion of their degrees.

Target Context: In the FY 2008 Performance Plan, the target for the number of students enrolled in NTID's MSSE program, as well as students pursuing graduate degrees in the other colleges of RIT, was reduced from 120 students to 105 students. The target was further reduced from 105 students to 95 students for FY 2012 and subsequent years.

Explanation: In FY 2023 (AY 2022-2023), NTID had a total of 72 students in the MSSE program and 56 deaf and hard-of-hearing students in other RIT graduate programs. Enrollment in NTID's MSSE program has increased since FY 2019, having more than tripled. FY 2017 marked the first year where students enrolled in NTID's Master of Science in Health Care Interpretation were included. FY 2022 enrollment in this area is 12 students. Total enrollment for this measure is currently 140.

Objective 2 of 4

Maximize the number of students successfully completing a program of study.

Unlike other data reported in performance indicator objectives, the data in Objective 2 is reported to the Integrated Postsecondary Education Data System (IPEDS) using its April timeline. Therefore, FY 2022 data will be reported in April 2023.

Performance Indicators (continued)

Measure 2.1 of 4: The percentage of first-time, full-time, degree-seeking sub-baccalaureate students who were in their first year of postsecondary enrollment in the previous year and who are enrolled in the current year (desired direction: increase)

Fiscal Year	Target	Percentage	Status
2012	70	66.8	Target Not Met
2013	70	68.0	Made Progress From Prior Year
2014	70	73.5	Target Surpassed
2015	70	75.1	Target Surpassed
2016	70	69.5	Target Not Met
2017	70	71.3	Target Surpassed
2018	70	63.9	Target Not Met
2019	70	65.1	Made Progress From Prior Year
2020	70	68.3	Made Progress From Prior Year
2021	70	70.2	Target Met

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In May 2022, NTID reported to the Department the FY 2021 persistence rate of its sub-baccalaureate students who returned from AY 2020-2021 to their second academic year in AY 2021-2022.

NTID will report to the Department the FY 2022 persistence rate in April 2023, with a sub-set of disaggregated data on the persistence rates of sub-baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students, if applicable. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

Target Context: The target for the persistence rate of NTID's sub-baccalaureate students is 70%. In comparison, IPEDS data indicate that two-year public and two-year non-profit colleges have an average persistence rate of 63.0%.

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs in measuring the persistence of postsecondary students. The persistence rate is the percentage of first-time, full-time, degree-seeking sub-baccalaureate students who were in their first year of enrollment in the previous year and who are enrolled in the current year.

Performance Indicators (continued)

Measure 2.2 of 4: The percentage of first-time, full-time, degree-seeking baccalaureate students who were in their first year of postsecondary enrollment in the previous year and are enrolled in the current year (desired direction: increase)

Fiscal Year	Target	Percentage	Status
2012	85	85.9	Target Surpassed
2013	85	90.8	Target Surpassed
2014	85	90.0	Target Surpassed
2015	85	93.0	Target Surpassed
2016	86	83.0	Target Not Met
2017	87	88.8	Target Surpassed
2018	88	80.7	Target Not Met
2019	88	93.3	Target Surpassed
2020	89	88.3	Target Not Met
2021	89	83.7	Target Not Met

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In May 2022, NTID reported to the Department the FY 2021 persistence rate of its baccalaureate students, including ASL-English Interpretation students, who returned from AY 2020-2021 to their second academic year in AY 2021-2022, along with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

The following persistence rates were submitted to the Department by NTID:

	<u>All students</u>	<u>Deaf students</u>	<u>ASL-English Interpretation students</u>
FY 2012	85.9%	82.6%	94.4%
FY 2013	90.8%	89.3%	95.7%
FY 2014	90.0%	90.6%	87.5%
FY 2015	93.0%	90.8%	100.0%
FY 2016	83.0%	81.3%	88.0%
FY 2017	88.8%	85.0%	100.0%
FY 2018	80.7%	81.5%	77.8%
FY 2019	93.3%	90.5%	100.0%
FY 2020	88.3%	84.4%	96.7%
FY 2021	83.7%	82.1%	88.0%

NTID will report to the Department the FY 2022 persistence rate of its baccalaureate students in April 2023, with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students.

Target Context: The target for the persistence rate of NTID's baccalaureate students is 89%. In comparison, IPEDS data indicate that four-year public and private colleges have an average persistence rate of 81.3%.

Performance Indicators (continued)

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs in measuring the persistence of postsecondary students. The persistence rate is the percentage of first-time, full-time, degree-seeking baccalaureate students who were in their first year of enrollment in the previous year and who are enrolled in the current year.

Measure 2.3 of 4: The percentage of first-time, full-time, degree-seeking sub-baccalaureate students who graduate within 150% of the program-based length of time (desired direction: increase)

Fiscal Year	Target	Percentage	Status
2012	27	40.5	Target Surpassed
2013	35	42.1	Target Surpassed
2014	36	37.3	Target Surpassed
2015	37	39.2	Target Surpassed
2016	38	38.8	Target Surpassed
2017	39	36.9	Target Not Met
2018	40	37.7	Made Progress From Prior Year
2019	41	43.8	Target Surpassed
2020	41	53.2	Target Surpassed
2021	41	42.8	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In May 2022, NTID reported to the Department the FY 2021 percentage of its sub-baccalaureate students (those who were initially enrolled in AY 2015-2016), including ASL-English Interpretation students, who graduated within 150% of the program-based length of time, along with a sub-set of disaggregated data on the graduation rates of sub-baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

The following graduation rates were submitted to the Department by NTID:

	<u>All students</u>	<u>Deaf students</u>	<u>ASL-English Interpretation students</u>
FY 2012	40.5%	37.3%	84.6%
FY 2013	41.8%	41.1%	100.0%
FY 2014	37.3%	37.3%	N/A
FY 2015	39.2%	39.2%	N/A
FY 2016	39.8%	39.8%	N/A
FY 2017	36.9%	36.9%	N/A
FY 2018	37.7%	37.7%	N/A
FY 2019	43.8%	43.8%	N/A
FY 2020	60.0%	60.0%	N/A
FY 2021	42.8%	42.8%	N/A

Performance Indicators (continued)

NTID will report to the Department the FY 2022 graduation rate of its sub-baccalaureate students in April 2023, with a sub-set of disaggregated data on the graduation rates of sub-baccalaureate students who are deaf and ASL-English Interpretation students.

Target Context: The target for the graduation rate of NTID's sub-baccalaureate students is 41%. An IPEDS analysis of public and private non-profit two-year institutions indicated an average graduation rate of 33.5% for first-time, full-time, degree-seeking students within 150% of program-based length of time. Based on the comparison with IPEDS data, the target has increased from 35% in 2013 to 41% in 2019, at an increase of 1% per year.

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs to measure the graduation rate of postsecondary students. Program-based length of time refers to whether the stated program length for sub-baccalaureates is two or three years. The measure will allow the Department to obtain data that is comparable with what is being submitted to IPEDS by other institutions on graduation rates.

Measure 2.4 of 4: The percentage of first-time, full-time, degree-seeking baccalaureate students who graduate within 150% of the program-based length of time (desired direction: increase)

Fiscal Year	Target	Percentage	Status
2012	61	62.2	Target Surpassed
2013	62	71.9	Target Surpassed
2014	63	69.5	Target Surpassed
2015	64	76.2	Target Surpassed
2016	65	74.5	Target Surpassed
2017	65	65.6	Target Surpassed
2018	65	79.6	Target Surpassed
2019	65	80.6	Target Surpassed
2020	65	72.4	Target Surpassed
2021	65	67.0	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In May 2022, NTID reported to the Department the FY 2021 percentage of its baccalaureate students (those who were initially enrolled in AY 2015-2016), including ASL-English Interpretation students, who graduated within 150% of the program-based length of time or within six years, along with a sub-set of disaggregated data on the graduation rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

Performance Indicators (continued)

The following graduation rates were submitted to the Department by NTID:

	<u>All students</u>	<u>Deaf students</u>	<u>ASL-English Interpretation students</u>
FY 2013	71.9%	73.2%	62.5%
FY 2014	69.5%	67.1%	78.9%
FY 2015	76.2%	69.2%	91.7%
FY 2016	74.5%	73.5%	84.2%
FY 2017	65.6%	56.5%	88.9%
FY 2018	79.6%	77.3%	87.0%
FY 2019	80.6%	78.7%	87.0%
FY 2020	72.4%	68.3%	85.0%
FY 2021	67.0%	66.7%	68.0%

NTID will report to the Department the FY 2022 graduation rate of its baccalaureate students in April 2023, with a sub-set of disaggregated data on the graduation rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students.

Target Context: The target for the graduation rate of NTID's baccalaureate students is 65%. An IPEDS analysis of institutions of higher education show that four-year public and private colleges have an average graduation rate of 63.4%. Based on the comparison with IPEDS data, the target has increased from 60% in 2011 to 65% for 2016-2021.

Explanation: This measure was added in the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs to measure the graduation rate of baccalaureate postsecondary students who graduate within six years of entry. The measure will allow the Department to obtain data comparable with what is being submitted to IPEDS by other institutions.

Objective 3 of 4

Improve post-school outcomes.

The source of the data in these measures is a questionnaire NTID gives to its students who are nearing graduation and immediately after graduation. All graduates receive an email contact from NTID during the first semester after graduation, as well as follow-up letters and phone calls, with the goal of acquiring data for every student who has graduated within the previous year. Questions include the graduate's address, whether the graduate has found or is looking for employment and whether the graduate is attending college or another postsecondary institution. If the graduate is employed, NTID requests information regarding the employment experience, including type of work, starting date and salary.

Performance Indicators (continued)

NTID reports the employment rate for deaf and hard-of-hearing sub-baccalaureate and baccalaureate graduates one year after graduation, based on availability of valid data. In 2021, a total of 182 deaf and hard-of-hearing students graduated from NTID. Valid data existed one year later on 169 graduates. Of these 169 graduates, 92 students were employed (54%), 69 students were in higher education or training (41%) and eight students were not employed or in higher education or training (5%). Of the eight students not employed or in higher education or training, four were actively looking for work.

Category of Graduate	Count
Employed	92
Unemployed (Seeking Employment)	4
Not Seeking Employment	4
Education (Within RIT)	61
Education (Outside RIT)	8
Unknown	13
Total	182

Measure 3.1 of 3: The post-school rate of NTID graduates who are employed during their first year after graduation (desired direction: increase)

Graduation Year	Target	Rate	Status
2012	50	46	Made Progress From Prior Year
2013	50	58	Target Surpassed
2014	50	55	Target Surpassed
2015	50	58	Target Surpassed
2016	50	49	Target Not Met
2017	50	53	Target Surpassed
2018	50	57	Target Surpassed
2019	50	52	Target Surpassed
2020	50	51	Target Surpassed
2021	50	54	Target Surpassed

Source: National Technical Institute for the Deaf, post-graduation employment records

Frequency of Data Collection: Annual

Target Context: The average employment rate of 2005, 2006 and 2007 graduates who were employed full-time within one year after graduation was 57%. In FY 2010, the Department proposed that the target for this measure in FY 2010 and FY 2011 be equal to this average. The target was revised downward by the Department to 50% for FY 2012 and subsequent years to be more consistent with the data submitted by NTID for FY 2009, 2010 and 2011. In FY 2012, it was also determined that the target percentages across all three categories (Measures 3.1, 3.2 and 3.3) would equal 100% of the alumni being tracked by NTID.

Performance Indicators (continued)

Explanation: Originally employment rates were calculated by NTID as the percentage of graduates who are employed among those who choose to pursue employment, following the Bureau of Labor Statistics methodology. In previous years, NTID reported, in comparison with the target of 95%, the following percentages of students employed who have chosen to pursue employment:

Graduation Year	Percentage
2012	93
2013	94
2014	94
2015	94
2016	94
2017	96
2018	95
2019	95
2020	95
2021	96

In FY 2006, the Department changed the methodology for calculating employment data, from the percentage of graduates who were employed among those seeking employment, to the percentage of graduates who are employed among all those who graduated from NTID.

Measure 3.2 of 3: The post-school rate of NTID graduates who are in advanced education or training during their first year after graduation (desired direction: increase)

Graduation Year	Target	Rate	Status
2012	45	46	Target Surpassed
2013	45	32	Target Not Met
2014	45	35	Made Progress From Prior Year
2015	45	31	Target Not Met
2016	45	42	Made Progress From Prior Year
2017	45	42	Target Not Met
2018	45	35	Target Not Met
2019	45	41	Made Progress From Prior Year
2020	45	40	Target Not Met
2021	45	41	Made Progress From Prior Year

Source: National Technical Institute for the Deaf, post-graduation employment records

Frequency of Data Collection: Annual

Target Context: The average participation rate of 2005, 2006 and 2007 graduates who were in advanced education or training full-time within one year after graduation is 35%. In FY 2010, the Department proposed that the target for this measure in FY 2010 and FY 2011 be equal to this average. The target was revised upward by the Department to 45% for FY 2012 and subsequent years to be more consistent with the data submitted by NTID for FY 2009, 2010 and 2011. In FY 2012, it was also determined that the target percentages across all three categories (Measures 3.1, 3.2 and 3.3) would equal 100% of the alumni being tracked by NTID.

Performance Indicators (continued)

Explanation: This indicator was added as part of the post-school outcomes to provide a more complete and accurate picture of outcomes for NTID graduates. The measure focuses on graduates who are in advanced education or training during their first year after graduation. Separate measures cover graduates who are in the workforce during their first year after graduation and graduates who are not engaged in either advanced education or training or in the workforce during their first year after graduation.

Measure 3.3 of 3: The post-school rate of NTID graduates who are not engaged in either advanced education or training or in the workforce during their first year after graduation (desired direction: decrease)

Graduation Year	Target	Rate	Status
2012	5	8	Made Progress From Prior Year
2013	5	10	Target Not Met
2014	5	10	Target Not Met
2015	5	11	Target Not Met
2016	5	9	Made Progress From Prior Year
2017	5	5	Target Met
2018	5	8	Target Not Met
2019	5	7	Made Progress From Prior Year
2020	5	9	Target Not Met
2021	5	5	Target Met

Source: National Technical Institute for the Deaf, post-graduation employment records

Frequency of Data Collection: Annual

Target Context: The average rate of the 2005, 2006 and 2007 graduates who were neither employed nor in advanced education or training full-time within one year after graduation was 8%. In FY 2010, the Department proposed that the target for this measure in FY 2010 and subsequent years be equal to this average. The target was revised downward by the Department to 5% for FY 2012 and subsequent years to reflect changes made in the two previous indicators on the percentage of students employed and/or in advanced education or training during their first year after graduation and each alumnus being counted only once. This allows the percentage across all three categories (Measures 3.1, 3.2 and 3.3) to equal 100% of the alumni being tracked by NTID.

Explanation: This indicator has been added as part of the post-school outcomes to provide a more complete and accurate picture of outcomes for NTID graduates. The measure focuses on graduates who are not engaged in advanced education or training or in the workforce during their first year after graduation. Other measures cover graduates who are in the workforce during their first year after graduation and graduates who are in either advanced education or training during their first year after graduation.

Performance Indicators (continued)

Objective 4 of 4:

Improve the efficiency of operations at NTID as defined by the cost per successful student outcome, where the successful outcome is graduation.

Measure 4.1 of 2: Federal cost per NTID graduate (desired direction: decrease)

Fiscal Year	Target	Cost	Status
2013	209,564	146,600	Target Surpassed
2014	213,755	185,200	Target Surpassed
2015	218,244	226,200	Target Not Met
2016	222,827	191,200	Target Surpassed
2017	222,827	221,200	Target Surpassed
2018	222,827	223,600	Target Not Met
2019	222,827	234,500	Target Not Met
2020	222,827	218,600	Target Surpassed
2021	222,827	309,000	Target Not Met
2022	222,827	268,000	Made Progress From Prior Year

Source: National Technical Institute for the Deaf, Finance and Budget Office

Frequency of Data Collection: Annual

Data Quality: The FY 2022 data on the federal cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2017 to FY 2022. The federal cost per graduate includes graduates who complete programs of study at RIT/NTID.

Target Context: In determining the appropriate target each year for the federal cost per graduate, future inflation must be taken into account, as well as the variation in the number of students who graduate each year from NTID. The Department has identified and established targets for FY 2010 and subsequent years.

Explanation: This measure is calculated by adding the federal appropriations for the current year and the five preceding years, which is then averaged. The average (from six years of federal appropriations) is divided by the number of graduates in the current year, including sub-baccalaureate, baccalaureate and graduate students. Federal student financial aid, vocational rehabilitation payments, other federal support for students, federal grants and contracts, the Federal Endowment Grant Program tuition and other private funds received by NTID are not included in this calculation.

Performance Indicators (continued)

Measure 4.2 of 2: Total educational cost per NTID graduate (desired direction: decrease)

Fiscal Year	Target	Cost	Status
2013	251,800	176,900	Target Surpassed
2014	256,836	224,000	Target Surpassed
2015	262,230	277,100	Target Not Met
2016	267,737	237,300	Target Surpassed
2017	267,737	272,800	Target Not Met
2018	267,737	276,400	Target Not Met
2019	267,737	288,400	Target Not Met
2020	267,737	268,300	Made Progress From Prior Year
2021	267,737	365,800	Target Not Met
2022	267,737	310,400	Made Progress From Prior Year

Source: National Technical Institute for the Deaf, Finance and Budget Office

Frequency of Data Collection: Annual

Data Quality: The FY 2022 data on the total educational cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2017 to FY 2022. The total educational cost per graduate includes graduates who complete programs of study at RIT/NTID.

Target Context: In determining the appropriate target each year for the total educational cost per graduate, future inflation must be taken into account, as well as the variation in the number of students who graduate each year from NTID. The Department has identified and established targets for FY 2010 and subsequent years.

Explanation: This measure is calculated by adding the federal appropriations and non-federal funds (tuition, room, board and fees collected from students) for the current year and the five preceding years, which is then averaged. The average (from six years of federal appropriations and non-federal funds) is divided by the number of graduates in the current year, including sub-baccalaureate, baccalaureate and graduate students. Costs associated with public services, auxiliary enterprises and construction are excluded from this calculation.

Strategic Planning



Greatness Through Difference, RIT's strategic plan for 2018-2025, as well as NTID's *Antiracism and Social Justice Plan*, are the primary guides for NTID's next strategic plan.

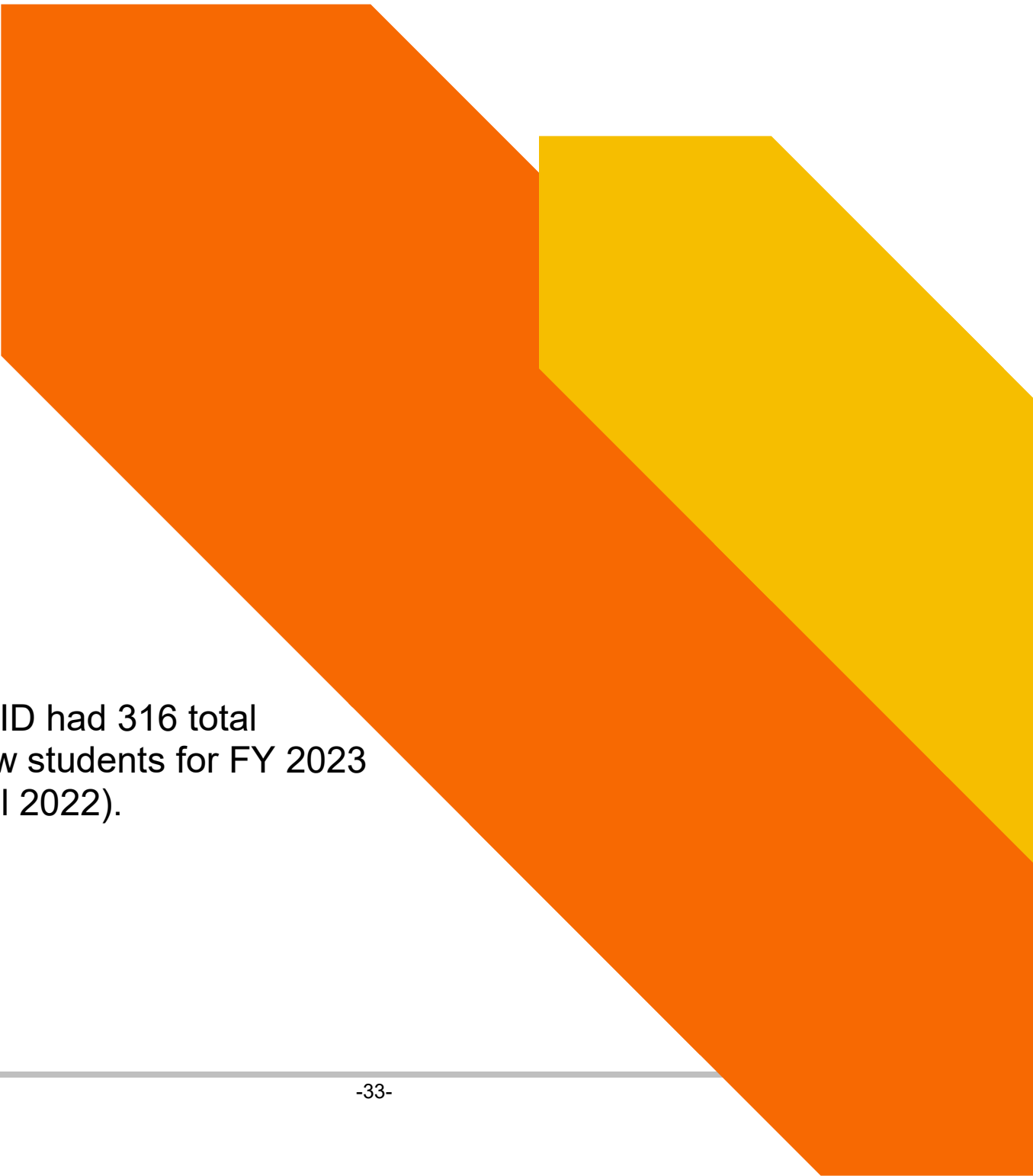
Strategic Planning

NTID is keeping track of RIT's revisions of its strategic plan: *Greatness Through Difference* (rit.edu/strategicplan/). Since NTID's plan needs to align with the timeline and objectives of the larger strategic plan for RIT, NTID is waiting until RIT's revisions are completed. NTID will solicit input from the NTID National Advisory Group, RIT and the Department of Education on the new plan before it is finalized. NTID's *Antiracism and Social Justice Plan* (rit.edu/ntid/diversity/social-justice) will be the institute's primary strategic plan until the new strategic plan is adopted.



Maameyaa Asiamah '22, a graduate from the Laboratory Science Technology program from Fairfax, Virginia, celebrates her selection as the 2022 NTID Undergraduate College Delegate with her family. In addition to delivering the undergraduate address at NTID's college ceremony, she was chosen by RIT leadership to serve as the undergraduate speaker at the RIT-wide graduation ceremony. She currently is pursuing a BS in Biochemistry at RIT.

Admissions and Enrollment



NTID had 316 total new students for FY 2023 (fall 2022).

Admissions and Enrollment Highlights

Because deafness is a low-incidence disability, with deaf and hard-of-hearing students widely dispersed throughout the nation, recruiting qualified students to NTID always is a challenge.

Due to the COVID-19 pandemic, recruitment travel was at a standstill until Spring 2021. Priorities were made to visit feeder schools (schools for the deaf and mainstreamed schools with deaf and hard-of-hearing programs) to the greatest extent possible with the rest of school visits completed virtually. There was a higher rate of declined visits as students and families were not considering going to school out of state. No schools offered college fairs or other community-based events and competitions that were historically helpful with recruitment efforts; they were canceled because of the pandemic. Admissions counselors made 165 virtual and in-person recruitment visits with schools and individuals during the FY 2022 admissions cycle. Admissions also hosted 33 webinars across a variety of admissions topics (e.g., mini-open house, campus/housing tour, admissions presentation, financial aid, student panel). Videos of presentations were sent to parents, schools and students who could not attend the virtual events. NTID's campus opened up to visitors, with restrictions, in late spring 2022.

The number of new* students entering NTID in fall 2022 was 316. The total included 223 deaf and hard-of-hearing freshmen and transfers, 31 deaf and hard-of-hearing graduate students (17 in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing [MSSE] and 14 in other RIT colleges) and 62 hearing students (41 in the ASL-English Interpretation program and 21 in the MSSE program).

Total enrollment was 1,135 compared to 1,166 for last year:

	Total
Undergraduate Programs	
Career Exploration Studies	26
Career-Focused Associate Programs	172
Associate+Bachelor's Programs and Pre-Baccalaureate	182
Baccalaureate (ASL-English Interpretation)	144
Baccalaureate (Community Development and Inclusive Leadership)	3
Programs in Other RIT Colleges	468
Subtotal NTID Undergraduate Programs	995
Graduate Programs at RIT	56
MSSE	72
MS Health Care Interpretation	12
Total Enrolled Students	1,135

NTID's student population remains strong in both ethnic and geographic diversity. Minority students represent 43% of this year's fall 2022 entering class, compared to 44% of the total NTID student body. Entering domestic students come from all over the country, with 18% from the West, 26% from the South, 12% from the Midwest and 44% from the Northeast.

In addition, NTID enrolled eight new international students. The total number of international students is 36, or 3.2% of the entire student population. International students have represented approximately 3 to 4% of the entire student population in the past five years.

In summary, NTID registered 316 new* students and is serving a total of 1,135 students.

* New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

Comparative Admissions Data*

Applications, excluding those to the ASL-English Interpretation or MSSE programs, decreased from last year. The acceptance rate was 71.7% of applications. Registrations were 248, achieving a yield rate of 58.4%.

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Applicants	533	575	632	601	593
% Increase or Decrease from Previous Year		+7.9%	+9.9%	-4.9%	-1.3%
Accepted Applicants	396	418	458	438	425
% Increase or Decrease from Previous Year		+5.6%	+9.6%	-4.3%	+3.0%
Acceptance Rate (% of Total Applicants)	74.3%	72.7%	72.4%	72.9%	71.7%
Registrations	259	247	262	269	248
Yield Rate (Registrations as a % of Accepted Applicants)	65.4%	59.0%	57.2%	61.4%	58.4%

* Admissions data capture all activity stewarded by the NTID Admissions Office and include students who are readmitted.

Summer Vestibule Program

The Summer Vestibule Program (SVP) is an experience that allows new students to engage in career exploration and decision-making, adjust to college life and assess their academic competencies. Students get hands-on experience and information about various academic programs and majors.

SVP includes a Student/Parent Orientation Weekend designed to give participants an

overview of the program and familiarize them with NTID and its place on the RIT campus. Informational seminars, awareness workshops and in-depth orientation programs are offered to facilitate student-parent separation and student transition to the college environment.

There were 122 SVP registrants for summer 2022, and 122 continued on to register for fall semester 2022 (FY 2023).

	Number of Students*				
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
SVP Students Accepted	259	261	269	241	214
SVP Students Registered at Start of Program	170	151	149	155	122
SVP Students Registered in Academic Programs for Fall Term	168	147	145	152	122



All 122 SVP students in summer 2022 registered for classes at NTID in fall 2022.

* Figures reported include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

NTID Student Enrollment by Term* (Deaf and Hard-of-Hearing Students Only)

The enrollment reported reflects only deaf and hard-of-hearing students in undergraduate programs on the RIT campus or in graduate programs at other RIT colleges. Not included are students enrolled in the ASL-English Interpretation program (144), deaf, hard-of-hearing or hearing students enrolled in the Master of Science program

in Secondary Education (72), or students enrolled in the Master of Science in Health Care Interpretation (12). In addition, large numbers of hearing, deaf and hard-of-hearing students access a variety of part-time and non-credit-bearing coursework at NTID year round.

PERIOD COVERED	FALL TERM		WINTER TERM			SPRING TERM			SUMMER TERM		SUMMER VESTIBULE PROGRAM	
	A	B	A	B	C	A	B	C	A	B	A	B
FY 03: Oct. 02-Sep. 03	1,122	-2.52%	1,027	-2.75%	-8.47%	994	-1.29%	-3.21%	228	+1.79%	195	-16.67%
FY 04: Oct. 03-Sep. 04	1,109	-1.16%	1,047	+1.95%	-5.59%	1,005	+1.11%	-4.01%	249	+9.21%	168	-13.85%
FY 05: Oct. 04-Sep. 05	1,097	-1.08%	1,029	-1.72%	-6.20%	962	-4.28%	-6.51%	222	-10.84%	190	+13.10%
FY 06: Oct. 05-Sep. 06	1,066	-2.83%	988	-3.98%	-7.32%	926	-3.74%	-6.28%	263	+18.47%	219	+15.26%
FY 07: Oct. 06-Sep. 07	1,064	-0.19%	998	+1.01%	-6.20%	963	+4.00%	-3.51%	339	+28.90%	254	+15.98%
FY 08: Oct. 07-Sep. 08	1,154	+8.46%	1,099	+10.12%	-4.77%	1,040	+8.00%	-5.37%	396	+16.81%	295	+16.14%
FY 09: Oct. 08-Sep. 09	1,260	+9.19%	1,216	+10.65%	-3.49%	1,155	+11.06%	-5.02%	428	+8.08%	265	-10.17%
FY 10: Oct. 09-Sep. 10	1,275	+1.20%	1,166	-4.11%	-8.55%	1,170	+1.90%	+0.34%	411	-3.97%	269	+1.51%
FY 11: Oct. 10-Sep. 11	1,303	+2.20%	1,213	+4.03%	-6.91%	1,211	+3.50%	-0.16%	442	+7.54%	269	0.00%
FY 12: Oct. 11-Sep. 12	1,323	+1.53%	1,211	-0.16%	-8.47%	1,103	-8.92%	-8.92%	314	-28.96%	269	0.00%
FY 13: Oct. 12-Sep. 13	1,306	-1.28%	1,168	-3.55%	-10.57%	1,082	-1.90%	-7.36%	323	+2.87%	268	-0.37%
FY 14: Oct. 13-Sep. 14	1,237	-5.28%	*	*	*	1,118	+3.33%	-9.62%	259	-19.81%	212	-20.90%
FY 15: Oct. 14-Sep. 15	1,197	-3.23%	*	*	*	1,054	-5.72%	-11.95%	308	+18.92%	226	+6.60%
FY 16: Oct. 15-Sep. 16	1,220	+1.92%	*	*	*	1,072	+1.71%	-12.13%	270	-12.34%	203	-10.18%
FY 17: Oct. 16-Sep. 17	1,122	-8.03%	*	*	*	1,002	-6.53%	-10.70%	309	+14.44%	174	-14.20%
FY 18: Oct. 17-Sep. 18	1,081	-3.65%	*	*	*	944	-5.79%	-12.67%	271	-12.30%	170	-2.30%
FY 19: Oct. 18-Sep. 19	1,005	-7.03%	*	*	*	862	-8.69%	-14.23%	247	-8.86%	151	-11.20%
FY 20: Oct. 19-Sep. 20	943	-6.17%	*	*	*	812	-5.81%	-13.9%	285	+13.33%	148	-1.99%
FY 21: Oct. 20-Sep. 21	886	-6.05%	*	*	*	807	-0.62%	-8.92%	335	+17.54%	152	+2.70%
FY 22: Oct. 21-Sep. 22	929	+4.85%	*	*	*	842	+4.34%	-9.36%	335	0.00%	122	-19.74%
FY 23: Oct. 22-Sep. 23	906	-2.48%	*	*	*							

NOTES: Column A = Number of student enrollments for the period covered
 Column B = Percent change of enrollment from the same term in previous year
 Column C = Percent change of enrollment from the previous term

* Prior to FY 2014, RIT followed a quarter calendar. Beginning in FY 2014, RIT follows a semester calendar.

Percent of Registered Students with Full-Time Status

On average, 91% of NTID-supported students are registered full time. At RIT, full-time status is defined as taking at least 12 credit hours for undergraduate students and at least nine credit hours for graduate students in a semester.

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023		
					Percent	Number	
						Full-Time	Total
Career Exploration	100%	100%	100%	100%	100%	26	26
Career-Focused and Associate+Bachelor's Degrees	96%	94%	96%	97%	97%	332	341
Pre-Baccalaureate	100%	100%	94%	91%	100%	13	13
Baccalaureate and Graduate	95%	93%	93%	90%	87%	454	524
ASL-English Interpretation	97%	97%	96%	98%	98%	141	144
Community Development and Inclusive Leadership	N/A	N/A	N/A	N/A	100%	3	3
Master of Science in Health Care Interpretation	0%	22%	9%	0%	0%	0	12
Master of Science in Secondary Education (MSSE)	100%	91%	100%	88%	90%	65	72
Overall	95%	94%	94%	92%	91%	1,034	1,135

International Student Recruitment*

This year, applications from international students numbered 63 and, of those, 15 were accepted and seven registered. Canadian students used to represent the largest contingent of international students, but many of them continue to experience a lack of funding resources, which discourages a number of prospective students from applying or prevents many of those accepted from being able to attend NTID. Students from developing

countries also encounter financial difficulties, and NTID has limited scholarship dollars to assist them. However, per the Education of the Deaf Act, international students pay differing tuition rates, depending on whether they are from a developing or developed country. Until the situation in Canada changes, and until NTID obtains additional private scholarship funds, enrollment of international students will continue to be a challenge.

Applicant Continent of Origin	Number of Students**				
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Africa	16	16	19	24	21
Asia	15	24	13	23	29
Australia/Oceania	0	0	0	0	1
Europe	4	2	4	6	2
North America	14	13	2	9	9
South America	1	0	1	1	1
Unknown	0	0	0	0	0
Total Applicants	50	55	39	63	63
Accepted Applicants	19	22	9	22	15
Acceptance Rate (Percent of Total Applicants)	38%	40%	23%	35%	24%
New Registrations	15	4	6	5	8
Yield Rate (New Registrations as a Percent of Accepted Applicants)	79%	18%	67%	23%	53%
Returning International Students	34	39	25	25	18
Total Enrollment (Returning International Students plus New Registrations)	49	43	31	30	26

* Data capture all activity stewarded by the NTID Admissions office and include students who are readmitted.

** Figures reported do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs. These figures exclude non-degree-seeking students.

Demographic Characteristics of All New Students

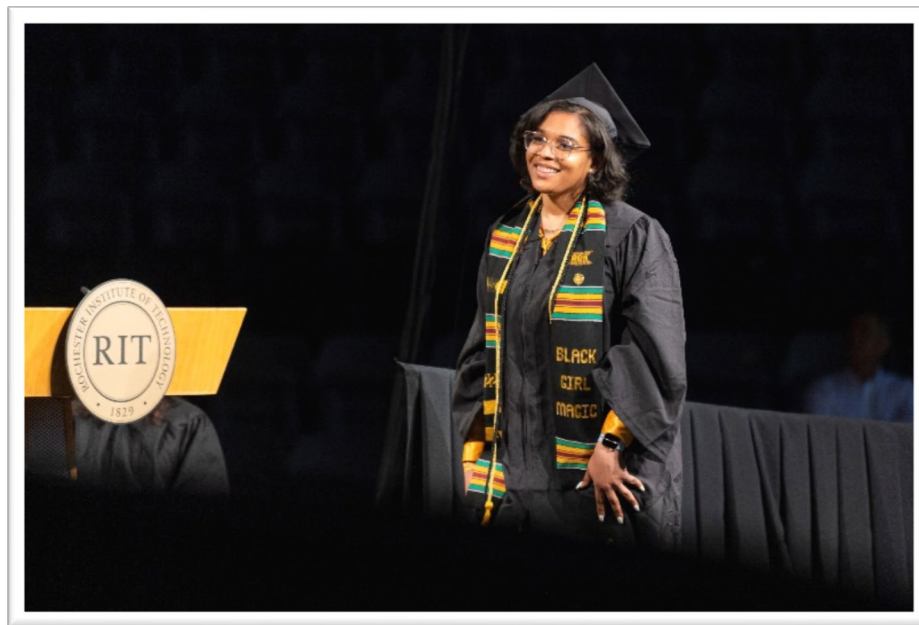
The demographic profile of new students in FY 2023 remains consistent with the previous year's profile.*

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Characteristics of Entering Students					
Gender					
Male	55%	50%	51%	52%	54%
Female	45%	50%	49%	48%	46%
Mean Age at Entry					
	20	21	20	21	20
Origin of Entering Students					
United States by Region: 100% of U.S. students distributed across four regions					
West	17%	17%	16%	14%	18%
Midwest	14%	12%	21%	12%	12%
South	26%	27%	23%	29%	26%
Northeast	43%	44%	40%	45%	44%
Distribution of United States and International Students					
United States	94%	98%	98%	98%	97%
International	6%	2%	2%	2%	3%
School Background of Entering Students					
First Time in College	84%	80%	80%	81%	85%
Transfer from Other Colleges	12%	13%	9%	8%	9%
Graduate Students	4%	7%	11%	10%	6%

* Figures reported include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs. New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

Demographic Characteristics of Enrolled International Students Compared to Enrolled U.S. Students

	FY 2023*		
	International	U.S.	Overall
Demographics			
Gender			
Male	72%	51%	52%
Female	28%	49%	48%
Program Area			
Career Exploration	0%	3%	3%
Career-Focused Associate Degrees	21%	19%	19%
Associate+Bachelor's Degrees	10%	20%	20%
Programs in Other RIT Colleges	69%	58%	58%
FY 2023 Status of Students Enrolled FY 2022			
Still Registered	67%	68%	68%
Withdrawn	0%	17%	17%
Graduated	33%	15%	15%



Chance Lyons, from Brooklyn, New York, graduated in December 2021 with an associate degree in Business Administration.

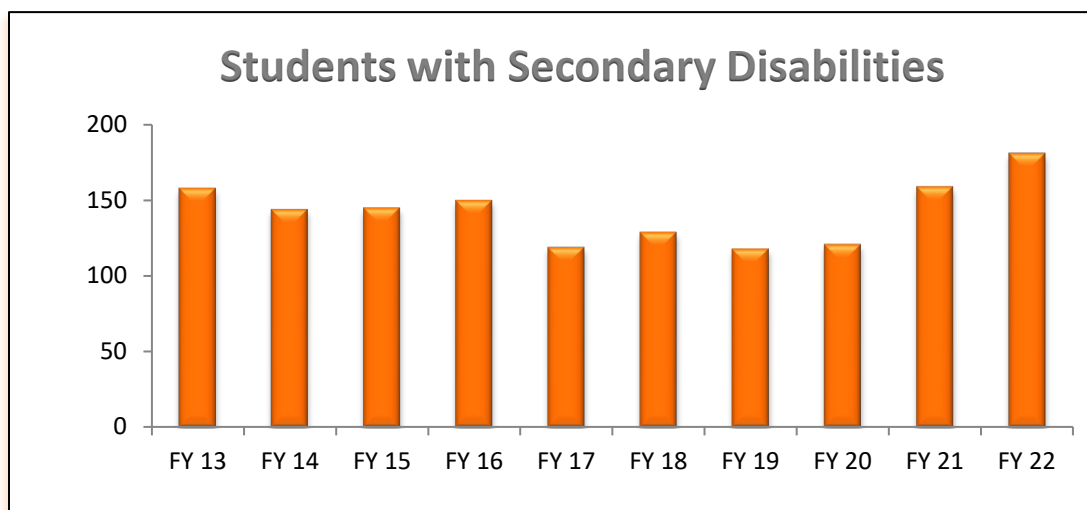
* Undergraduate students only. Figures reported do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

Students with Secondary Disabilities

NTID is working with significantly increased numbers of students with disabilities in addition to deafness. The table shows the number and percent of NTID-supported undergraduate students eligible to receive services from the RIT Disability Services Office, which serves students “with physical or mental impairments that limit one or more major life activities.” FY 2023 totals will be reported next year, as activity regarding the accommodations of students with secondary disabilities is captured over the full academic year. NTID works directly with the RIT Disability Services Office to accommodate

these students through services such as notetaking and extended time to complete assignments. Their services ensure equal access to education based upon legal foundations established by federal law—the Rehabilitation Act of 1973, including Section 504, and the Americans with Disabilities Act of 1990. NTID has a committee of faculty and staff that focuses on the accommodation of deaf and hard-of-hearing students specifically with visual disabilities, a population that is increasing.

Number and Percent of Students Receiving Secondary Disability Services			
Fiscal Year	Total Deaf Students*	Students with Secondary Disabilities	Percent
2013	1,269	158	12%
2014	1,195	144	12%
2015	1,153	145	13%
2016	1,167	150	13%
2017	1,078	119	11%
2018	1,025	129	13%
2019	954	118	12%
2020	883	121	14%
2021	820	159	19%
2022	861	181	21%



* This figure includes all undergraduate deaf and hard-of-hearing students.

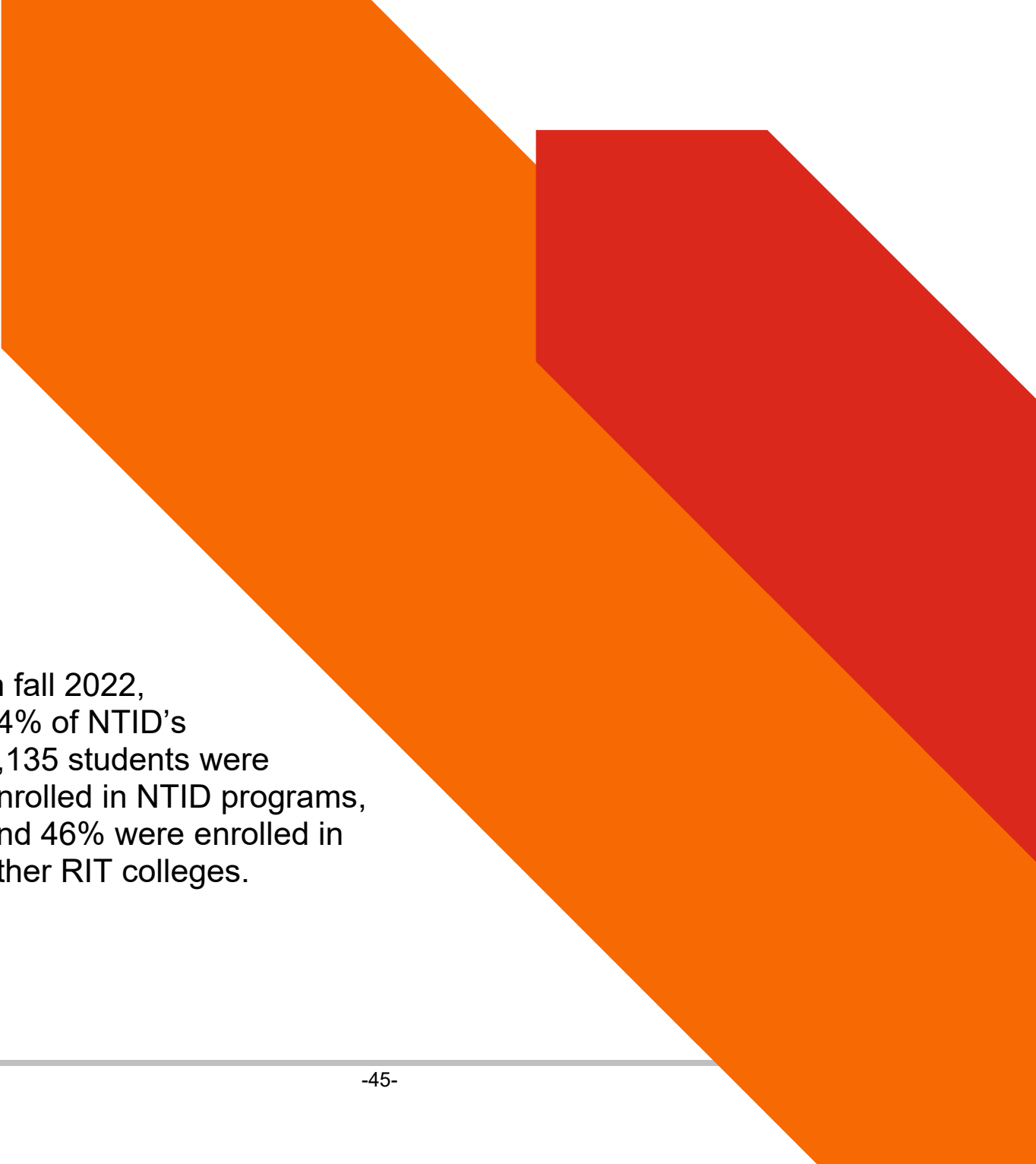
Origin of Students

NTID students enrolled as of fall 2022 come from 47 states. A total of 14 countries are represented among current international students.

Since NTID began accepting students, NTID has had students from more than 50 countries and all 50 states.

Home State or U.S. Territory (Domestic Students)	Number in Student Body FY 2023
Alabama	3
Alaska	1
Arizona	7
Arkansas	2
California	122
Colorado	13
Connecticut	18
Delaware	1
District of Columbia	2
Florida	51
Georgia	20
Guam	0
Hawaii	2
Idaho	2
Illinois	38
Indiana	5
Iowa	3
Kansas	5
Kentucky	3
Louisiana	8
Maine	10
Maryland	51
Massachusetts	37
Michigan	18
Minnesota	10
Mississippi	2
Missouri	15
Montana	1
Nebraska	4
Nevada	2
New Hampshire	9
New Jersey	45
New Mexico	7
New York	330
North Carolina	15
North Dakota	0
Ohio	29
Oklahoma	1

Academic Programs



In fall 2022,
54% of NTID's
1,135 students were
enrolled in NTID programs,
and 46% were enrolled in
other RIT colleges.

Academic Program Highlights

Work to ensure that NTID academic offerings remain vibrant, current and interesting to students took place throughout AY 2021-2022. The college continues to bolster its offerings related to coursework that students undertake as part of the university's overall bachelor's degree curriculum. In addition to the two leadership-related general education immersions that were approved during the previous year, NTID now also has an immersion in Theatre Design and Stagecraft. Immersions are three-course general education requirements for students in all RIT bachelor's degree programs, so these NTID-based offerings will allow the college to reach an even wider audience. Minors in this theatre-focused area, and also in Deaf Leadership and in Diversity, Inclusion and Dialogue, were approved as well. Development of advanced undergraduate coursework in the performing arts to support the new minor and immersion is helping to position the NTID Department of Performing Arts for continued program expansion. Although minors are not part of RIT's undergraduate degree requirements and do not have to be based on an existing immersion, all three of NTID's current minors are built on previously approved immersions; this is so that students can receive these academic credentials by taking several courses beyond what is necessary to complete an immersion.

Several new degree programs continue to be developed. A concept paper for the Associate in Applied Science (AAS) in Cybersecurity underwent full college and university review during AY 2021-2022 and received approval from RIT leadership to proceed to development of a full program proposal. Faculty with appropriate credentials are being assembled to allow the proposal for the BS in Internet of Things System Technologies (originally proposed as the BS in Applied Internet of Things) to continue to proceed through the necessary university reviews. The AAS in Geospatial Technology, the AAS in Applied Engineering Technology and the AAS in Precision Manufacturing Technology are also under development. Each of these AAS degree programs is intended to provide students in the NTID Department of Engineering Studies with pathways into Bachelor of Science programs offered by the Kate Gleason College of Engineering and the College of Engineering Technology.

The Department of Visual Communications Studies undertook a review of its existing degree offerings and has modified them to provide students with enhanced options. The Associate in Occupational Studies (AOS) and the AAS in Design and Imaging Technology now include a Digital Media concentration, in addition to revamped Graphic Design and Graphic Production concentrations. The core coursework in these majors was also adjusted to include courses that accommodate the Digital Media concentration, to permit students to take additional elective coursework in their chosen concentrations, and to ensure that the separate lists of approved program electives more directly apply to the concentrations that students can pursue. These adjustments provide students with some flexibility during the first year of the program before they must select a concentration area in their second year.

The Department of American Sign Language and Interpreting Education (ASLIE) offers a number of ASL service courses for NTID-supported students. These courses, which satisfy general education requirements for students in associate and bachelor's degree programs, underwent considerable review during AY 2021-2022. New Signers Program is now a four-credit intensive summer offering that allows incoming non-signing students to complete an RIT liberal arts perspective as well as the NTID AOS and AAS American Sign Language / Deaf Cultural Studies requirement. Additionally, American Sign Language III was approved as a new course that extends the ASL course ladder.

Strategic Decisions 2020 Enrollment Targets

The enrollment targets set in *Strategic Decisions 2020* were: 35% career-focused programs, 20% associate+bachelor's degree programs and 45% baccalaureate/master's programs. At the beginning of AY 2022-2023, the enrollment percentages for deaf and hard-of-hearing undergraduates were 23% career-focused, 22% associate+bachelor's degree programs and 55% baccalaureate/master's programs. *Strategic Decisions 2020* has established the objective of developing a network of high schools and community colleges to create pathways to postsecondary education. The goal is to strengthen the preparation of deaf and hard-of-hearing students entering college and reduce the amount of developmental education that NTID must offer, resulting in higher enrollment at the baccalaureate level.

Academic Program Highlights (continued)

First Year Experience/Career Exploration Studies and Summer Vestibule Program

Beginning with NTID's Summer Vestibule Program (SVP)/Orientation experience, First Year Experience (FYE) provides an array of courses and co-curricular programs, as well as personal/academic counseling, designed to help students successfully complete their first year of college. In summer 2022, 122 students attended SVP and participated in a variety of activities prior to their arrival on campus in August, including placement tests/assessments, Zoom meetings with their department chairperson and assigned counselor/academic advisors (CAA's). Once on campus, students participated in a variety of in-person programming within the larger RIT Orientation framework.

The Career Exploration Studies program (CES), which is also housed within FYE, allows students the opportunity to explore technical programs while satisfying necessary core and/or prerequisite coursework. During AY 2021-2022, CES served 33 students in the fall and 26 students in the spring.

Career-Focused Associate Degrees

At the beginning of AY 2022-2023, there were 198 deaf and hard-of-hearing students enrolled in career-focused programs, including students enrolled in Associate in Occupational Studies (AOS) and non-associate+bachelor's Associate in Applied Science (AAS) degrees as well as students in Career Exploration Studies.

The Business Studies department continues to maintain steady enrollment in the AOS, AAS and Associate in Science (AS) Business programs. Eight students completed cooperative work experiences in AY 2021-2022. The AAS in Business Administration, which accepted its third cohort this year, is housed within this department. The department launched the college's first fully online AAS degree for Business Administration during this academic year.

The Department of Engineering Studies' (DES) career-focused programs, Architecture and Civil Drafting Technology (ACDT) and Precision Manufacturing Technology (PMT), are in their third cohort. The current enrollment of both programs, including those who matriculated in AY 2020-2021, AY 2021-2022 and AY 2022-2023 is 16 (ACDT) and 12 (PMT).

In AY 2021-2022, the Department of Information and Computing Studies offered all of its classes in-person for both the Applied Computer Technology and Mobile Application Development programs with the flexibility to switch to online whenever necessary. Several students from our programs secured co-op and full-time positions performing functions ranging from technical support to app development on virtual reality platforms. We updated course materials across several courses that closely align with industry standards to prepare students to obtain industry certifications. During AY 2021-2022, the CompTIA A+ certification course continued to be offered to both students and alumni and resulted in nine individuals passing both parts of the CompTIA A+ certification exam. The CompTIA A+ certification is the industry standard for establishing a career in IT; this offering will support students' readiness to enter the workforce.

In May 2022, the department received approval from the provost to proceed with a new program in cybersecurity. The department has begun developing a framework for the new program and recruiting several subject matter experts to establish an industry leadership group for the purpose of providing direction and advice to build robust, cutting-edge cybersecurity education for deaf and hard-of-hearing students.

The Department of Liberal Studies (DLS) continued in-person instruction in September 2022. DLS was not able to send any students abroad to study the lives and culture of deaf communities overseas because of COVID-19-related travel restrictions. During fall 2022, two developmental English courses also were set aside for a select group of first-year students in a pilot program. This program focused on providing the group with college readiness skills, both academic and personal. This year was the second instance of the program, with 2020 being the first. In August 2022, DLS opened its baccalaureate degree program in Community Development and Inclusive Leadership (LEAD). Currently there are three students

Academic Program Highlights (continued)

enrolled, with two scheduled to enroll this spring. There are numerous students, hearing and deaf, taking various LEAD courses for their general education requirements in addition to the immersions and minors in Dialogues in Diversity and Deaf Leadership.

Although the COVID-19 pandemic continued to impact daily life on campus, most aspects of the Department of Science and Mathematics' Laboratory Science Technology (LST) program were held in person to ensure that our students gained the meaningful skills and techniques that are expected of them in the professional workplace. All of the students had successful summer 2022 co-op activities on-site at the locations of their internships. Our students completed this degree requirement in summer research programs held at Tufts University, Coastal Carolina University and the University of Tennessee – Knoxville. Several other students completed their internship activities at Dow Chemical Company.

The Department of Visual Communications Studies (VCS) offered two- and three-dimensional design and production courses in two programs, Design & Imaging Technology (DIT) and 3D Graphics Technology (3DGT). Six students completed cooperative work experiences in AY 2021-2022. This is an unusually low number for our department which was impacted by the COVID-19 pandemic.

This fall we started offering a Digital Media Concentration in DIT. Additionally, one visiting lecturer joined our department as part of the NTID Faculty Fellowship (NFF) mentoring program. The goal of NFF is to provide underrepresented individuals with opportunities to develop the skills necessary to pursue faculty careers at NTID.

Associate+Bachelor's Degrees

A key feature of NTID's educational portfolio are the transfer associate, or associate+bachelor's (A+B), degrees that provide a seamless transition to RIT baccalaureate programs. They have been very successful, particularly in terms of growth, graduation at the associate level, transfer to a bachelor's program in one of RIT's other colleges and subsequent graduation at the baccalaureate level.

At the beginning of the 2022-2023 academic year, 182 students were enrolled in A+B degree and pre-baccalaureate programs. This number has steadily increased as the number of such programs is expanded, new articulation agreements are added and the programs are marketed as precursors to RIT baccalaureate programs.

In the Business Studies department, the A+B degree programs continue to successfully graduate students who are accepted into RIT's Saunders College of Business. The Administrative Support Technology, Accounting Technology and Business Administration programs continue to experience success with students transferring to and graduating from RIT's School of Individualized Study (SOIS). Three students were accepted to SOIS during AY 2021-2022. Current department numbers show 60% of students are in AS and BS degree programs and 40% are in AOS/AAS degree programs.

The Department of Engineering Studies (DES) has two A+B degree programs: Applied Mechanical Technology (AMT) and Civil Technology. New student enrollments for fall 2021 and 2022 increased significantly for AMT but not for Civil Technology. The AMT articulation agreement with RIT's College of Engineering Technology was modified during AY 2018-2019 by expanding to include Mechanical, Robotics & Manufacturing Engineering Technologies, including the electro-mechanical engineering technology program. The second third in the new AMT program is currently underway, and we should see results by the next academic cycle.

In addition to the current programs, the department has proposed several new degree programs that are now undergoing review at the college and university level, which is the next phase in curriculum development set by the RIT Office of the Provost. The first program is the AAS degree program in Precision Manufacturing Technology (PMT), which is modeled on the current PMT-AOS program at NTID

Academic Program Highlights (continued)

and designed to prepare deaf and hard-of-hearing students for employment in precision manufacturing technology industries. This program will comprise 76 total credits, of which 52 are technical credits, including six credits of technical electives and 24 liberal arts and science credits. The curriculum development is about 85% completed, and significant modifications were made during the suspension of the COVID-19 pandemic due to university-wide curriculum modifications and new expectations from PMT faculty members. This program is still being developed due to a change in unit head but should be completed the next academic year.

The second new program is the AAS in Applied Engineering Technology (AET) program, which is designed to prepare deaf and hard-of-hearing students who are close to, but not fully ready for, entry into a baccalaureate-level program in engineering technology. This pathway includes completing most of the coursework taken during the first two years of a BS program in RIT's College of Engineering Technology (CET). It is a bridge program for qualified students who are accepted based on academic transcripts, scores on admissions tests and other evidence that supports a reasonable expectation of success in baccalaureate coursework. The curriculum development is about 65% completed, and significant modifications were made during the suspension of the COVID-19 pandemic due to university-wide curriculum modifications and new expectations from DES faculty and staff members. As we return to normalcy, the challenge is the department is lacking the resources to complete this assignment; thus, the department chair will need to resolve the resource issue such as hiring stakeholders to complete this assignment.

Depending on the intended baccalaureate program, the AAS in Applied Engineering Technology program consists of 63 semester credit hours for packaging science, or 64 for computer engineering technology and electrical engineering technology. Those credit hours are earned over four semesters. Thirty of those credit hours are liberal arts and sciences (LAS), including Critical Reading and Writing, and two NTID mathematics courses taken as LAS electives, Writing Seminar, five LAS perspectives (artistic, ethical, global, social and scientific principles) and calculus. The remaining 33-34 credit hours include three for a fundamentals of engineering course taken at NTID, three for an NTID course on computing tools for engineering technology or four of chemistry (depending on the intended BS), and 26-28 credit hours of coursework chosen from the first two years of the anticipated CET BS program. The latter credit hours will include six mathematics, seven or eight science and 13-14 hours offered by the intended BS program's department.

The Information and Computing Studies (ICS) department offers A+B opportunities in Human-Centered Computing, Computing and Information Technologies and Web and Mobile Computing. In the summer of 2021, students that came from one of these programs and moved into the BS program received co-op and full-time opportunities at Microsoft, PNC Financial Services, Lockheed Martin and Amazon. Students continue to take advantage of the opportunities afforded by these programs in order to find full-time employment after graduation.

The Department of Liberal Studies' AS in Applied Liberal Arts (APPLA-AS) remains one of the largest A+B degree programs. In the 12th year of the program, APPLA-AS graduates continue to be accepted into RIT's College of Liberal Arts majors. The initial student cohorts have graduated with baccalaureate degrees and have successfully entered the workforce or continued on to graduate studies.

In the Science and Mathematics department, students continue to complete the AAS in Laboratory Science and the AS in General Science as they work toward entering bachelor's degrees offered by RIT's College of Science (COS) and College of Health Sciences and Technology (CHST). Over the past year, our graduates have overwhelmingly chosen to enter biology- and biomedical-related degree programs at RIT. Two students each have entered the BS in Biomedical Sciences and BS in Biotechnology & Molecular Bioscience programs and one student is currently pursuing a BS in Biochemistry.

Academic Program Highlights (continued)

In what may very well be a first for RIT and NTID, a student completing an associate degree was chosen by the RIT leadership to serve as the undergraduate speaker at the university's graduation ceremony in May 2022. Maameyaa Asiamah, who also delivered the undergraduate address at NTID's ceremony, completed her AAS degree in Laboratory Science Technology and is currently pursuing a BS in Biochemistry through RIT's College of Science. Her transfer into this program was facilitated by the recently updated articulation agreement that is in place between NTID and COS.

The Department of Visual Communications Studies' AAS 3D Graphics Technology (3DGT) program includes an articulation agreement with the 3D Digital Design (3DDD) BFA program in RIT's College of Art and Design (CAD). There is also a long history of students successfully making the transition from the NTID VCS Design & Imaging Technology AAS degree program into a CAD BFA or BS program outside of formal A+B degrees.

American Sign Language and Interpreting Education (ASLIE)

American Sign Language and Interpreting Education (ASLIE) offers several programs: BS in ASL-English Interpretation, MS in Health Care Interpreting, Certificate in Healthcare Interpreting, Certificate in Educational Interpreting, Certificate in Deaf Interpreting, NTID ASL and NTID New Signers Program. ASLIE faculty also teach the Modern Languages & Cultures department's ASL courses offered through RIT's College of Liberal Arts, several courses in NTID's MS in Secondary Education program, ASL courses offered through the NTID Department of Liberal Studies and courses offered by NTID's ASL Training and Evaluation department. ASLIE has 18 faculty, four staff, two tutors and 10 adjuncts. ASLIE has taught roughly 806 RIT and NTID students.

BS in ASL-English Interpretation Program

The BS in ASL-English Interpretation (BSI) program enrolled 41 new students in Fall 2022, bringing the total number of students from 168 in Fall 2021 to 144.

Total number of students enrolled in our program in AY 2022-2023:

AY 2022-2023	Enrollment
First Year	20
Second Year	32
Third Year	29
Fourth Year	63
Total	144

Forty-four students graduated with a BSI degree in AY 2021-2022. According to senior satisfaction survey results, 90% of the 21 respondents were satisfied with what they learned in the program. The mentor survey was conducted to ascertain these constituents' perceptions of graduates and students. The results of these surveys informed curricular review. Our program received accreditation from the Commission on Collegiate Interpreter Education (CCIE), joining 13 other accredited bachelor's degree programs nationwide. In order to obtain accreditation, we implemented some curricular changes to satisfy CCIE standards. For example, we increased the number of practicum field hours students are required to satisfy before graduation; the increase in field hours necessitated increasing the number of credit hours for Practicum II. The BSI program continues to seek stakeholder input through the ASLIE Advisory Group, which meets with BSI program faculty semiannually.

Academic Program Highlights (continued)

ASLIE offered the following ASL courses in the BSI program: ASL II, Foundations of ASL, ASL IV and ASL VI during the fall semester, and ASL III, ASL V and ASL VII during the spring semester.

In addition to the program courses that are required for graduation, BSI students can take a variety of specialized elective courses that enhance their skill set and may provide a competitive edge when seeking employment. Some of these courses include Interpreting Frozen & Literary Texts, Introduction to Working with the Deaf Blind Community, Introduction to K-12 Interpreting, Educational Interpreting: Elementary Settings, Educational Interpreting: Middle/Secondary Settings, Educational Interpreting: Post-Secondary Settings, Introduction to Cued American English, Healthcare Interpreting, Mental Health Interpreting, Introduction to Legal Interpreting, Community Interpreting, Introduction to VRS/VRI Interpreting and Interpreting in Research Settings.

The BSI program once again partnered with Sorenson Video Relay Service, an industry leader. Sorenson offers a Synergy program which allows students to observe working interpreters in the Rochester, New York call center. The Synergy program adapted to the COVID-19 pandemic by offering students the opportunity to practice mock VRS phone calls with Deaf and hearing consumers. Sorenson also offered students workshops on a variety of topics: Avoiding English Intrusions, Show vs. Tell, Classifiers, Use of Space, VRS Q & A and Breaking from Form.

Students in the BSI program provided volunteer interpreting services to the Rochester community as a way to satisfy practicum requirements and earn valuable interpreting experience. The practicum coordinator screens such requests for appropriateness.

Summer Enrichment Courses

We offered online instruction to our BS in ASL-English Interpretation students:

FY 2022 Summer Enrichment Courses	Enrollment
INTP-489 ST: ASL VII Summer Enrichment (1 section)	6

MS in Health Care Interpretation Program

ASLIE's MS in Health Care Interpretation program enrolled six students in the sixth cohort beginning Summer 2022. For AY 2022-2023, the total enrollment is 12. The aim of this program is to address the national shortage of sign language interpreters who are prepared to work in healthcare settings. The goals of the program are to prepare graduates to effectively interpret for deaf consumers (patients and family members) in healthcare environments, effectively interpret for deaf health professionals in academic and clinical settings and demonstrate administrative skills enabling them to analyze, conduct and consult on the effective and efficient provision of interpreting services in health care institutions.

Certificate in Healthcare Interpreting Program

The Certificate in Healthcare Interpreting (CHI) program is in its 12th year. Taught exclusively online, the nine-month program accepted 15 students this year. The feedback from program graduates is overwhelmingly favorable and has led to NTID being viewed as a national leader in the field of healthcare interpreting.

Certificate in Educational Interpreting Program

The Certificate in Educational interpreting (CEI) is in its second year. Taught exclusively online, the nine-month program accepted 12 new students this year. The feedback from program graduates has been overwhelmingly favorable. The program will continue to use pre- and post-certificate surveys to gather feedback.

Academic Program Highlights (continued)

Certificate in Deaf Interpreting

The new seven-month Certificate in Deaf Interpreting (CIDI) was launched in fall 2022 with 15 students. The program will be delivered through online synchronic format.

Modern Languages & Cultures Department's ASL Courses

ASLIE's ASL program offers RIT's College of Liberal Arts (CLA) Modern Languages & Cultures (MLC) Department's ASL courses: Beginning ASL I and II, Intermediate ASL I and II and Advanced ASL I and II for RIT students who want to take ASL as an elective or to fulfill their liberal arts immersion and minor. An ASL immersion comprises any three courses from ASL and Deaf Cultural Studies. In AY 2021-2022, the MLC program had an enrollment of 280 students in the fall semester, and 174 students in the spring semester. During the summer, ASLIE offered Beginning ASL I online; 16 students took this summer course. In fall 2022, 30 students were enrolled in the ASL and Deaf Cultural Studies minor, while in spring 2022, 35 students minored in ASL and Deaf Cultural Studies.

ASLIE ASL Programs

The ASL program also offered an evening course—Introduction to ASL and Deaf Culture I—in the fall and spring semesters. The course is designed for RIT students, faculty, staff and community members interested in a basic introduction to ASL and Deaf Culture. In AY 2021-2022, the Introduction to ASL and Deaf Culture program had an enrollment of 24 students in the fall semester and 14 students in the spring semester.

The ASL program also provided ASL courses for NTID students as part of the ASL/Deaf Studies requirement. In AY 2021-2022, in the fall semester, nine students were enrolled in ASL I and six students were enrolled in ASL II. Eleven students were enrolled in Beginning Mexican Sign Language in the fall semester. Six students were enrolled in ASL I, two students were enrolled in ASL II, 12 students were enrolled in Beginning Russian Sign Language and three students were enrolled in Structure of ASL in the spring semester.

An ASLIE faculty member also provided instruction in the Master of Science program in Secondary Education of Students Who are Deaf or Hard of Hearing (MSSE) for future teachers of deaf and hard-of-hearing students. The Structure of ASL and English course was offered in the fall semester and the Current Content Methods of Instruction in ASL course was offered in the spring semester. In AY 2021-2022, ASLIE served 10 MSSE students.

New Signers Program

In addressing one of the *SD 2020* initiatives, ASLIE offered for the 11th consecutive year a New Signers Program to incoming NTID students who have minimal or no ASL skills. The New Signers Program (NSP) is an innovative and original program designed to encourage the transition of students with no ASL skills through an ASL immersion experience. For the first time, NSP was offered as a four-credit course that is counted toward a student's degree. In Summer 2022, 20 incoming first-year and transfer students participated in this three-week hybrid program. Two sections were offered. The first two weeks of the program were taught online. Each section had its own instructor, who taught new material for part of the day. Later in the day, both sections reconvened to practice in guided activities with both instructors. After giving students ample time to travel to campus, all students convened in-person on campus for one week to receive further instruction and practice. In addition, students participated in activities every evening to discuss Deaf culture issues in depth and maintained a daily journal about their learning progress. The New Signers Program is positioned to gain momentum and continue as a valued and intrinsic part of NTID's culture.

Academic Program Highlights (continued)

Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE)

The Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) graduated 19 students during AY 2021-2022, its 28th year.

All MSSE graduates are eligible to receive initial certification from New York State (NYS) in an academic content area (grades 7-12) and/or in education of students who are deaf or hard of hearing (grades K-12) if they meet all of the certification requirements, including the NYS teacher certification exams. Those who do not have certification either need to take additional NYS teacher certification exams and complete the Teacher Performance Assessment (edTPA) or choose to pursue certification from the states in which they are teaching. All of the graduates are eligible to receive provisional certification from the Council on Education of the Deaf (CED).

The teacher-candidates are also required to observe veteran teachers in live classroom situations as part of their 100-hour practicum requirement. This provides the opportunity to allow the free flow of ideas and strategies between the seasoned teachers and teacher-candidates.

In AY 2022-2023, the MSSE program has an enrollment of 72 students, of whom 56% are deaf or hard of hearing and 26% are members of underrepresented populations. Of these students, 30 are anticipating graduation from the program during AY 2022-2023. The MSSE program continues to actively recruit students with strong content area backgrounds, especially in science and math through the 4+2 program with RIT's College of Science, College of Liberal Arts and Kate Gleason College of Engineering, as well as RIT's School of Individualized Study. The specifics related to this program can be found at rit.edu/ntid/msse#the-rit-42-teacher-education-program.

The program has the privilege of working with international students. During AY 2021-2022, the program served three international students from Vietnam, Tanzania and Indonesia. In Fall 2022, we welcomed two incoming international students from Tanzania and China.

MSSE is accredited by the Council for the Accreditation of Educator Preparation (CAEP), 2020-2027, and approved by the Council on Education of the Deaf (CED), 2022-2027. As a result of recommendations from CAEP, an advisory group has been established for the MSSE program composed of administrators, teachers and program stakeholders to further inform the scope of changes needed for continuous program improvement.

Communication Studies and Services (CSS)

The Communication Studies and Services (CSS) department is composed of faculty and staff with expertise and training in the areas of communication, audiology and speech-language pathology. CSS audiologists and speech-language pathologists offer for-credit courses for students. Faculty and staff provided 76 credit hours of instruction for 271 students in AY 2021-2022.

CSS offers several courses that cover a variety of topics geared toward workplace success: Problem Solving, Interpersonal Relationships, Dialogue on Black Perspectives, Communication across Cultures, Effective Teams and Organizational Communication & the Deaf Employee. Each course satisfies one or more NTID General Education Perspectives requirement. Additionally, several courses are approved for the RIT General Education Perspectives requirements, allowing students to focus on their post-NTID academic goals.

Other areas where direct instruction is provided are the Master of Science in Secondary Education (MSSE) and the ASL-English Interpretation programs. An Educational Audiology and Spoken Language Development required course is provided to students enrolled in the MSSE program. Cued Speech courses are provided as electives to those enrolled in the ASL-English Interpretation program.

Academic Program Highlights (continued)

In addition to these courses, the CSS department supports student learning in a variety of ways. The CSS department also provides clinical services in the Audiology Center and Speech & Language Center, including appointment-based and walk-in opportunities. Faculty and staff provided 2,298 hours of audiology services to 736 students and other members of the RIT community and 1,940 hours of individual speech-language instruction to 159 students. During AY 2021-2022, the audiology discipline provided walk-in services in the Audiology Center, and the speech-language discipline served students during walk-in services. CSS reinforces students' academic and personal learning and development by hosting communication skill development groups. Topics of interest have included homework, communication apps, executive function, group conversation and gender-affirming communication. Faculty and staff within CSS serve as liaisons and advisors to student-centered initiatives such as the Vision Support Committee and the university's Q Center. The above listed services are available to students to further support communication, their success in the classroom and their preparation for communicative success in the workplace.

CSS is committed to equipping future professionals with firsthand knowledge and training to provide audiological and speech-language services to deaf and hard-of-hearing adults. CSS annually accepts a full-time extern pursuing their doctoral degree in the field of audiology and internship experiences to master's degree students in Speech-Language Pathology each semester. These professionals-in-training come from various accredited universities and colleges throughout the United States.

NTID Learning Consortium

The NTID Learning Consortium is made up of the NTID Learning Center and the NTID Office of Online Learning.

The NTID Learning Center (NLC) provides a variety of academic resources to help students succeed in college. These include computer workstations, spaces for tutoring and individual/group study, a multipurpose video lab, studying tools and printing areas.

The NLC is centrally located in Lyndon Baines Johnson Hall. A full-time student worker is available at the resource desk and maintains an academically focused environment for users, while simultaneously developing work-related skills in a real-world setting.

The NLC has a number of studying and learning resources available for faculty, staff and students to borrow from its resource desk. These include calculators, smartphone chargers, headphones, memory card readers, webcams, PowerPoint clickers and Wacom pen tablets. The NLC also provides a reference area with books provided by faculty for students to use for their courses.

The NLC also houses a multipurpose video lab for video recording and editing for the NTID community. This area is used by interpreting students, deaf and hard-of-hearing students and faculty who want to use state-of-the-art video and editing equipment for classwork and projects, and is available whenever the NLC is open. First-time users are required to participate in an orientation to the recording/editing equipment. Faculty and staff can reserve the lab using the EMS reserve system, while students can reserve it by contacting the NLC staff assistant.

For more formal instructional activities, the NLC utilizes the Sprint Relay Experimental Distance Learning/Access Demonstration Lab (Sprint Relay Lab). The Sprint Relay Lab supports various activities, such as conducting experimental classroom technology projects, as well as video/lecture-capturing for online, blended and flipped course material development for archiving and subsequent "anytime/anywhere" access by students. The Sprint Relay Lab continues to serve as a beta testing site for adapting and evaluating alternative instructional and access technologies in support of remote learners who are deaf or hard of hearing.

The NTID Office of Online Learning continues to expand the number of online courses taught by NTID instructors, as well as collaborates with on-campus partners implementing new programs for non-

Academic Program Highlights (continued)

matriculated students. This year, the NTID Office of Online Learning worked closely with ASLIE to support the development of the Certificate in Deaf Interpreting (CIDI), which launched in September 2022. They also partnered with RIT's Simone Center to develop the NSI I-Corps Deaf Innovation course, which is now available to all deaf and hard-of-hearing college students interested in participating in the Deaf Innovation Challenge. Future initiatives include collaborating with RIT's Workforce Center to expand online opportunities to other external audiences.

These distance-learning tools and delivery systems allow deaf and hard-of-hearing students opportunities to learn anywhere, anytime. The innovative adaptation of current and emerging technology promises significant contributions in expanding notions of where, how and with whom learning can happen.

Support for Baccalaureate Students

Strategic Decisions 2020 continues the goal of pursuing enrollment targets and admissions and programming strategies that will result in increasing numbers of NTID graduates achieving baccalaureate degrees and higher.

At the beginning of AY 2022-2023, 459 students (49% of the total deaf and hard-of-hearing student enrollment) were enrolled in baccalaureate programs in one of the other colleges of RIT. NTID faculty and staff provide tutoring, direct instruction, academic advising and counseling for these students. In addition, interpreting, notetaking and captioning services are offered through NTID's Department of Access Services.

Outcomes Assessment

NTID conducted student learning outcomes assessments (OA) for all academic programs as well as several general education and academic support areas during AY 2021-2022. In addition, academic degree programs completed RIT Progress Reports based on AY 2020-2021 results. During AY 2021-2022, the COVID-19 pandemic caused RIT/NTID to offer a mix of instruction/teaching platforms including face-to-face in-person classes and online classes via remote learning. However, most of the classes returned to face-to-face in-person classes as federal and state restrictions began to lift.

The 12th annual RIT Progress Report, completed in November 2021, utilized a web-based reporting format and asked program chairs and directors to respond to a series of questions and to report on one program-level student learning outcome listed in their AY 2020-2021 Outcomes Assessment Plans. This was the ninth outcomes assessment Progress Report on semester-based programs taught at RIT. Program information was aggregated by college and at the university level, and was shared with the Provost's Office, Board of Trustees, Deans and RIT's Student Learning Outcomes Assessment Committee (SLOAC).

All NTID programs are assessing student learning annually and meeting student achievement benchmarks. NTID's response rate was 100%, with 18/18 programs completing the report. NTID contributed favorably toward the RIT rate of 100% of programs completing assessments. Additionally:

- One hundred percent of NTID programs met or exceeded established benchmarks for at least one student learning achievement, compared to the RIT level of 99%.
- Each program's Progress Report was rated for continuous improvement by the RIT Educational Effectiveness Assessment Office.
- One hundred percent of NTID programs indicated use of assessment results to guide program planning improvements, compared to RIT's 91%. NTID's 100% is an improvement from the previous year's rate of 94%.

Academic Program Highlights (continued)

NTID program chairs and directors used RIT's online outcomes assessment management system, TaskStream, for the annual assessment reporting that forms the basis of the above-mentioned RIT Progress Reports. Programs continued to use their approved semester-based Outcomes Assessment Plans. NTID OA Plans identify program goals, critical student learning and programmatic outcomes, data sources/measures, performance benchmarks and timelines. Key findings and use of results are entered, along with recommendations. Highlights from AY 2021-2022 OA Reports illustrate NTID's outcomes assessment data collection, analysis processes and results. In addition to the individual program findings summarized below, it should be noted that 100% of NTID students received satisfactory overall evaluation ratings from their supervisors related to their cooperative work experience performance. This is considered outstanding.

ASL and Interpreting Education Department (ASLIE)

- **ASL-English Interpretation BS:** Benchmarks were exceeded on eight out of 10 outcomes assessed this year. Eighty-six percent of students received ratings of satisfactory or better on their overall American Sign Language (ASL) competency in their Community Presentation Evaluation. One hundred percent of students in the Issues in Interpreting course produced successful poster presentations and successful research papers demonstrating critical thinking and problem-solving skills. One hundred percent of students demonstrated successful interpreting competency from ASL to English, which is an improvement from the previous year's rate of 94%. About half of interpreting students demonstrated successful English to ASL interpreting competency in Interpreting III class this year. Seventy-nine percent of the students received a rating of satisfactory or better on the "Ethical Reasoning" rubric. One hundred percent of students were rated by practicum supervisors as demonstrating satisfactory entry-level work habits, which is an improvement from last year's rating of 96%. Ninety percent of seniors expressed satisfaction with the programs, and 100% of students who sought employment after graduation were working.
- **Health Care Interpretation MS:** The MS degree in Health Care Interpretation program started reporting outcomes four years ago. This year students exceeded all four course-based outcomes and met the program assessment. One hundred percent of students received a rating of satisfactory or better on their independent investigation on a topic related to their interest specifically in the context of research and science and summarized their findings in both academic ASL and English. One hundred percent of students received satisfactory grades on their two empirical projects. On the graduate satisfaction survey, 100% of graduates were satisfied with the program and its impact on advancing their achievement career-wise, which is consistent with last year's rating of 100%.

Business Studies Department

- **Accounting Technology AAS:** Exceeded the benchmark for three outcomes this year. Due to low enrollment, accounting capstone was not offered and two outcomes were not assessed this year. One hundred percent of students received satisfactory overall ratings on co-op employer evaluations and 100% were rated as demonstrating satisfactory job performance related to aptitude, the ability to learn quickly and the ability to apply technical knowledge.
- **Administrative Support Technology AAS:** Students exceeded the benchmark for two direct course-based assessments and met the benchmark for one other course-based outcome. There were no AST-AAS students enrolled in the Business Graphics course this year so that outcome could not be reviewed. One hundred percent of the students demonstrated the ability to type with speed and accuracy at a satisfactory rating of 40+ net words per minute with five errors or less. In addition to course-based assessments, 100% of students received a satisfactory overall rating by their supervisors in their co-op placements, for their ability to learn quickly, apply technical knowledge on the job and transfer theory to employment situations. One hundred percent of students seeking employment after graduation were employed.

Academic Program Highlights (continued)

- **Business Administration AAS:** Six of the benchmarks were exceeded, one outcome was unmet and the other outcome was met. The outcome related to the Organizational Behavior course project was unmet this year. However, all the outcomes related to co-op supervisor's rating in terms of overall performance and technical skills were exceeded. Eighty-three percent of students met the criteria related to creating their job portfolios. One hundred percent of students exceeded the benchmark on their marketing project, database project, interpersonal skills and team project.
- **Business AS:** Criteria exceeded for three of the four outcomes and not met for one other outcome. One hundred percent of students demonstrated appropriate interpersonal business skills and teamwork. One hundred percent of students scored at least 70% on their Learning Assessment Test in the Managerial Accounting course to perform the functions of the accounting cycle for service, merchandising and manufacturing businesses. The benchmark for describing the interrelatedness of social, cultural and business factors that shape and impact the global business environment was not met. The BS program at the Saunders College of Business accepted all three students who graduated and applied for admission to their program.
- **Business Technology AOS:** Students exceeded benchmarks on seven outcomes and one other outcome was slightly below the acceptable benchmark, which is an improvement compared to last year's only four outcomes being exceeded. For keyboarding speed and accuracy, 100% of students exceeded the keyboarding outcome which is an improvement from last year's report of 80%. One hundred percent of students earned acceptable ratings on the rubrics for the e-Portfolio. The benchmark of the accounting capstone was not assessed due to low enrollment this year. Eighty-three percent of students met the expectations for the interpersonal skills and teamwork outcomes, which is slightly below the benchmark criteria. One hundred percent of students passed the Marketing Project, which incorporates a scaffolding approach with six components; this is an improvement compared to last year's rating of 82%. One hundred percent of students received a satisfactory overall rating by their supervisors for their co-op placements and were rated satisfactory on demonstration of their ability to learn quickly and apply technical knowledge, and on their ability to transfer theory to employment situations during their co-op placement. One hundred percent of students seeking employment were employed.

Career Exploration Studies Department

- **First Year Experiences:** Eighty-seven percent of students enrolled in Freshman Seminar passed with a grade of C or higher. Seventy-six percent of students were satisfied with Summer Vestibule Program (SVP), which did not meet the benchmark of 90%. Criteria were not met for students returning for full-time study the following year.
- **Career Exploration Studies:** Ninety-four percent of students exceeded benchmarks by passing the Level A reading/writing and mathematics courses within two semesters, excluding those who withdrew from the university or were suspended from the university. All CES students who applied to a major were accepted within two semesters.

Communication Studies and Services Department

- **Communication Studies:** All students met benchmarks based on co-op supervisors' ratings, including the outcomes for demonstrating competence in face-to-face communication or for email communication during cooperative work experiences. Eighty-eight percent of students scored an average of the acceptable 4 on a 5-point scale this year related to email communication, which is an improvement from 76% last year.
- **Speech-Language and Audiology Services:** All four outcomes were met this year. Ninety-eight percent of students indicated satisfaction with speech-language and audiology services and reported a self-perceived benefit as a result of the services. Eighty-four percent of students agreed that their communication improved after receiving speech-language services and 91% of students showed progress towards their speech-language goals. Eighty-five percent of students demonstrated improvement in intelligibility and 80% had improvement on the single word articulation test.

Engineering Studies Department

- **Applied Mechanical Technology AAS:** Benchmarks were exceeded for three outcomes; met for one outcome and not met for one outcome. For the Mechanical Design and Fabrication course,

Academic Program Highlights (continued)

criteria were exceeded for receiving a grade of C or better on the final project and not met for receiving a grade of C or better on the written test. Eighty-two percent of students earned the appropriate grades in key courses preparing them to apply for enrollment in RIT's Mechanical Engineering Technology BS program, which is an improvement compared to last year of 80%. Five students graduated with an AAS degree of which one student transferred to the BS program in Mechatronics Engineering Technology, one student transferred to the BS program in Psychology and two students transferred to the BS program in Mechanical Engineering Technology.

- **Architectural and Civil Drafting Technology AOS/AAS:** This is the second year this program has used its new title. It used to be called "Computer Aided Drafting Technology AOS/AAS." Criterion levels were exceeded for seven outcomes and met for three assessed outcomes, which is an improvement from last year's two outcomes not being met. All benchmarks were exceeded for identifying issues related to sustainability in the construction industry. Benchmarks were also exceeded for preparing student portfolios and for outcomes related to engaging productively in a collaborative team project, the final project in the Advanced Construction course and final exam in Construction Materials and Methods II class. Benchmarks related to technical drawing practical assignments were met. One hundred percent of students received satisfactory overall ratings from their supervisors related to their co-op placement performance. All of the students indicated overall satisfaction with the program.
- **Precision Manufacturing Technology AOS:** Criterion levels were exceeded for six outcomes and met for six assessed outcomes, which is an improvement compared to last year's two outcomes being exceeded. All benchmarks were met for using CAD/CAM software, observing and practicing industry safety rules and regulations, using precision measuring instruments and computers to control and verify quality, writing complete inspection reports, identifying characteristics of various industrial materials, producing machined parts and optical elements to exact specifications and developing skills and knowledge related to safely operating conventional machines, tools and other automatic equipment. The benchmark of passing competency-based projects in the CNC courses and competency-based final exams in Precision Optics Manufacturing I course was exceeded this year, which is an improvement from last year's benchmark not being met. One hundred percent of students received favorable evaluations from their co-op supervisors. One hundred percent of students passed their final exam in the PMT IV course.
- **Civil Technology AAS:** A benchmark for satisfactory completion of the Strength of Materials course was met this year. There were no Civil Technology AAS graduates who applied to the RIT Civil Engineering Technology BS program this year. None of the AAS graduates who have gone on to the Civil Engineering BS program have graduated this year. One-hundred percent of students indicated that they were satisfied with the program on their satisfaction survey.

Information and Computing Studies Department

- **Applied Computer Technology AS:** Criteria were exceeded for completing the tasks including drivers and application programs, demonstrating fundamental programming and web skills, which is an improvement from last year where the criteria were not met. Seventy-two percent of students indicated they were satisfied with the program.
- **Applied Computer Technology AOS/AAS:** The findings showed that benchmarks were exceeded for 12 of the 13 assessed outcomes and met for one outcome. For example, 100% of students were able to restore a PC to working condition compared to last year's rating of 91%, and 83% successfully completed and passed the hands-on projects related to HelpDesk support compared to last year's rating of 75%. One hundred percent of students passed their final technical presentation evaluation. One hundred percent of students successfully demonstrated the ability to select and use the appropriate application to address client needs and/or solve problems faced by IT support specialists. The benchmark related to the ability to connect, configure, manage, secure and troubleshoot a small intranet peer-to-peer or client/server network was exceeded this year compared to last year's benchmark that was not met.
- **Mobile Application Development AAS:** This is the third year this program participated in the outcomes assessment report since this is a new program that was implemented recently. Two benchmarks were exceeded this year. The outcome to correctly and efficiently code solutions

Academic Program Highlights (continued)

could not be measured because no students took the Capstone Projects course this year. However, benchmarks for successfully creating a UML diagram that accurately represents a given problem, designing, refining and finalizing a functional and user-friendly cross-platform user interface; and creating and testing mobile applications for two or more platforms were met this year. Benchmark was also met for the final hands-on exam.

Liberal Studies Department

- **Applied Liberal Arts AS:** Sixty-nine percent of students passed the written English competency in one course. Seventy-six percent of students passed the general education Perspectives 1-4 courses, which is a slight improvement from last year's rating of 74%. Seventy-one percent of students exceeded the benchmark related to earning a grade of "C" or better in the Professional Elective courses in each student's field of study.

Master of Science in Secondary Education Department

- **Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE):** Criteria were exceeded for two measures, met for six and not met for four. Ninety-eight percent of students met the nine areas of dispositions, which is an improvement from last year's rating of 96%. One hundred percent of teacher candidates passed the Sign Language Proficiency Interview (SLPI) rating of intermediate or higher and/or the American Sign Language Proficiency Interview (ASLPI) rating of 2.5 or higher, which is an improvement this year from last year's rating of 83%. Eighty-nine percent of students demonstrated their knowledge of technology during their student teaching activities. Eighty-two percent of students received a satisfactory grade on their micro-teaching assignment. Ninety percent of students created an assessment plan as part of their final project. One hundred percent of students successfully created their student teaching portfolio and successfully produced a literature review related to Deaf and hard-of-hearing education specialized topics. Overall, one of the program's strengths is related to self-reflection activities offered in the program to prepare students for real-world teaching experience.

Science and Mathematics Department

- **Laboratory Science Technology AOS/AAS:** Benchmarks were exceeded for five assessed general skills and technical competency areas, employment and placement; not met for six criteria. One hundred percent of students demonstrated competency in the use of various analytical instrumentation. The outcomes related to performing their final laboratory project in the Analytical Chemistry course and performing proteomic and genomic manipulation techniques were met this year. The outcome related to performing distillation technique was exceeded this year. One hundred percent of survey respondents were satisfied with the overall program. The department will continue to evaluate the series of courses for their impact on this assessment.
- **General Science AS:** This is the third year of outcomes assessment for this program. One benchmark was exceeded, three were met and five were not met. Seventy percent of students passed the college-level algebra final exam. Eighty-six percent of students performed well on the General & Analytical Chemistry I lab activities and final exams. One student in their second year of the General Science Program successfully graduated. One hundred percent of students who graduated from this program were accepted to RIT's BS programs. Benchmarks were not met for the professional elective science/math courses this year.

Visual Communications Studies Department

- **Design and Imaging Technology AOS/AAS:** Due to the COVID-19 pandemic, there were no students in this program or on co-op this year.
- **3D Graphics Technology AAS:** AY 2021-2022 is the fourth year of outcomes assessment for this program. Benchmarks were exceeded for six outcomes, met for one outcome and not met for one outcome this year. One hundred percent of students met the criteria for portfolio, writing cover letter, resume and interviewing. One hundred percent of co-op students received outstanding evaluation on overall performance and satisfaction and demonstrated competitiveness for the job market. One hundred percent of the students were successfully employed in the 3D graphics industry.

Enrollment by Degree Programs

In fall 2022, 54% of NTID's 1,135 students were enrolled in a broad array of programs within NTID. Forty-six percent were enrolled in other colleges of RIT, including 56 students in graduate programs. Of the 1,135 students, 946 are deaf and hard-of-hearing students, including 17 students in the

MSSE program. In fall 2022, 45% (422/946) of NTID's deaf and hard-of-hearing students were enrolled in NTID programs, and 55% (524/946) were enrolled in the other programs at RIT. Students are categorized by their primary academic college.

	Number of Students
NTID Career Exploration Studies	
Career Exploration (UND)	6
Career Prep Foundation (UND)	20
Subtotal	26
NTID Career-Focused	
Applied Computer Technology (AAS)	16
Applied Computer Technology (AOS)	18
Applied Computer Technology (UND)	1
Architectural and Civil Drafting Technology (AAS)	13
Architectural and Civil Drafting Technology (AOS)	3
Art & Imaging Studies (UND)	2
Business (UND)	1
Business Technology (AOS)	25
Design & Imaging Technology (AAS)	32
Design & Imaging Technology (AOS)	42
Laboratory Science Technology (AOS)	7
Precision Manufacturing Technology (AOS)	12
Subtotal	172
Associate+Bachelor's Degrees	
3D Graphics Technology (AAS)	11
Accounting Technology (AAS)	10
Administrative Support Technology (AAS)	3
Applied Computer Technology (AS)	30
Applied Liberal Arts (AS)	22
Applied Mechanical Technology (AAS)	12
Business (AS)	12
Business Administration (AAS)	24
Civil Technology (AAS)	4
General Science (AS)	11
Laboratory Science Technology (AAS)	25
Mobile Application Development (AAS)	5
Subtotal	169

Enrollment by Degree Programs (continued)

	Number of Students
NTID ASL-English Interpretation	
ASL-English Interpretation (BS)	144
Health Care Interpretation (MS)	12
Subtotal	156
Other NTID Undergraduate Programs	
Community Development and Inclusive Leadership (BS)	3
Subtotal	3
NTID Master of Science in Secondary Education (MSSE)	
Secondary Education of Students who are Deaf or Hard of Hearing (MS)	72
Subtotal	72
NTID Pre-Baccalaureate Students	
Pre-Baccalaureate Engineering (UND)	6
Pre-Baccalaureate Liberal Arts (UND)	1
Pre-Baccalaureate Science (UND)	2
Pre-Baccalaureate Visual Communication (UND)	4
Subtotal	13
NTID Subtotal	611
Undergraduate Students in Other RIT Colleges	
College of Engineering Technology	
Civil Engineering Technology (BS)	8
Computer Engineering Technology (BS)	4
Electrical Engineering Technology (BS)	1
Electrical/Mechanical Engineering Technology (BS)	2
Engineering Technology Exploration (UND)	2
Environmental Sustainability, Health and Safety (BS)	3
Mechanical Engineering Technology (BS)	23
Packaging Science (BS)	5
ROBOTICS Manufacturing Engineering Technology (BS)	3
Subtotal	51

Enrollment by Degree Programs (continued)

	Number of Students
Saunders College of Business	
Accounting (BS)	14
Business Exploration (UND)	2
Finance (BS)	8
Global Business Management (BS)	6
Management Information Systems (BS)	7
Marketing (BS)	3
Subtotal	40
College of Science	
Applied Mathematics (BS)	2
Applied Statistics and Data Analytics (BS)	2
Biochemistry (BS)	4
Bioinformatics and Computational Biology (BS)	1
Biology (BS)	6
Biotechnology and Molecular Bioscience (BS)	6
Chemistry (BS)	4
Computational Mathematics (BS)	1
Environmental Science (BS)	6
Imaging Science (BS)	1
Subtotal	33
College of Art and Design	
3D Digital Graphics (BFA)	4
Art Exploration (UND)	1
Film and Animation (BFA)	14
Graphic Design (BFA)	11
Illustration (BFA)	8
Industrial Design (BFA)	4
Interior Design (BFA)	5
Medical Illustration (BFA)	3
New Media Design (BFA)	8
Photographic and Imaging Arts (BFA)	8
Photographic Sciences (BS)	1
Subtotal	67

Enrollment by Degree Programs (continued)

	Number of Students
College of Liberal Arts	
Advertising and Public Relations (BS)	5
Communication (BS)	6
Criminal Justice (BS)	6
Digital Humanities and Social Sciences (BS)	5
Economics (BS)	2
English (BS)	3
International and Global Studies (BS)	1
Journalism (BS)	1
Liberal Arts Exploration (UND)	4
Political Science (BS)	1
Psychology (BS)	25
Public Policy (BS)	3
Sociology and Anthropology (BS)	5
Subtotal	67
Kate Gleason College of Engineering	
Biomedical Engineering (BS)	3
Chemical Engineering (BS)	3
Computer Engineering (BS)	6
Electrical Engineering (BS)	5
Engineering Exploration (UND)	2
Industrial Engineering (BS)	1
Mechanical Engineering (BS)	18
Subtotal	38
B. Thomas Golisano College of Computing and Information Sciences	
Computer Science (BS)	30
Computing Exploration (UND)	3
Computing and Information Technologies (BS)	21
Computing Security (BS)	5
Game Design and Development (BS)	14
Human-Centered Computing (BS)	3
New Media Interactive Development (BS)	1
Software Engineering (BS)	7
Web and Mobile Computing (BS)	11
Subtotal	95

Enrollment by Degree Programs (continued)

	Number of Students
School of Individualized Study	
Applied Arts and Sciences (BS)	36
University Exploration (UND)	4
Subtotal	40
College of Health Sciences and Technology	
Biomedical Sciences (BS)	17
Diagnostic Medical Sonography (BS)	5
Dietetics and Nutrition (BS)	1
Echocardiography (CT)	1
Exercise Science (BS)	2
Physician Assistant (BS)	3
Subtotal	29
Cyber Bootcamp (NON)	5
Non-Degree Student (NON)	3
Subtotal	8
Subtotal Undergraduate Students in Other Colleges	468



Department of Engineering Studies senior lecturer Marcus Holmes '96, '99, '06, helps students build a catapult in one of his construction courses.

Enrollment by Degree Programs (continued)

	Number of Students
Graduate Students in Other RIT Colleges	
College of Engineering Technology	
Manufacturing and Mechanical Systems Integration (MS)	2
Subtotal	2
Saunders College of Business	
Business Administration (MBA)	6
Business Administration Executive (MBA)	2
Business Analytics (MS)	1
Finance (MS)	1
Service Leadership and Innovation (MS)	2
Subtotal	12
College of Art and Design	
Film and Animation (MFA)	3
Visual Arts – All Grades (MST)	1
Visual Communication Design (MFA)	2
Subtotal	6
College of Liberal Arts	
Communication (MS)	3
Criminal Justice (MS)	2
School Psychology (MS)	2
Science, Technology and Public Policy (MS)	1
Subtotal	8
College of Science	
Applied and Computational Math (MS)	1
Bioinformatics (MS)	1
Subtotal	2
Kate Gleason College of Engineering	
Computer Engineering (MS)	1
Mechanical Engineering (ME)	1
Subtotal	2

Enrollment by Degree Programs (continued)

	Number of Students
B. Thomas Golisano College of Computing and Information Sciences	
Computer Science (MS)	3
Computing and Information Science (Ph.D.)	3
Computing Security (MS)	1
Data Science (MS)	2
Health Informatics (MS)	2
Human Computer Interaction (MS)	3
Subtotal	14
College of Health Science and Technology	
Health Systems Management (MS)	1
Subtotal	1
School of Individualized Study	
Professional Studies (MS)	9
Subtotal	9
Subtotal Graduate Students in Other Colleges	56
Total	1,135

Legend	
AAS	Associate of Applied Science
ACT	Advanced Certificate
AOS	Associate of Occupational Science
AS	Associate of Science
BFA	Bachelor of Fine Arts
BS	Bachelor of Science
CT	Certificate
M.Arch.	Master of Architecture
MBA	Master of Business Administration
ME	Master of Engineering
MFA	Master of Fine Arts
MS	Master of Science
MST	Master of Teaching
NON/NONG	Non-Degree
Ph.D.	Doctor of Philosophy
UND	Undeclared

Average Class Size by Discipline

The variability in average class size is influenced by the nature of instruction. For example, many programs are laboratory oriented and use specialized equipment, which limits the number of students who can reasonably be accommodated in a class.

Data do not include cooperative education, independent study or research sections.

	AY 2021-2022	
	Fall	Spring
3D Graphics Technology	3.2	2.5
Accounting Technology	7.4	7.2
Administrative Support Technology	6.0	4.5
Applied Computer Programming	11.0	8.0
Applied Computer Technology – Technical Computing	5.6	5.1
ASL/Deaf Culture	12.0	14.0
ASL-English Interpretation	11.3	9.4
Career Development	10.4	11.3
Communication Development and Inclusive Leadership	10.5	12.7
Communication Studies	10.3	11.4
Computer-Aided Drafting Technology	8.0	6.6
English	10.7	10.4
General Business	7.4	6.6
General Engineering Studies	8.7	7.0
General Visual Communications	8.4	8.5
Graphic Design	8.0	9.0
Graphic Production	7.2	7.8
Health Care Interpretation	6.3	6.3
Humanities & Social Sciences	N/A	32.0
Laboratory Science Technology	5.7	5.4
Liberal Studies	9.0	28.0
Master of Science in Secondary Education	10.8	13.6
Mathematics	11.6	10.6
Mobile Application Development	5.7	3.4
Performing Arts	15.1	15.7
Precision Manufacturing	3.9	4.6
Science	8.4	8.7
Sign Languages	8.7	5.8
Overall Average	9.1	9.0

Educational Support: Teaching

In addition to providing academic advisement, tutoring and notetaking services for deaf and hard-of-hearing students enrolled in the other colleges of RIT, NTID faculty also teach some RIT courses with deaf students enrolled. By providing direct instruction in these courses, as well as

advisement and tutoring, faculty members help maximize the benefit students receive to ensure their success in RIT's highly competitive academic environment. Below are the statistics for FY 2022 credit-bearing courses.

	Number of Sections	Number of Students	
		Deaf or Hard-of-Hearing	Hearing
Saunders College of Business			
Computer-Based Analysis	8	25	207
Subtotal	8	25	207
College of Art and Design			
Digital Bootcamp	1	0	4
The Fine Print Workflow	2	0	12
History of Western Art: Ancient to Medieval	2	28	0
History of Western Art: Renaissance to Modern	2	29	1
Photography Independent Study	1	0	2
Visual Media Capstone	1	0	13
VM Innovation Project	1	0	10
Subtotal	10	57	42
College of Engineering Technology			
Machine Tools Lab	4	0	48
Subtotal	4	0	48
College of Liberal Arts			
Abnormal Psychology	1	5	12
Advanced American Sign Language I	1	3	1
Advanced American Sign Language II	1	2	1
American Deaf History	1	14	18
American Musical Theater	1	0	32
Beginning American Sign Language I	17	18	253
Beginning American Sign Language II	8	4	85
Cognitive Psychology	2	16	15
Communication	1	16	0
Deaf Culture in America	2	26	36
Deafness and Technology	1	9	22
Developmental Psychology	1	19	0
Intermediate American Sign Language I	2	4	24
Intermediate American Sign Language II	1	3	4
Introduction to Psychology	2	34	0
Introduction to Theater	2	5	57
Introduction to Visual Arts	1	13	0

Educational Support: Teaching (continued)

	Number of Sections	Number of Students	
		Deaf or Hard-of-Hearing	Hearing
College of Liberal Arts (continued)			
Linguistics of American Sign Language	3	16	40
U.S. History Since 1945	1	15	0
Women and the Deaf Community	2	9	22
Subtotal	51	231	622
College of Science			
Advanced Chemistry Research	2	2	0
General and Analytical Chemistry Lab II	1	1	20
Introduction to Statistics I	2	19	0
Organic Chemistry Lab I	3	8	35
Organic Chemistry Lab II	4	5	59
Research and Thesis	4	0	4
Solar System Astronomy	1	2	47
Solar System Astronomy Lab	1	0	15
Stars and Galaxies Lab	2	1	30
Subtotal	20	38	210
Interdisciplinary Studies			
Critical Reading and Writing	3	25	0
Independent Study	2	2	0
Intro Leadership Theory Practice	1	0	25
Multidisciplinary Life	3	18	86
Writing Seminar	8	100	1
Subtotal	17	145	112
Total	110	496	1,241

American Sign Language and Interpreting Education Programs

The degree program in ASL-English Interpretation graduated 44 students in AY 2021-2022. Forty-one new students matriculated into the program in September 2022. Currently, 22% of total enrollment are students from ethnic minority backgrounds.

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Fall Applicants	125	137	135	146	103
Accepted	64	67	71	74	58
Registrations	50	51	48	48	41
Enrollment					
BS	148	152	170	168	144
MS in Health Care Interpretation	12	9	11	13	12
Non-Matriculated	0	3	0	0	0
Total Enrollment	160	164	181	181	156
Employment Report					
Graduates	35	23	30	44	*
Employment Rate	97%	100%	100%	*	*
In addition to the interpreting program, ASL and Interpreting Education faculty also provided the following:					FY 2022 Enrollment
ASL courses in RIT's College of Liberal Arts					470
ASL courses for deaf students, NTID					49
ASL course for the MSSE program, NTID					10
Introduction to ASL and Deaf Culture, NTID					38
New Signers Program, NTID					20
Total					587

* As of the writing of this report, the employment information for FY 2022 and FY 2023 and graduation information for FY 2023 is incomplete.

Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE)

The MSSE program is now in its 28th year. One hundred percent of the FY 2021 graduates are employed throughout the country.

To complete the program, each student must successfully complete 94 credit hours, including two student-teaching assignments and a master's project.

In addition to the coursework and other expectations, all full-time students serve as graduate assistants during the semesters they are not student teaching. They work as teaching assistants, program assistants, research assistants or tutors, primarily at NTID.

To recruit students with strong content area backgrounds, especially in science and math, the program has implemented a 4+2 program with RIT's College of Science, Kate Gleason College of Engineering and College of Liberal Arts as well as RIT's School of Individualized Study. The specifics related to this program can be found at rit.edu/ntid/msse#the-rit-42-teacher-education-program.

Fifty-four applications for admission for fall 2022 were received. Forty-nine were offered admission. Of those, 38 matriculated into the program. For AY 2022-2023, the MSSE program has a total enrollment of 72 students: 34 returning students and 38 first-year students. Of the 72 matriculated students, 56% are deaf or hard of hearing and 26% are minority.

MSSE Student Data

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Fall Applications	13	14	31	40	54
Acceptances	7	12	31	36	49
New Registrations	7	8	21	28	38
Deaf and Hard-of-Hearing Enrollment	8	10	20	37	40
Total Enrollment	17	22	34	56	72
Employment Report					
Graduates	5	10	6	19	*
Employment Rate	80%	100%	100%	*	*

* As of the writing of this report, the employment information for FY 2022 and FY 2023 and graduation information for FY 2023 is incomplete.

Cooperative Work Experiences

Cooperative work experience is an integral part of academic programming at NTID. Employment specialists assist students in securing cooperative work experiences that augment their studies. Most academic programs require from one to three cooperative assignments, which generally add another year to the program length (totaling

three years for associate degree programs and five years for bachelor's degree programs).

During FY 2022, 209 students were enrolled in cooperative work experiences, and 51 academic programs had students on cooperative work experiences.

	Number of Students Involved in Cooperative Work Experiences*				
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Sub-Baccalaureate					
NTID	84	54	47	57	48
Percent of Total Co-op Enrollment	31%	23%	26%	26%	23%
Baccalaureate/Master's					
College of Engineering Technology	50	50	21	38	38
Saunders College of Business	28	19	27	23	16
B. Thomas Golisano College of Computing and Information Sciences	46	42	32	43	56
Kate Gleason College of Engineering	29	31	22	17	24
College of Health Sciences and Technology	3	1	0	3	2
College of Art and Design	11	23	16	9	2
College of Liberal Arts	14	9	16	20	20
College of Science	5	3	0	8	3
Subtotal	186	178	134	161	161
Percent of Total Co-op Enrollment	69%	77%	74%	74%	77%
Total Co-op Enrollment	270	232	181	218	209

* Totals reported include deaf and hard-of-hearing international students, but do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported elsewhere in this section.

Student Support Services



NTID students have access to audiological services, speech and language services, mental health counseling, career counseling, academic advising, professional academic tutoring, self-advocacy training, wellness activities, substance abuse services and more.

Student Support Services Highlights

NTID provides a variety of services to support the college success of deaf and hard-of-hearing students:

- Audiological services are provided by the Communication Studies and Services (CSS) department. CSS includes six audiologists trained to provide hearing evaluations, consultations, hearing aid trials and programming, cochlear implant mapping and upgrades, assistive technology and accessory fittings and individual listening and speechreading therapies that focus on the development of receptive communication skills. RIT students, faculty and staff, NTID-supported alumni and adults enrolled in RIT's Osher Lifelong Learning Institute have access to these services and can make appointments in The Audiology Center. In addition, audiologists are available to meet to troubleshoot and repair hearing aids and cochlear implants with no appointment required. The facility is equipped with state-of-the-art computer-based technology, training software and a variety of accessories and assistive devices that are available for demonstration. CSS audiologists stay current with ongoing training and close working relationships with representatives from cochlear implant and hearing aid manufacturers to satisfy the ever-evolving needs of a diverse student population. CSS Audiology also offers routine ear, nose, throat and ophthalmology clinics for students on campus to meet with local physicians. CSS providers are prepared to match individuals' communication preferences: sign language, voice or both.
- Speech and language services are provided by the Communication Studies and Services (CSS) department. CSS includes six speech-language pathologists trained to provide clinical services for deaf and hard-of-hearing students who want to enhance their communication competence and confidence. Individual, group and walk-in experiences aim to improve students' communication for face-to-face conversations, remote conversations, group discussions, job interviews and formal presentations. Speech-language services are designed to meet students' personal goals and can focus on a variety of areas such as speech intelligibility (articulation, pronunciation, voice, prosody), spoken language, grammar and technical/professional vocabulary and practice, communication strategies for work-related interactions, speechreading and listening training, presentation skill development and increased self-confidence when communicating. The Speech & Language Center is equipped with computer technology that provides students with visual feedback for speech and language analysis. Students can also explore new methods of communication practice and facilitation through the use of trending mobile apps and virtual reality equipment. CSS providers are prepared to match individuals' communication preferences: sign language, voice or both.
- Mental health counseling and psychotherapy are provided to deaf, hard-of-hearing and hearing students on campus at the RIT Office of Counseling & Psychological Services. Mental health counselors fluent in American Sign Language provide services for deaf and hard-of-hearing students. A staff psychiatrist at the Student Health Center is available for consultation or referral as needed. Mental health crisis intervention is available 24 hours a day. In addition to individual counseling and psychotherapy, students can participate in support groups and skill-building groups with counseling center staff. In AY 2021-2022, 208 deaf and hard-of-hearing students were seen for these services.
- Personal and career counseling and academic advising. NTID Counseling & Academic Advising Services (CAAS) supports the academic, personal and career growth and success of all NTID-supported students. Department services are designed to be student-centered, proactive, developmental and responsive to student needs. Services are integrated within the students' academic and co-curricular experience and support the curriculum. Department services include academic advising, personal counseling and career counseling. Student success is also promoted through collaboration and consultation with advisors, tutors, instructors, administrators and other support service providers, as well as students' families and community professionals.

Academic advising includes, but is not limited to, student outreach, developing plans of study and monitoring degree audits to support student success and on-time graduation. Personal counseling addresses a variety of issues including transitional, familial, relational or identity concerns. All counselors/academic advisors (CAAs) serve as confidential resources under Title IX. Career counseling services are also provided for students seeking assistance in exploring interests, skills, change of majors or identifying career goals. CAAS also provides career skills assessments that

Student Support Services Highlights (continued)

are reviewed with students to integrate into their academic plan. To ensure quality of services for our students, CAAS also maintains currency in the areas of academic advising and personal and career counseling through professional development.

Consultation, along with collaboration, with key individuals, campus partners and community service are essential to maximize students' academic, personal and career growth. CAAS collaborates with, among other groups, RIT's University Advising Office, Office of Financial Aid and Scholarships, NTID Student Financial Services, academic departments, vocational rehabilitation counselors and the students' families.

In addition to advising and counseling roles and due to their expertise, CAAs work with incoming new students and also serve as Freshman Seminar instructors. Both roles are designed to support the transition into college life for first-year students. Members of the department also serve as guest lecturers in other courses to support skills needed for academic and personal success.

- The Student Life Team (SLT) continued its tradition in FY 2022 of both challenging and educating students by providing resources and support for students' successful transitions throughout college and after graduation. SLT's collaborations with NTID's Counseling and Academic Advising Services, the NTID Co-op and Career Center, NTID Student and Academic Services, Department of Public Safety and several offices across RIT's Division of Student Affairs ensured that students were provided diverse opportunities to optimize their collegiate experience.

SLT's avenues of outreach and connection with students include: co-curricular and late-night educational programming, spiritual/religious and civility exploration workshops, self-advocacy and community accountability mentoring programs, social and cultural programs, fraternity and sorority event collaborations and club/organization advising.

In addition to the wide variety of programming that SLT offers, the team serves as a source of information for the NTID student community through its strong social media presence, which is used to communicate important events and activities. SLT hires student staff during the summer who provide significant support to the summer outreach programs and Summer Vestibule Program (SVP) as well as offers year-round positions to students during the academic year who work with SLT to provide activities, events and mentoring programs that support students. SLT strives to build a sense of community that allows students to feel at home and that they are part of something great.

- Student Wellness/NTID Student and Academic Services provides instruction and services that support wellness education. Deaf and hard-of-hearing students are ensured opportunities for exploring, developing and implementing wellness concepts, principles and behaviors in their lives. It is important to ensure deaf and hard-of-hearing students receive a holistic education with a focus on career, academic, emotional, social, physical, spiritual, financial and environmental dimensions of wellness. Wellness initiatives occur through collaboration within many different areas of NTID and RIT. Students participated in wellness instructional classes, wellness presentations in freshman seminar classes, weekly "Wellness Wednesday" programs that address different topics, presentations in residence halls, Red Barn activities, intramural programs, institute workshops and personal mentoring.
- The NTID Athlete Development Program is a holistic support program geared to deaf and hard-of-hearing student-athletes at the varsity level, those participating in club and intramural sports and those interested in overall wellness. Services include academic support, mentoring, oversight, educational workshops, team-building and leadership training. Deaf and hard-of-hearing varsity student-athletes continue their success in the classroom, registering an average GPA of 3.0+ each semester since the establishment of the NTID Athlete Development Program. The NTID community continues to thrive through athletic competition, with the Deaf Basketball Association, Deaf Volleyball Association and TigerFest keeping the student body active throughout the year.

Student Support Services Highlights (continued)

- Financial aid for domestic students was provided in FY 2022 to NTID students in the form of Vocational Rehabilitation awards, grants-in-aid, federal and state grants, scholarships and federal loans through RIT's Financial Aid and Scholarships Office. In all, 681 students received NTID scholarships, 204 received RIT scholarships, 797 received NTID-endowed scholarships and 86 received scholarships from external funding sources. In addition, the NTID Financial Services Office provided privately funded short-term loans to students who encountered emergency situations.
- Summer Vestibule Program (SVP) is an orientation program for students entering NTID that is designed to transition them to college life. In 2022, 122 students went through the orientation program. Assessment tests are given to further evaluate a student's academic placement for English and mathematics classes. Students were given an opportunity during the summer months, prior to their arrival on campus, to chat with their accepted program's department chairperson to confirm their program/major of interest. If after discussion the student realized that another program is a better fit for them, they are introduced to that program's department chairperson to change their major/program. Due to the ongoing risk of COVID-19, components of the SVP program were conducted online via Zoom with interpersonal interaction via SMS, e-mail, videophone, Facebook and online meetings, prior to their arrival on campus. Once on campus, deaf and hard-of-hearing students were given intensive workshops on Deaf community/culture, diversity/inclusion, drug/alcohol programming, dating/relationships and social events. After this, they were integrated within the larger RIT Orientation framework with their hearing peers. There is also ample opportunity for peer interaction and fun. SVP is always a memorable experience because the students bond and make friends, while also beginning their collegiate career.
- First Year Experience incorporates a freshman seminar required for incoming first-year students and is designed to further assist them in their transition to RIT/NTID. Eleven sections were offered with an average class size of 11 students in fall 2022. A variety of topics are covered, such as navigating the campus, library resources, Student Information System (SIS), conflict resolution, time management, clubs/organizations, study skills, stress management, goal setting, healthy relationships and more. This is another opportunity for students to connect with their instructor if they have personal/academic struggles and use their instructor as a resource.
- Career Exploration Studies (CES) is a program that gives career-undecided students the opportunity to explore technical programs while satisfying necessary core and/or prerequisite coursework. During AY 2021-2022, CES served 33 students in the fall and 26 students in the spring.
- Substance and Addiction Intervention Services for the Deaf (SAISD) provides culturally sensitive and linguistically accessible information on alcohol, tobacco and other drugs. In addition, it offers intervention and prevention services to the deaf and hard-of-hearing community at RIT, and throughout Rochester and the Monroe County area. SAISD also advocates for and promotes development of a full range of accessible treatment programs for alcohol and other drugs for deaf and hard-of-hearing consumers through the provision of cross-disability short-term technical assistance, consultation and training for professionals. Because of its success, SAISD consults on replicating its model across New York State whenever possible.

Support Services: Tutoring Hours

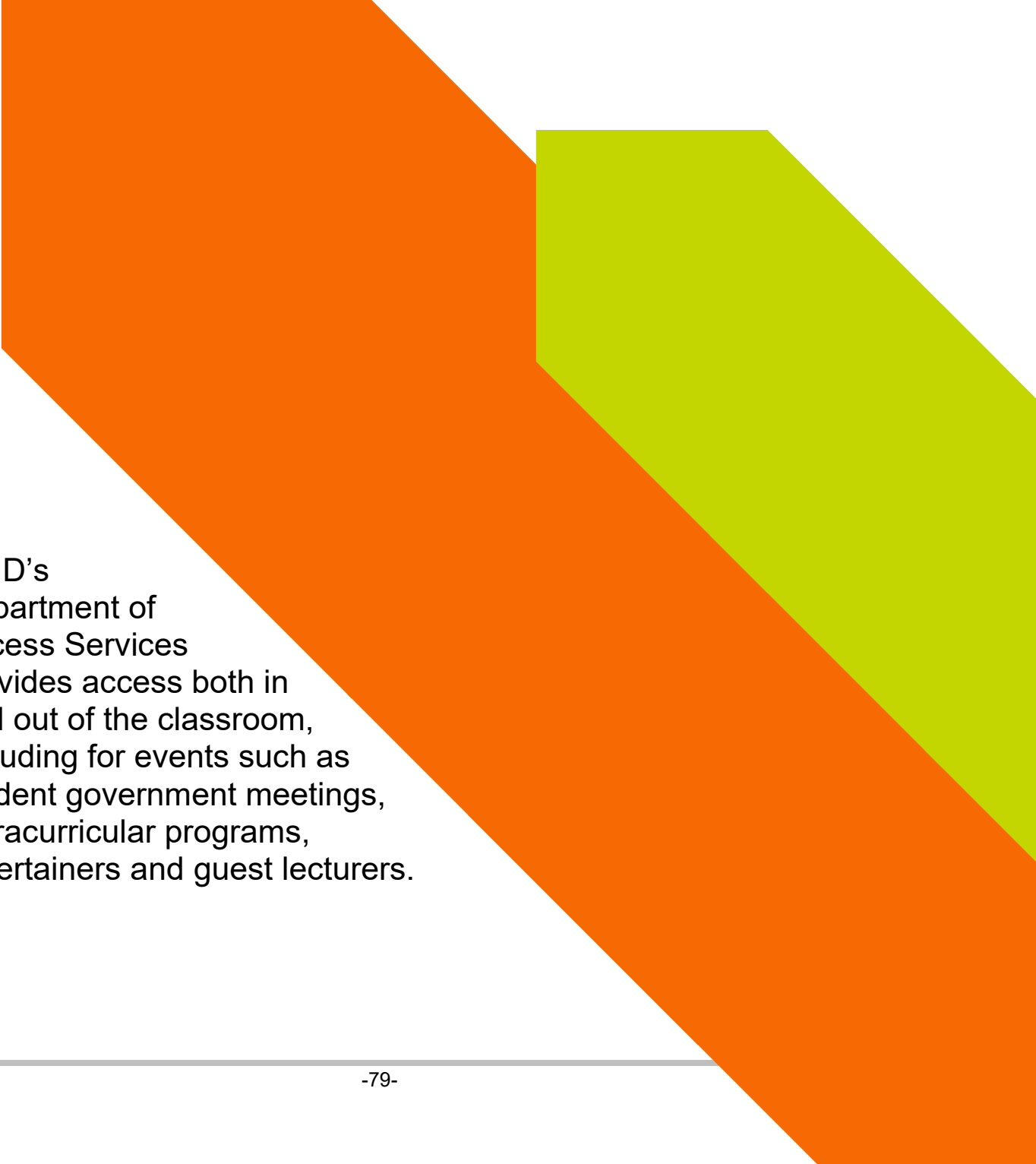
NTID faculty provide academic assistance in the form of tutoring for all NTID-supported deaf and hard-of-hearing students registered in the other colleges of RIT.

	AY 2021-2022		
	Tutoring Hours	Class Sections Served	Total Student Registrations
College of Engineering Technology (CET)	*	285	469
College of Art and Design (CAD)	1,689	500	819
Saunders College of Business (SCB)	545*	274	566
Kate Gleason College of Engineering (KGCOE)	370*	182	224
College of Liberal Arts (CLA)	2,466	634	1,573
College of Health Sciences and Technology (CHST)	576	116	280
College of Science (COS)	4,229*	572	1,434
B. Thomas Golisano College of Computing and Information Sciences (GCCIS)	759*	383	760
School of Individualized Study (SOIS)	**	116	323
Total	10,634	3,062	6,448

* Hours for CET are reported under SCB, KGCOE, COS and GCCIS.

** Hours for SOIS are reported under the other colleges depending on the course type.

Student Access Services



NTID's
Department of
Access Services
provides access both in
and out of the classroom,
including for events such as
student government meetings,
extracurricular programs,
entertainers and guest lecturers.

Student Access Services Highlights

NTID provides access services to meet the needs of a large number of deaf and hard-of-hearing students enrolled in baccalaureate and graduate degree programs in RIT's other colleges, as well as students enrolled in NTID programs who take courses in the other colleges of RIT. Access services also are provided in NTID-instructed classes when needed. Services are provided for non-academic events and activities throughout the RIT community, making RIT the world's most accessible university, with the largest staff of professional interpreters and real-time captionists of any college program in the world. Educational access services that NTID offers for deaf and hard-of-hearing students at RIT include:

- **Sign language interpreting** provided by 135 staff members, as well as freelance, apprentice and student interpreters. Students also may request interpreters for non-academic activities such as athletic events, religious services, student government, student clubs and presentations.
- **Real-time captioning** provided as a real-time access service for students who benefit from English text. A staff of 60 real-time captionists is trained in a computer-assisted system developed for transcribing in real time what teachers and students say in class. Increasing use of remotely provided captioning helps us meet growing demand. Real-time captioning is also provided for special events, meetings and presentations, as well as other non-academic needs.
- **Classroom notetaking services** are provided by more than 483 trained student notetakers, one of the largest staffs of student employees on campus. Notes are uploaded onto a website for easy access by deaf and hard-of-hearing students.
- **Captioned classroom video materials.** NTID, in conjunction with RIT, provides captioned video materials for use in classrooms and on video streams of RIT events.
- **Assistive Listening Systems.** NTID loans FM systems to students in classrooms.

NTID works with each of RIT's colleges to provide support for implementing strategies that maximize access to services for deaf students in full compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act for educational accommodation. The institutional position on accessibility for deaf and hard-of-hearing people includes the following strategies:

- Sharing responsibility for providing workshops, training and information to assist faculty in the other RIT colleges in effectively teaching deaf and hard-of-hearing students.
- Providing training and ensuring that academic and administrative service areas that interact with students have staff with a range of communication skills and strategies (sign language, computer terminal or other written interaction) to communicate effectively with deaf students.
- Ensuring that all audio and visual media produced or used at RIT are effectively captioned, and that existing materials used in classrooms are captioned whenever possible.
- Encouraging RIT to advocate for the captioning of audio and visual materials, teleconferences and other educational media produced externally to RIT.

NTID was an early innovator in access services, initiating training programs for educational interpreters in the 1970s. Staff interpreters have built careers with specialized expertise across the diverse technologies of RIT's curriculum. This resource, paired with similar expertise in real-time captioning, which began in the 1990s, offers NTID students unparalleled access to the full array of educational opportunities.

Capitalizing on its staff's expertise, Access Services strengthened the onsite development of staff interpreters and real-time captionists with expanded professional development efforts. The growth of a formalized apprentice program has already benefited 157 developing interpreters from 30 discrete training programs in transitioning from school to effective professional interpreting. Of the 157 apprentices, NTID has hired 54 into staff interpreting positions.

The Randleman Program, which hires five novice interpreters of color into a two-year mentorship program, is the only program of its kind in postsecondary education. The expertise of NTID interpreters as specialists in post-secondary education is increasingly being shared through national outreach, including via the NTID Regional STEM Center by improving skills of interpreters in STEM disciplines. With increasing retirements of veteran staff, Access Services hired approximately 40% of its current staff of 190 access providers in recent years.

Access Services: Interpreting, Real-Time Captioning and Notetaking

Interpreting, notetaking and real-time captioning services are provided to allow deaf and hard-of-hearing students equal access to information in classes at other RIT colleges and NTID, when necessary.

RIT College	Interpreting Hours	Real-Time Captioning Hours	Notetaking Hours	Class Sections Served
College of Art and Design	23,305	3,218	4,812	362
College of Engineering Technology	3,996	1,908	2,526	166
College of Health Sciences and Technology	2,340	1,505	1,817	67
College of Liberal Arts	14,513	6,549	8,963	389
College of Science	15,302	6,003	10,335	390
B. Thomas Golisano College of Computing and Information Sciences	8,720	3,556	5,089	230
Golisano Institute for Sustainability	20	0	8	1
School of Individualized Study	1,947	393	466	51
Kate Gleason College of Engineering	1,803	1,440	1,558	77
NTID	9,804	1,052	220	172
Saunders College of Business	7,464	2,238	3,969	183
Student Affairs Division	1,861	189	226	87
FY 2022 Total Hours	91,075	28,051	39,989	2,175

Access Services: Interpreting Services

In-class services include interpreting support in all colleges of RIT, as well as student/professor meetings, field trips and other activities when required for credit-bearing courses. Non-class services include student use of interpreting services in student government, other student organizations,

study abroad, judicial proceedings, emergency situations and extra-curricular programs. Administrative use includes support for RIT faculty/staff activities, such as visiting presenters, conferences and presentations for faculty, staff and audiences.

FY 2022	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	46,351	77%	760	10,225	17%	3,882	6%	60,457	100%
Spring	43,760	74%	677	10,365	18%	4,661	8%	58,786	100%
Summer	964	7%	34	8,113	63%	3,856	30%	12,933	100%
FY 2022 Total	91,075	69%	1,471	28,703	22%	12,399	9%	132,176	100%
FY 2012 Total	97,232	75%	2,032	25,766	19%	6,902	6%	129,900	100%
FY 2013 Total	111,757	77%	2,262	26,878	19%	6,368	4%	145,003	100%
FY 2014 Total**	99,173	75%	1,660	26,223	20%	6,659	5%	132,055	100%
FY 2015 Total	105,983	76%	1,739	27,196	19%	7,051	5%	140,230	100%
FY 2016 Total	112,110	75%	1,797	29,105	20%	7,831	5%	149,046	100%
FY 2017 Total	108,243	71%	1,644	33,854	22%	10,533	7%	152,630	100%
FY 2018 Total***	96,463	71%	1,634	30,051	22%	9,572	7%	136,036	100%
FY 2019 Total	100,270	69%	1,608	31,850	22%	13,164	9%	145,284	100%
FY 2020 Total	82,576	70%	1,555	23,034	19%	12,630	11%	118,240	100%
FY 2021 Total	82,474	70%	1,563	23,013	20%	12,344	10%	117,831	100%

* Percentages are rounded to the nearest whole number.

** Reduced number of sections and hours required in FY 2014 resulted from RIT's move to a semester-based academic calendar.

*** A revised class meeting schedule, only in AY 2017-2018, resulted in both reductions of demand from one fewer week of class each term and an undercount of hours, estimated at 8-10%, due to forced changes in counting methods. AY 2018-2019 returned to NTID's previous standard method of counting hours.

Access Services: Real-Time Captioning Services

In keeping with NTID's *Strategic Vision 2010*, *Strategic Decisions 2020*, and increasing demand for real-time captioning, support is being allocated to increase the supply of real-time captioning. Students who benefit from a text-based service may request real-time captioning as their means of real-time access.

Real-time captioning is provided via specialized software, allowing the provider to type in shortcuts, thus captioning what the speaker says in real-time. Captioning is used in classroom and other settings on campus, such as student clubs, activities, meetings and presentations, in order to support equal access for deaf and hard-of-hearing students.

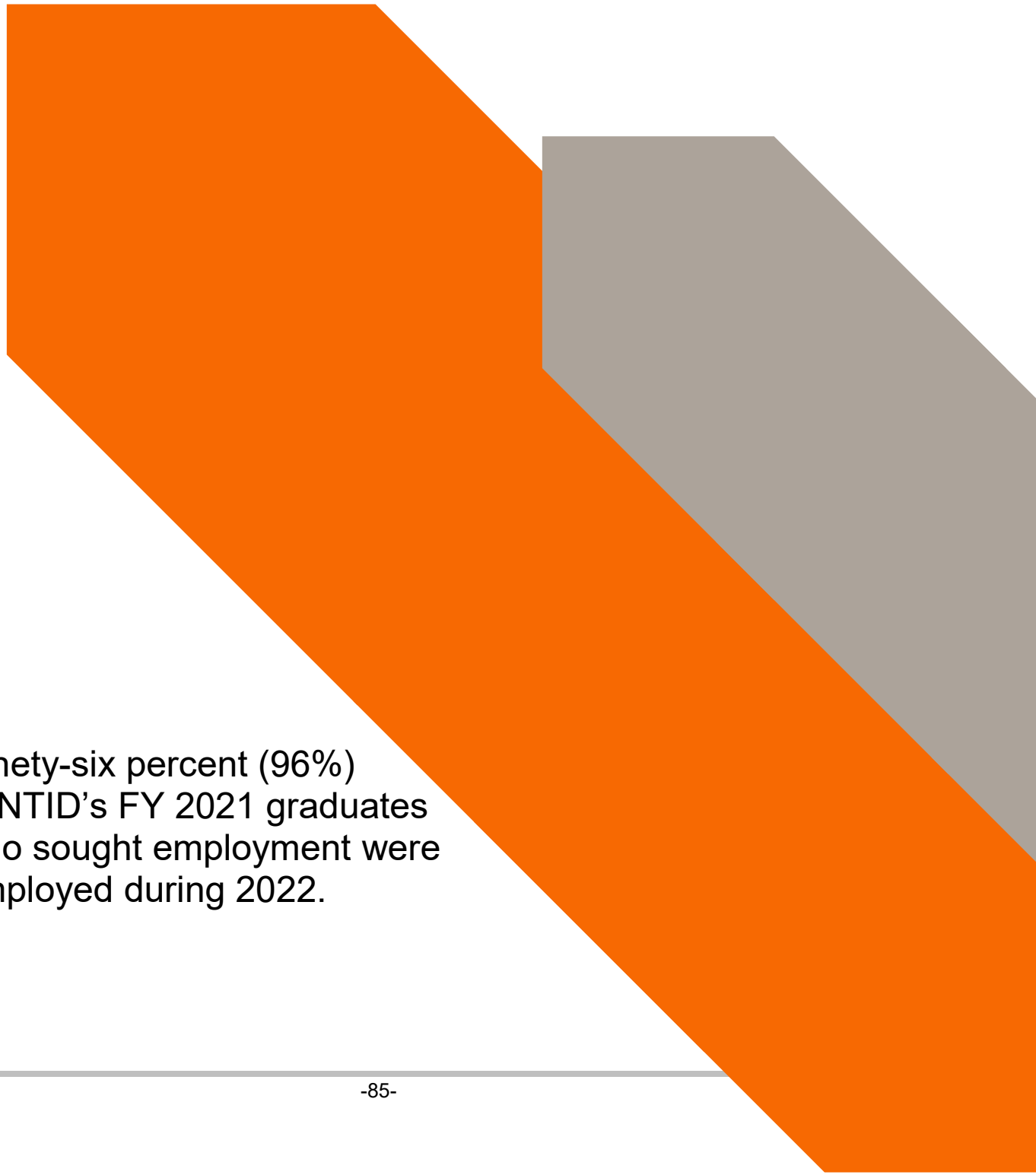
FY 2022	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	13,930	97%	447	426	3%	67	0%	14,423	100%
Spring	13,814	97%	409	267	2%	182	1%	14,263	100%
Summer	307	9%	10	3,130	86%	194	5%	3,631	100%
FY 2022 Total	28,051	87%	866	3,823	12%	443	1%	32,317	100%
FY 2012 Total	19,092	98%	592	254	1%	171	1%	19,516	100%
FY 2013 Total	17,782	98%	577	265	1%	216	1%	18,263	100%
FY 2014 Total**	21,140	98%	489	351	2%	110	1%	21,601	100%
FY 2015 Total	21,459	96%	509	630	3%	122	1%	22,211	100%
FY 2016 Total	23,081	96%	625	939	3%	315	1%	24,335	100%
FY 2017 Total	24,608	95%	642	800	3%	544	1%	25,952	100%
FY 2018 Total***	22,532	95%	642	846	4%	222	1%	23,600	100%
FY 2019 Total	23,154	89%	669	2,401	9%	423	2%	25,978	100%
FY 2020 Total	20,501	94%	729	961	4%	394	2%	21,856	100%
FY 2021 Total	25,235	91%	883	1,946	7%	563	2%	27,744	100%

* Percentages are rounded to the nearest whole number.

** Reduced number of sections and hours required in FY 2014 resulted from RIT's move to a semester-based academic calendar.

*** A revised class meeting schedule, only in AY 2017-2018, resulted in both reductions of demand from one fewer week of class each term and an undercount of hours, estimated at 8-10%, due to forced changes in counting methods. AY 2018-2019 returned to NTID's previous standard method of counting hours.

Persistence, Graduation & Employment



Ninety-six percent (96%) of NTID's FY 2021 graduates who sought employment were employed during 2022.

Persistence, Graduation and Employment Highlights

Preparing deaf and hard-of-hearing students to live and work in the mainstream of society is the primary reason NTID was established in 1965. Prior to 1965, there were few postsecondary educational opportunities for deaf and hard-of-hearing students and virtually none in technical studies. As a result, nearly 85% of deaf adults in the early 1960s found themselves in unskilled or semi-skilled jobs.

Today, NTID's highly successful academic programs and services are leading graduates to successful careers in a broad range of fields. Over the past five years, 95% of graduates who chose to enter the labor force found employment that is commensurate with the level of their education and training. Figures for 2021 graduates show that 96%, or 92 of the 96 students who chose to enter the workforce, found employment.

These statistics reflect the quality of an NTID education and its value. According to a study conducted by NTID with the Social Security Administration (SSA) in 2013, deaf and hard-of-hearing graduates from NTID far out earn those graduating from other institutions of higher education. Specifically, at age 50, \$58,000 is the median salary for deaf and hard-of-hearing individuals graduating from NTID with a bachelor's degree, which is \$17,000 more than those graduating from NTID with an associate degree, and \$37,000 more than those graduating from other institutions of higher education. NTID deaf and hard-of-hearing graduates also experience higher rates of employment over their lifetimes than those graduating from other institutions of higher education.

Quality employment and higher earnings have been shown to correlate with graduation from college. Generally, students who withdraw before graduation fare no better earnings-wise than their peers who never went to college. With this in mind, NTID employs a variety of innovative strategies to improve persistence. All first-year students take Freshman Seminar, which undergoes continuing curriculum revisions to better address the challenges that these students experience. Students who appear to have a higher risk of attrition during their first year are identified and work closely with their Freshman Seminar instructor, counselor/academic advisor and academic chairperson. NTID requires all first-year students to meet with their counselor/academic advisor to review their program requirements, identify courses for the following semester and review their individual plan of employment that was developed with their vocational rehabilitation (VR) counselor, if receiving VR support, and plan of study for degree completion.

NTID is committed to addressing retention issues that impact students' persistence from first-year transition through graduation. Staff from different divisions within NTID's Student and Academic Services continue to focus on students' academic and social success through different strategies. These strategies include annually offering the Deaf ALANA Promise (DAP) program for first-year African, Latino and Native American (ALANA) students, providing support for students through the financial aid and vocational rehabilitation process, facilitating students' well-being and mental health needs through NTID Counseling and Psychological Services (NCaPS), analyzing exit interview results from NTID's Counseling and Academic Advising Services, examining other institutional systems that promote student retention and identifying strategies to increase the retention of NTID transfer students.

Persistence is a continuing concern for NTID. However, NTID's first-year retention and overall graduate rates continue to exceed national averages when compared to hearing students in associate and bachelor's degree programs in other colleges and universities. Notwithstanding these positive comparisons, NTID continues to work at improving its persistence to graduation rate.

For AY 2021-2022, 277 degrees were awarded. Of those, 26% were sub-baccalaureate degrees, 56% were bachelor's degrees and 18% were graduate degrees. Thirty-six percent of graduates were students from minority backgrounds.

First-Year Persistence Rates

Since there is variability from year to year in terms of persistence rates for entering cohorts of students, NTID monitors and reports annually on persistence using a three-year moving average. The table below presents information about three-year moving averages for first-time, full-time, degree-seeking NTID-supported undergraduate students since 2009. Thus, the most recent

three-year average is reported for the 604 students who were first-time, full-time, degree-seeking in the years 2019, 2020 and 2021. Data in the table below indicate that for the most recent three-year period, 75% of new students persisted to the second year. Disaggregated rates can be found on the following page.

First-Year Persistence Rates*			
Three-Year Entry Cohort	Number in Cohort	Number Registering Second Year	Overall Persistence Rate
2010, 2011, 2012	827	597	72%
2011, 2012, 2013	855	658	77%
2012, 2013, 2014	814	623	77%
2013, 2014, 2015	779	596	77%
2014, 2015, 2016	731	553	76%
2015, 2016, 2017	702	509	73%
2016, 2017, 2018	649	504	78%
2017, 2018, 2019	609	438	72%
2018, 2019, 2020	597	439	74%
2019, 2020, 2021	604	457	75%

* Three-year averages for first-time, full-time, degree-seeking students registering for fall term. Students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation and the Master of Science program in Secondary Education are not included.

Persistence and Graduation Rates for Deaf and Hard-of-Hearing Students

Nationally, four-year public and private colleges have a first-year persistence rate of 82%. This compares to an 84% persistence rate for first-year NTID students across four-year degree programs. Students admitted to NTID have ACT composite scores that are comparable to students in two-year colleges with open admissions policies; yet, first-year persistence rates at NTID are comparable

with those of institutions admitting students who are far better prepared academically. The table below also indicates that NTID's graduation rates (48% for students admitted into sub-baccalaureate programs and 68% for those in bachelor-level programs) are much higher than public colleges with traditional or selective admission standards.

National and NTID Persistence and Graduation Rates		
Colleges	First-Year Persistence Rate*	Graduation Rate*
Two-Year Institutions	63%	34%
NTID Sub-Baccalaureate**	71%	48%
Four-Year Institutions	82%	64%
Other RIT Colleges (NTID Baccalaureate)**	84%	68%



Students conduct an experiment in Quantitative Instrumental Analysis, a class in the Laboratory Science Technology program.

* Source of national estimates: nces.ed.gov

** NTID calculates first-year persistence and graduation rates using a three-year moving average.

Degrees Granted: FY 2018 to FY 2022

During the past five years, NTID has awarded an average of 285 degrees annually. The number for FY 2022 was 277. In FY 2022, 90 of the 272 graduates (36%) were students from minority backgrounds.

Seven different degree levels are eligible to be awarded to NTID-supported students at RIT.

Sub-Baccalaureate Certification

1. An *Associate in Occupational Studies* (AOS) degree requires 45-52 semester credit hours of technical instruction and permits students to enter their careers directly upon graduation. In addition to completing technical courses satisfactorily, students must complete 15 semester credit hours in the NTID general education curriculum, as well as other required semester credit hours determined by their program of study.
2. An *Associate in Applied Science* (AAS) degree permits students to enter their careers directly upon graduation, or in many cases, to transfer to a baccalaureate program in the other colleges of RIT. Completion of this degree requires 48-52 semester credit hours of technical instruction. In addition to the technical courses, students must complete 24 semester credit hours in general education courses, primarily offered through RIT's College of Liberal Arts as well as other required credit hours as determined by their program of study.
3. The *Associate in Science* (AS) degree is an associate+bachelor's degree for students seeking admission to bachelor-level studies. This degree requires completion of 60-63 semester credit hours, half of which must be from liberal arts and sciences; the rest are from technical and professional areas.

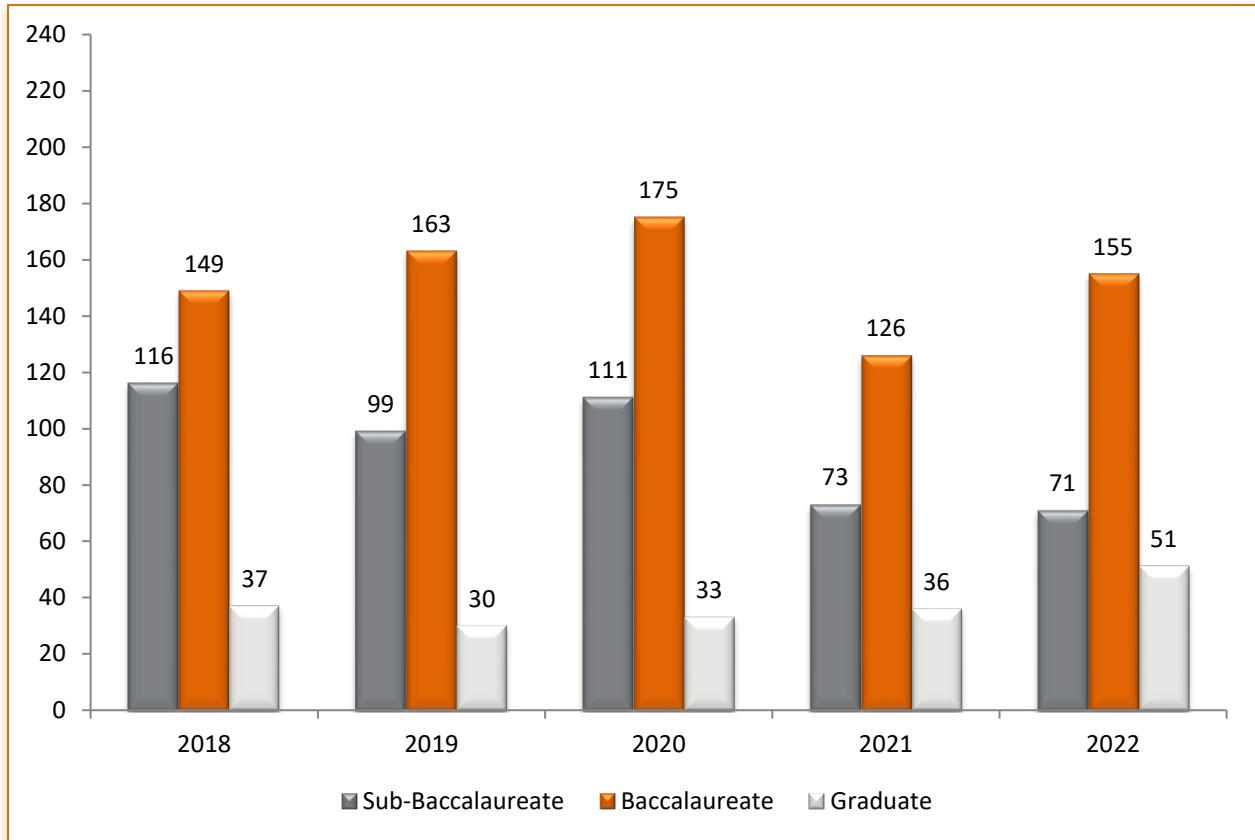
Bachelor's/Master's Degrees and Advanced Certificates

4. A *Bachelor's* degree is awarded to students who complete all required courses to graduate from a four- or five-year program in one of RIT's nine colleges. A bachelor's degree requires completion of 120-128 semester credit hours.
5. An *Advanced Certificate* is awarded to students who complete all required graduate courses within an applicable program. NYSED does not stipulate a minimum number of credit hours for an Advanced Certificate; however, RIT programs typically consist of at least 12 semester credit hours.
6. A *Master's* degree is awarded to students who complete all required courses to graduate from a two- or three-year graduate program in one of RIT's nine colleges. The credit requirements vary among programs, but a minimum of 30 semester credit hours at the graduate level is required.

Doctoral Degrees

7. A *Doctorate in Philosophy* (Ph.D.) degree is awarded to students who complete all courses, research, examinations, defense of dissertation and submission of a final accepted dissertation to graduate from a program within one of RIT's other eight colleges. The credit requirements vary among programs, but a minimum of three years of full-time study and 60 semester credit hours at the graduate level, with at least 18 credit hours of research, are required.

Degrees Granted: FY 2018 to FY 2022 (continued)



	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Sub-Baccalaureate	38.4%	33.9%	34.8%	31.1%	25.6%
Baccalaureate*	49.3%	55.8%	54.9%	53.6%	56.0%
Graduate**	12.3%	10.3%	10.3%	15.3%	18.4%

* This number includes hearing graduates from the ASL-English Interpretation programs.

** This number includes deaf and hard-of-hearing graduates from RIT, as well as deaf, hard-of-hearing and hearing graduates from the Master of Science program in Secondary Education and hearing graduates from the Master of Science program in Health Care Interpretation.

Graduates by Program Areas

Of all the degrees awarded to NTID students on the RIT campus in FY 2022, 50% were through programs offered by NTID and 50% through the other colleges of RIT.

Data on minority status of these graduates appear in the Diversity and Inclusion section.

	FY 2022	
	Number of Graduates	Percentage of Graduates
NTID		
Career-Focused and Associate+Bachelor's Degrees	70	26%
ASL-English Interpretation	44	16%
Master of Science in Health Care Interpretation	4	1%
Master of Science in Secondary Education	19	7%
Subtotal NTID	137	50%
Other Colleges of RIT*		
College of Engineering Technology	13	5%
Saunders College of Business	19	7%
B. Thomas Golisano College of Computing and Information Sciences	16	6%
Golisano Institute for Sustainability	0	0%
Kate Gleason College of Engineering	9	3%
College of Health Sciences and Technology	8	3%
College of Art and Design	21	8%
College of Liberal Arts	21	8%
College of Science	8	3%
School of Individualized Study	20	7%
Subtotal Other Colleges	135	50%
Total	272	100%

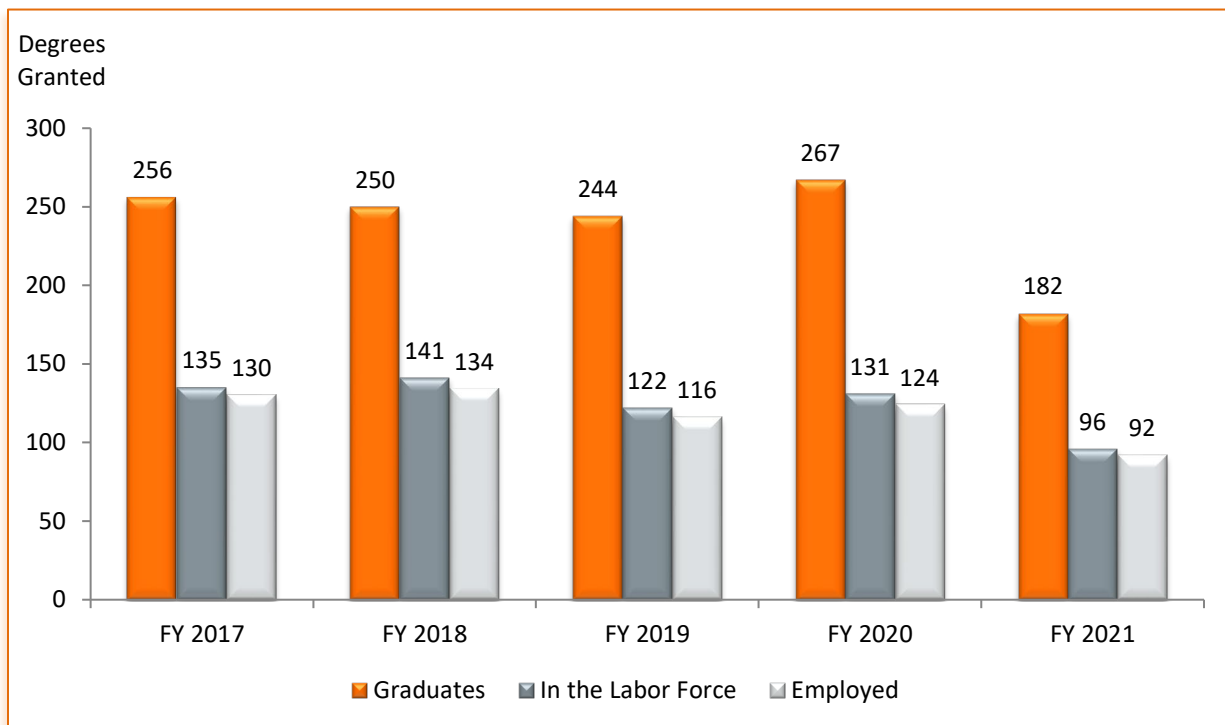
* Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as some associate degrees.

Graduation and Employment for Recent Graduates

Employment rates are calculated using the methodology of the Bureau of Labor Statistics (BLS) in its Current Population Survey (household survey), which provides information on the labor force, employment and unemployment. As the BLS defines it, "The civilian labor force is the sum of employed and unemployed persons. Those not classified as employed or unemployed are not in the labor force. The unemployment rate is the number unemployed as a percent of the labor force. The labor force participation rate is the labor force as a percent of the population..."

NTID's labor force is the sum of those graduates who are employed and those who want to be employed. Those who do not want to be employed because they choose to continue to pursue

bachelor's and master's degrees at RIT or at some other institution of higher education, or choose to become homemakers, or to be idle temporarily while traveling, etc., are not in the labor force. During FY 2021*, 182** deaf and hard-of-hearing students graduated, and 96 chose to enter the labor force. Ninety-two were employed, while four were unable to find employment. Therefore, 95.83% (92/96) found employment. NTID's employment rate over the past five years as calculated above is 95%. Of the 86 remaining graduates from 2021, 69 are continuing their education toward advanced degrees either at RIT or elsewhere, four are not looking for employment and 13 have an unknown status.



* As of the writing of this report, the employment information for 2022 is incomplete; therefore, NTID reports employment rates of 2021 graduates.

** Students are only counted once in the case of multiple degrees, and the total number of graduates does not include degrees in the ASL-English Interpretation program, the Master of Science program in Secondary Education, the Master of Science program in Health Care Interpretation or any certificates awarded.

Employment Services for Deaf and Hard-of-Hearing Students and Graduates

Prior to students' cooperative work experiences, NTID Co-op and Career Center (NCCC) meets with students to support student learning about how to organize and conduct job search activities. Students utilize extensive NCCC website and print resources to research prospective employers,

identify appropriate employment opportunities and obtain information about applying for a job and working. During the academic year, employment advisors provide job-seeking advice to students and graduates through Zoom, email, text and videophone.

During FY 2022:

- NCCC personnel appeared as guest presenters to discuss the job search process in nine sections of various technical and academic programs.
- One engineering student participated in a virtual Solar Turbines Training Academy/Shadow Day in October 2021.
- As part of Disability:IN, five students participated in the Next Gen Leaders program. Students were matched one-on-one with mentors from Disability:IN corporate partners across all industries like Google, JPMorgan Chase, Microsoft, Boeing and Pfizer.
- Thirteen students met with representatives from The Learning Center for the Deaf, Disability Solutions@Ability Beyond, PCORE Electric Company, Kimley-Horn, Ortho Clinical Diagnostics, CSD and Microsoft to participate in the Practice Interview Week during January 2022. This was a great opportunity for our students to improve their interviewing skills.
- Thirty-four participants attended a webinar called "Unleashing the Power of LinkedIn to Find Your Dream Job" in February 2022. The presenters were from Google and NTID, and the program was well received by the students.
- NCCC launched "Training Resources and Career Coaching for the Deaf" (TRACCD) website/introductory video to the general public. This program is designed to provide resources related to available training/certification programs and offer career coaching for deaf and hard-of-hearing individuals whose career path was impacted during the pandemic.
- NCCC consulted with 85 alumni for job search assistance and providing employment opportunities for our students and recent graduates.

Dow Chemical recruits NTID students for co-ops and employment opportunities at NTID Co-op and Career Center's annual Career Fair.



Where Recent Graduates Are Working

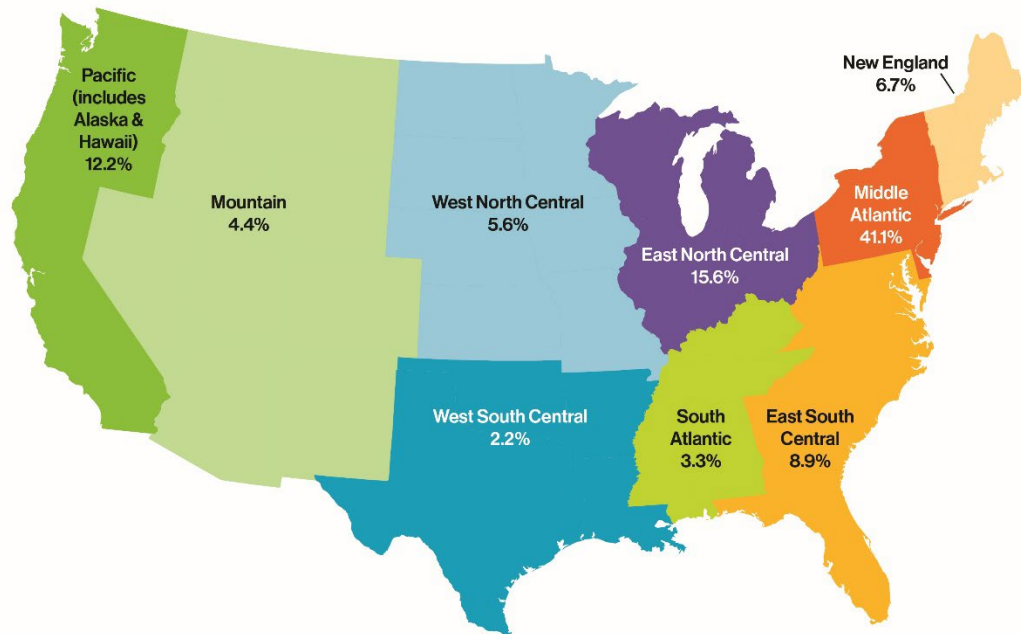
In FY 2021, 65% of U.S. NTID graduates accepted jobs in their home states as their first jobs after graduation, while 11% found employment in the Rochester area and 24% in other areas of

the country. The majority of graduates are employed in the eastern parts of the country, areas that have been strong sources of applicants for NTID.

Area	Percent of Employed Graduates				
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021*
Rochester	25%	29%	28%	15%	11%
Home State	42%	39%	36%	56%	65%
Other	33%	32%	36%	29%	24%
Total	100%	100%	100%	100%	100%

Number of Graduates Employed	130	134	116	124	92
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FY 2021 Graduate Employment by Region**



* Employment numbers for FY 2022 graduates are incomplete and will be reported next year.

** International and unknown locations are excluded.

Employment by Sector of the Economy

Of the last cohort of graduates tracked for employment, 67% have acquired jobs in business and industry, 25% in education/non-profit and 8% in government.

Sector	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021*
Business/Industry	77%	65%	77%	72%	67%
Education/Non-Profit	17%	15%	16%	21%	25%
Government	6%	20%	7%	7%	8%
Total	100%	100%	100%	100%	100%



Agron Deski '22, of New York City, New York, graduated this spring with an MS in Manufacturing and Mechanical Systems Integration and a BS in Mechanical Engineering Technology. He now works as a mechanical engineer at the U.S. Naval Research Laboratory, working in the Tactical Electronic Warfare Division.

* Employment numbers for FY 2022 graduates are incomplete and will be reported next year.

Occupations of Recent Graduates: Entry Status by Labor Category

The following table reports on the occupations of employed alumni using the Standard Occupational Coding system (SOC) used by the U.S. Department of Labor. Occupations are grouped into

13 categories. Percentages among the various categories are different than seen in the *FY 2021 Annual Report*. This year shows moderate changes over many occupational categories.

Occupations of Working 2021 Graduates*	%	Sample Job Titles Held by 2021 Graduates within Category
Computer and Mathematics	25.6%	Information Systems Analyst, Software Development Engineer, UX/UI Designer, Information Technology System Specialist, Web Developer
Arts, Design, Entertainment, Sports and Media	15.6%	Jr Designer, Social Media Specialist, Print and Marketing Associate, Video Animator
Architecture and Engineering	12.2%	Mechanical Engineer, Senior Quality Engineer, Civil Engineer, Customer Service Engineer
Business and Financial Operations	8.9%	Senior Representative, Procurement Sr. Associate, Accountant, Marketing Assistant
Education, Training and Library	7.9%	Corporate Trainee, Student Success Coach, ASL Teacher, Lecturer
Management	6.7%	Project Manager, Technical Release Manager, Co-Founder/Managing Partner
Personal Care & Service	4.4%	Recreation Program Aide, Residential Care Worker
Production	4.4%	Laborer, Technician, 3-D Modeling Technician
Office and Administrative Support	3.3%	Receptionist, Operations Support, Para-Professional
Food Preparation and Serving	3.3%	Server, Food Service Worker, Staff Worker
Sales and Related	3.3%	Sales Account Specialist, Travel Support Specialist
Life, Physical and Social Science	2.2%	Lab Technician, Research Specialist
Transportation and Material Moving	2.2%	Fulfillment Center Associate
Total	100%	

* Two of the FY 2021 employed graduates had unknown job titles.

Occupations of Alumni by Labor Categories

All NTID alumni graduating through summer 2018 were surveyed in 2019.

The following table reports on the occupations of employed NTID alumni using the Standard Occupational Coding system (SOC) used by the U.S. Department of Labor. Occupations are grouped into 15 major categories.

In 2019, the top four labor categories remain consistent with the 2014 alumni survey. However the percentage of alumni working in Education, Training and Library increased by nearly 10% since the previous survey. Also, Healthcare Support is a newly included category for 2019, becoming one of the top 10 categories represented.

The next alumni survey will be completed in 2024.

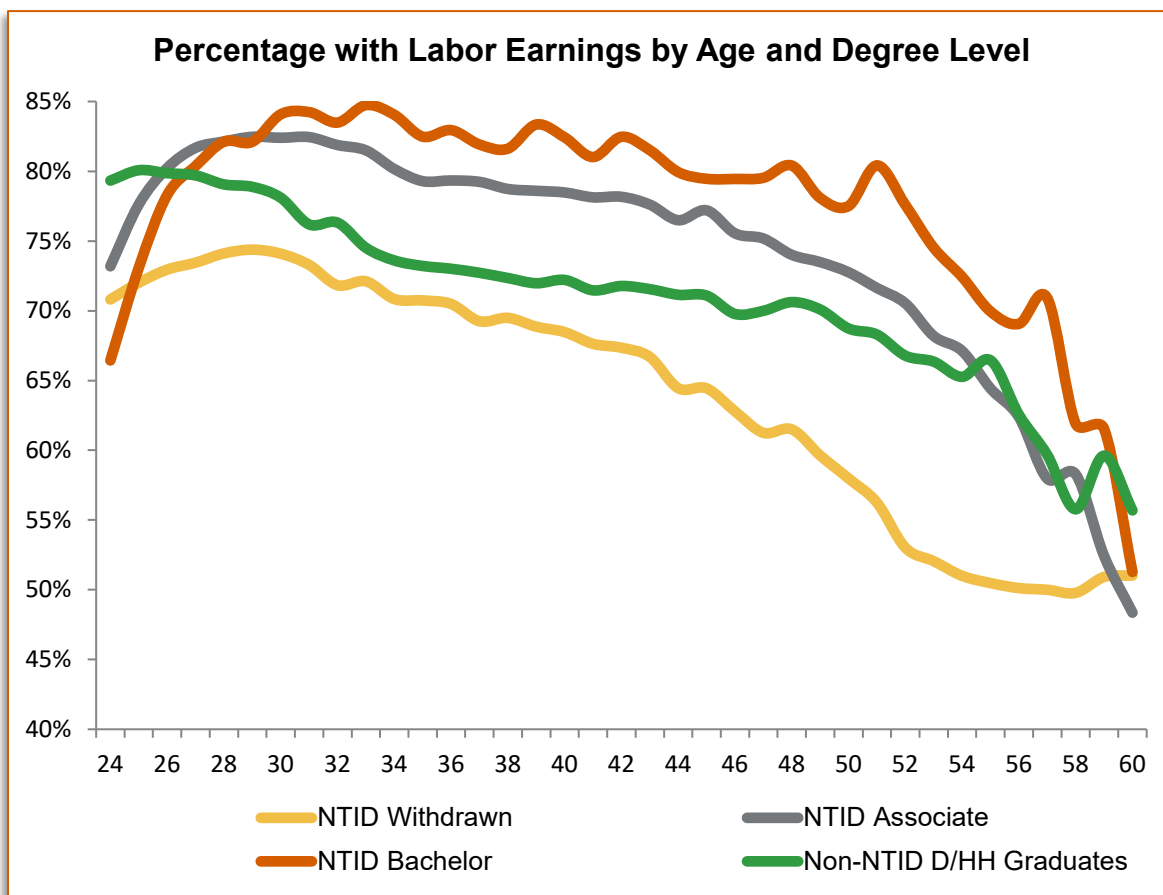
Occupations of Working Alumni*	%	Sample Job Titles Held by Alumni within Category
Education, Training and Library	20.8%	Assistant Professor, Life Skills and Literacy Instructor, Paraprofessional, Special Education Teacher
Community and Social Services	15.5%	Family Service Program Coordinator, Lead Employment Specialist, Senior Vocational Rehabilitation Counselor
Business and Financial Operations	14.2%	Accountant, Conference Director, Financial Analyst, Human Resources Specialist
Computer and Mathematics	8.9%	Chief Technology Officer, Database Developer, Software Developer
Architecture and Engineering	8.9%	CNC Machinist, Principal Packaging Engineer, Senior Electrical Engineer
Office and Administrative Support	8.4%	Administrative Assistant, Operations Coordinator, Testing Coordinator
Arts, Design, Entertainment, Sports and Media	4.1%	Graphic Designer, Senior Art Director, Visual Information Specialist
Life, Physical and Social Sciences	2.7%	Clinical Evaluator, Environmental Protection Specialist, Microbiology Laboratory Technician
Healthcare Support	2.7%	Clinical Trials Laboratory Assistant, Community Resources Professional, Optical Lab Technician, Specimen Technician
Production	2.3%	Manufacturing Technician, Tool and Dye Maker
Food Preparation and Serving	2.1%	Food Service Worker, Prep Cook
Sales	2.1%	District Manager, Retail Associate, Senior Client Director
Personal Care and Services	1.4%	Personal Care Assistant, Residential Care Worker
Transportation and Material Moving	1.4%	Handling and Shipping Staff, Postal Worker, Sort Associate
Healthcare Practitioner	1.1%	Deaf Health Specialist, Pathology Staff

* There were several job categories not represented by any of the graduates.

Labor Force Status and Earnings of Alumni

The figures below represent the changing employment conditions of deaf and hard-of-hearing alumni from age 24 to 60. Data represented in these figures are from a 2012 study with the Social Security Administration and Cornell University. Findings indicate that individual graduates benefit significantly from the curricula offered through NTID, regardless of graduating.

However, within the NTID alumni population, the magnitude of the benefit does depend on educational attainment. Deaf and hard-of-hearing graduates from RIT show the highest percentage generating income across the majority of working years, as compared with those deaf and hard-of-hearing graduates from other institutions of higher education.

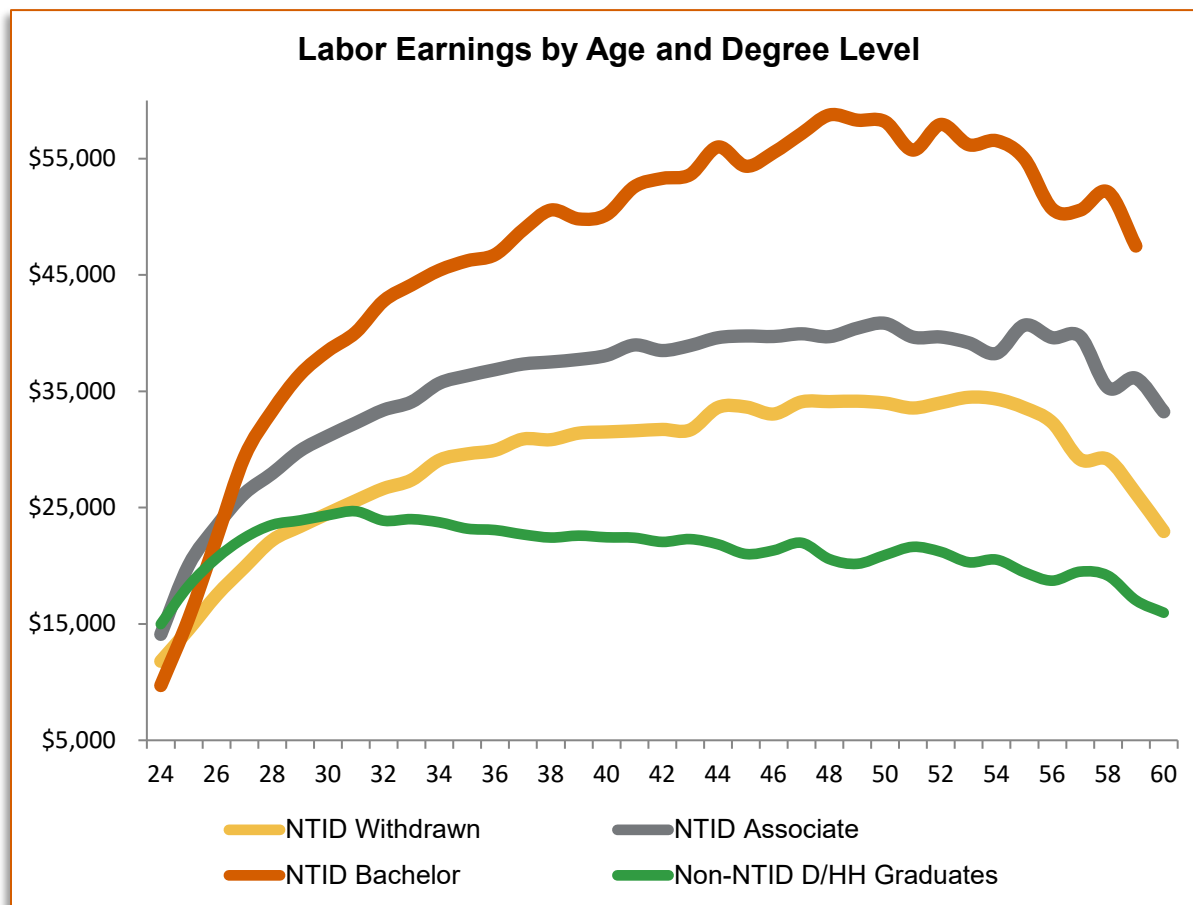


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Labor Force Status and Earnings of Alumni (continued)

Research in collaboration with the Social Security Administration and Cornell University demonstrates the impact that an RIT/NTID education has on producing income for various categories of individuals. At age 50, NTID deaf and hard-of-hearing bachelor's degree graduates earn on average \$17,000 more than those with

sub-bachelor's degrees, who in turn earn \$7,000 more than those who withdrew prior to degree completion from NTID, who earn \$13,000 more than deaf and hard-of-hearing graduates from other institutions of higher education. Increased earnings result in greater federal tax contributions.

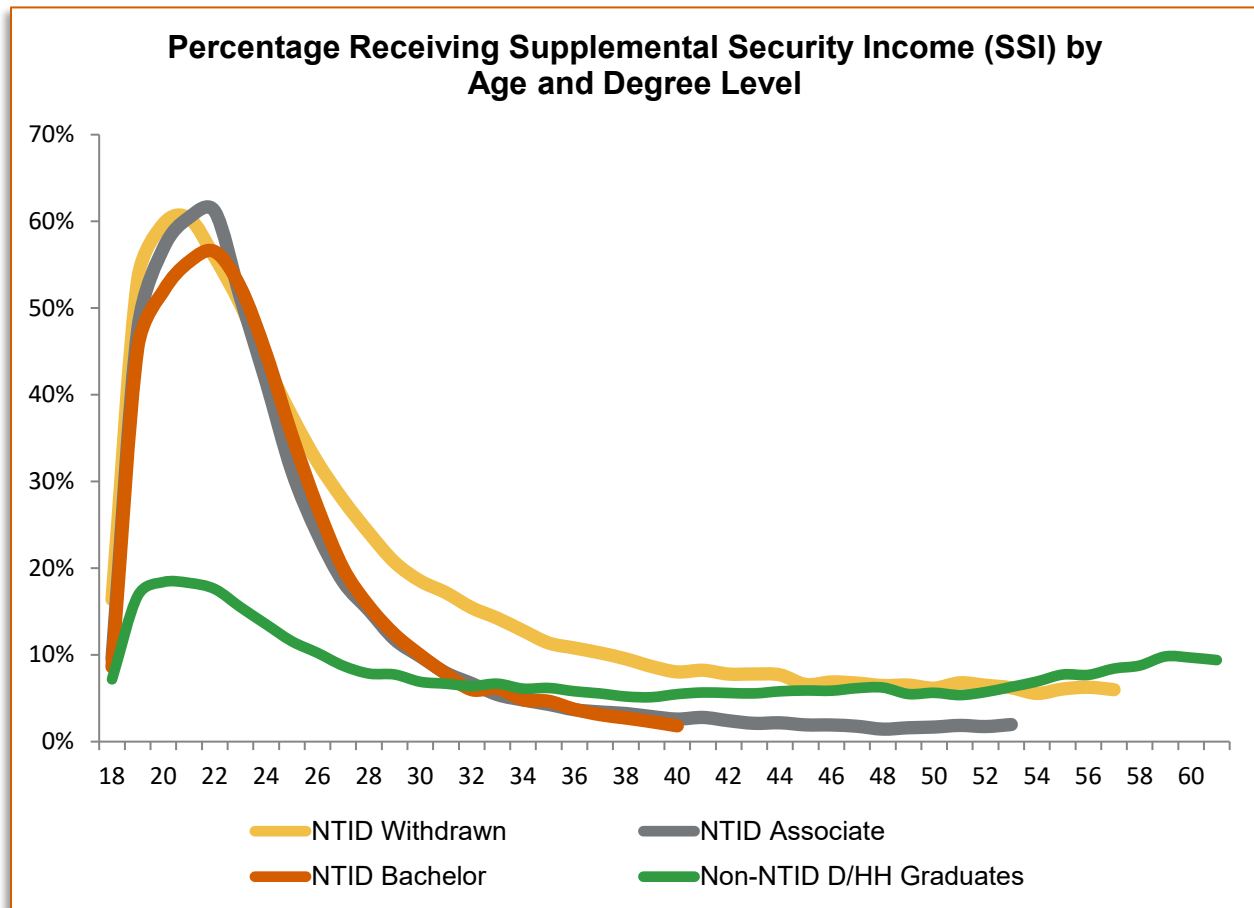


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Effect of College Graduation on Reduction in SSI and SSDI Payments

Research in collaboration with the Social Security Administration and Cornell University shows the role that the completion of a college degree plays in reducing dependence on continuing federal support. These differences exist for both the Supplemental Security Income (SSI) and the

Social Security Disability Insurance (SSDI) programs. At age 40, NTID deaf and hard-of-hearing graduates collect SSI at a rate of less than 2%, as compared to 8% for deaf and hard-of-hearing graduates from other institutions of higher education.

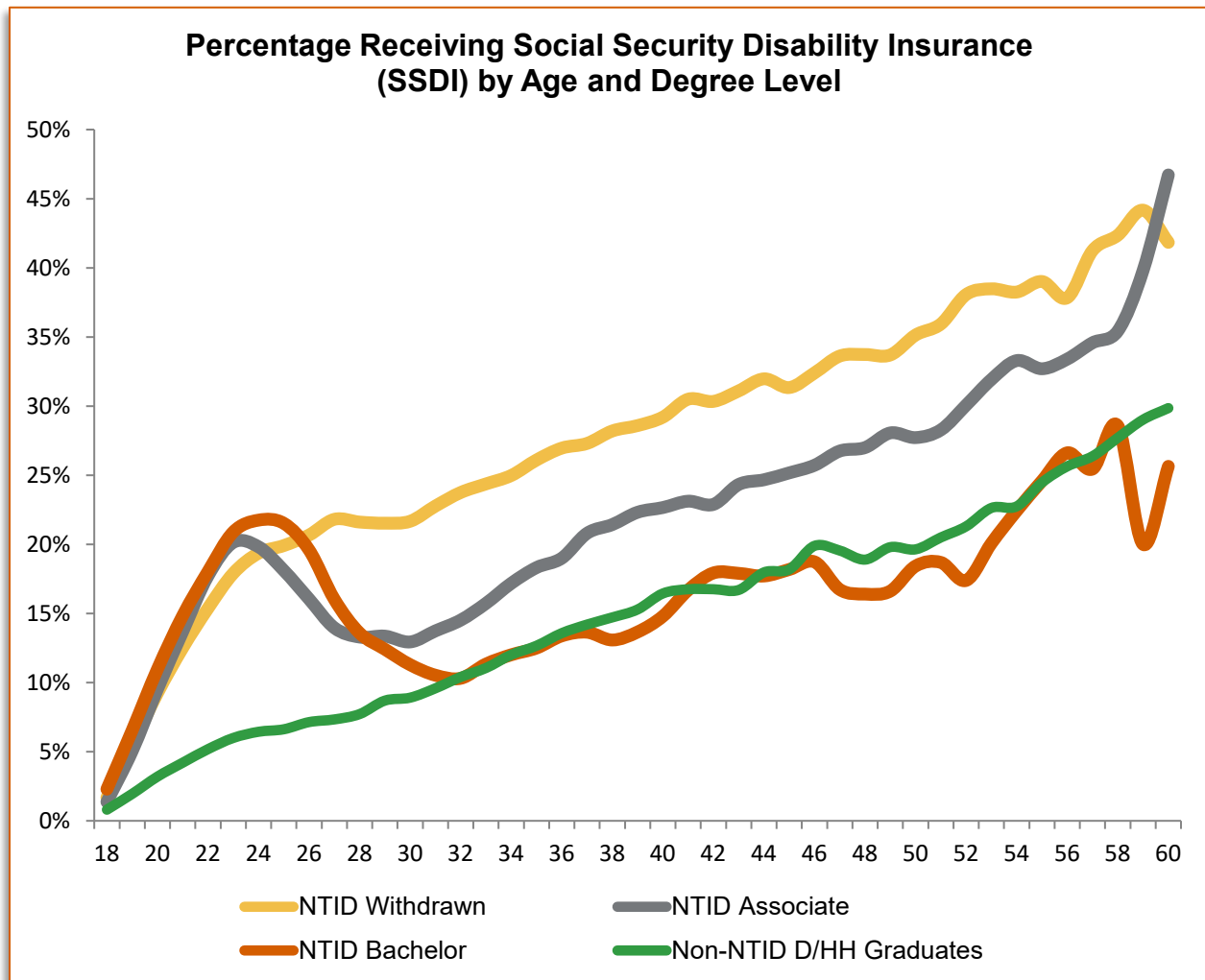


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Effect of College Graduation on Reduction in SSI and SSDI Payments (continued)

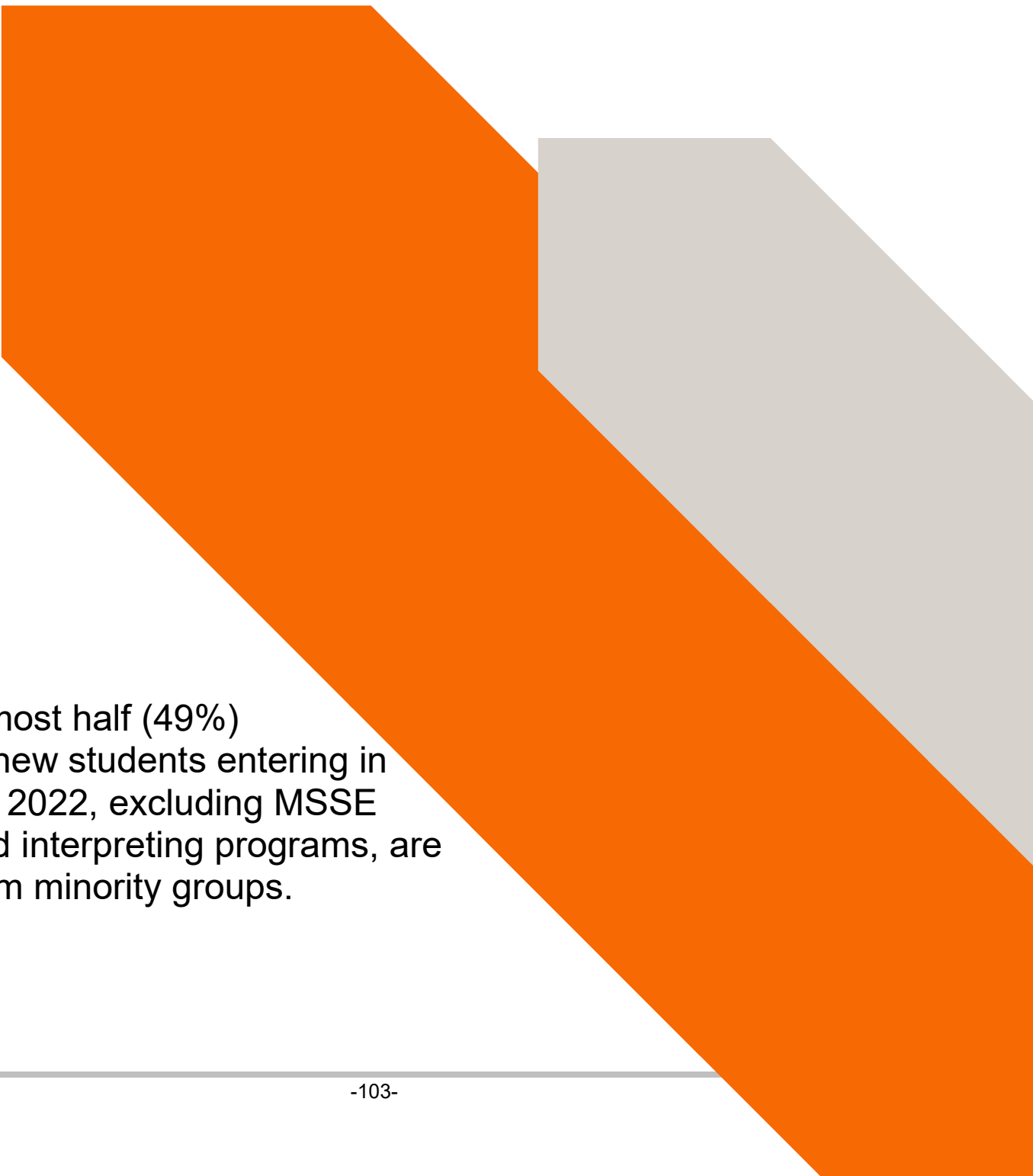
While a smaller percentage of deaf and hard-of-hearing students collect SSDI in their collegiate years, by age 50, 18% of NTID deaf and hard-of-hearing bachelor's degree graduates collect SSDI, as compared with 20% of deaf and hard-of-hearing

graduates from other institutions of higher education. As made evident by the chart below, the impact that a degree has on SSDI payment collection is substantial.



Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Diversity and Inclusion



Almost half (49%)
of new students entering in
fall 2022, excluding MSSE
and interpreting programs, are
from minority groups.

Diversity and Inclusion Highlights

Students

As of fall 2022, deaf and hard-of-hearing students at NTID totaled 904.* Diversity highlights for this population follow:

- Forty-nine percent (49.3%) of the entering class is from minority groups. The percentage of the total enrolled student body is 49%, which is more than triple what it was 20 years ago.

Of all NTID-supported students, both deaf, hard-of-hearing and hearing, and across all programs, 44% are from minority groups.

Faculty and Staff

In addition to seeking faculty and staff members who are experts in their field and well versed in teaching techniques for deaf and hard-of-hearing students, NTID has undertaken recruitment and persistence strategies to attract and keep qualified minority and deaf and hard-of-hearing employees and employees with disabilities.

Of 120 employees from ethnic minority populations, 55 are Black or African American, 41 are Hispanic/Latino and 24 are other minorities.

Of 578** total number of employees, 158 are deaf or hard of hearing.

Of the 235 employees who are deaf or hard of hearing or are members of a minority group, 188 are in executive, faculty or exempt positions. Note that some individuals count in more than one category.

NTID's commitment to diversity and inclusion has become an integral component of the college's plan of work. Department heads and faculty and staff members are making concerted efforts to recruit, hire and retain individuals from diverse categories. In the past year, 49% of all hires were either minority individuals or individuals who are deaf or hard of hearing.



Tim Albert '98, '00, center, director of NTID's Student Life Team, provides programming and support for students, along with his SLT colleagues, Jess Whitehouse '20, left, and Joanne Galvez Dollhopf '09, '10, '12, right.

* Does not include students enrolled in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science in Secondary Education program.

** Of the 578 employees, 502 are covered by operating funds.

NTID Office of Diversity and Inclusion

NTID provides educational programs that prepare graduates to live and work in a changing global community and to enhance their lifelong learning. To succeed in the global workplace, students need to develop a solid understanding of the diversity of

the workplace and possess the knowledge, skills and attributes to thrive in such an environment. The composition of the student body and of the faculty and staff who encounter students' needs to reflect that diversity.

NTID recognizes the importance of valuing diversity as it prepares deaf and hard-of-hearing students to enter a global community. Diversity and inclusion stimulate intellectual engagement, critical thinking and problem-solving skills. Learning and socializing in culturally diverse environments with individuals from all backgrounds can lead to increased innovation and collaboration. Exposure to varying leadership styles from faculty, staff, administrators and the community—particularly when someone is from a historically underrepresented community—provides lasting benefits.

With continuing shifts in national and international demographics, students need to be prepared to enter a progressively more diverse society and workplace. Students need to develop the willingness, the knowledge and the skills to live and work in such an environment. This is critical if they are to gain the understanding necessary to participate actively in society and contribute in meaningful ways to their own success and that of the community in which they live.

In addition to preparing students to enter society and the workplace, NTID's academic environment must respond to the needs of people who are both deaf or hard of hearing and from minority backgrounds. NTID's commitment to recognize, celebrate and value cultural diversity and individual differences is grounded in the continuing efforts of this country to forge a pluralistic society. It does not arise merely from political pressure or rest solely on public law; instead, it is based on a composite of NTID's mission, a changing student body and the changing nature of the world. An educational institution has a responsibility not only to reflect society, but also to lead in promoting positive change within that society.

Diversity continues to be a priority in higher education. NTID's Antiracism and Social Justice Plan has made significant gains. It focuses on three primary areas: supporting ALANA faculty and staff success through increasing ALANA representation of faculty, staff and administration to 20%; supporting ALANA student success through increasing persistence and graduation rates; and NTID community education and training to support the ALANA community. NTID's Diversity and Inclusion Executive Team, along with NTID's Administrative Council and individuals who have lead responsibility for specific action steps, have successfully completed some of the actions. To date, there are 32 Action Steps on the plan and 10 were completed, 16 are ongoing, three are RIT-led and three are future priority. NTID increased the NTID Faculty Fellowship (NFF) program reserved for ALANA faculty members from three to six positions, and MSSE and ASLIE scholarships were awarded in the fall to students from disadvantaged economic backgrounds. An example of an ongoing action step is when NTID increased ALANA representation among administrators and managers from 10% to 14%. NTID also has ongoing work to create culturally responsive first-year academic programming (e.g. STP, SVP, Freshman Seminar, etc.) that provides skills and strategies to improve student persistence. NTID partners with RIT on the RIT-led initiative to fully participate in RIT's Action Plan for Race and Ethnicity that includes action steps like working in consultation with RIT Human Resources Department to review hiring process and practices and ensure that progress towards the 2025 ALANA faculty, staff and administration goals are being made. NTID also works with RIT Division of Diversity and Inclusion to identify specific diversity and anti-bias training that will be required for all faculty, staff and administrators at NTID to complete as part of their professional development plan. Recently, RIT launched a new tradition in fall 2022 known as Together RIT: Day of Understanding, Solidarity, and Racial Reconciliation. On this day, the RIT community engaged in intentional and honest dialogue about race, ethnicity and racism. It allowed for several members of the RIT and NTID community to come together in person and share work, passions and ideas. NTID continues to be dedicated and committed to ensuring a sense of belonging and inclusion and seeing success was evident from both RIT and NTID's action plans.

- NTID's *Antiracism and Social Justice Plan* (rit.edu/ntid/diversity/social-justice) is in full swing with 32 Action Steps, some of which were completed while others are ongoing or in concert with RIT.

NTID Office of Diversity and Inclusion (continued)

- JB Black History Luncheon returned and welcomed individuals from both the NTID and RIT community.
- NTID Ethnic Fest returned after a several-year hiatus where music and food from various cultures were appreciated.
- NTID Office of Diversity and Inclusion (ODI) held the first NTID ALANA faculty and staff gathering at Fireside Lounge in RIT's Student Alumni Union.
- NTID ODI added onboarding documentation for newly hired ALANA staff.
- NTID ODI hired our first marketing and communication specialist who increased social media followings and revamped ODI's website.
- NTID ODI sent out various newsletters and publications as well as several v-logs.
- NTID ODI increased visibility at RIT and worked collaboratively with RIT Division of Diversity and Inclusion.
- NFF expanded fellowship positions and hired a new faculty mentor, Karen Tobin.
- NTID ODI continues to work collaboratively updating Antiracism and Social Justice Plan and RIT's Plan on Race and Ethnicity.



Dr. Alesia Allen '04, center, assistant vice president for NTID Diversity and Inclusion, leads a panel presentation during Together RIT: Day of Understanding, Solidarity and Racial Reconciliation.

Admissions Activity by Ethnicity*

Fifty-three percent (279) of this year's 593 deaf and hard-of-hearing applicants were students from minority backgrounds. The FY 2023 entering class of deaf and hard-of-hearing students included 111 minority students, who represent 49% of the newly admitted deaf and hard-of-hearing students.

	FY 2019*	%	FY 2020*	%	FY 2021*	%	FY 2022*	%	FY 2023*	%
Total Applicants	533		520		593		601		593	
Non-Minority	213	45%	241	47%	252	43%	239	45%	243	47%
Minority	256	55%	271	53%	336	57%	296	55%	279	53%
Acceptances	396		396		449		438		425	
Non-Minority	177	48%	201	52%	206	46%	197	48%	202	51%
Minority	192	52%	188	48%	240	54%	217	52%	194	49%
Registrations	259		247		262		269		237	
Non-Minority	126	52%	131	54%	124	48%	123	47%	114	51%
Minority	114	48%	111	46%	133	52%	138	53%	111	49%

Students learn videography from Visual Communications Studies senior lecturer Stacy Bick '99, '00, left.



* Admissions data capture activity stewarded by the NTID Admissions Office and include students who are readmitted. Figures do not include non-degree-seeking students as well as admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Percentages are of individuals for whom NTID has data, less those with international visa status.

Ethnicity of New Students*

The FY 2023 entering class included 130 minority students, who represent 43% of the entire incoming class. The FY 2023 entering class of deaf and

hard-of-hearing students included 111 minority students, who represent 49% of the newly admitted deaf and hard-of-hearing students.**

	FY 2019	Percent Minority	FY 2020	Percent Minority	FY 2021	Percent Minority	FY 2022	Percent Minority	FY 2023	Percent Minority
Deaf and Hard-of-Hearing Undergrad and Grad Students										
American Indian or Alaska Native	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.9%
Asian	27	11.5%	31	13.6%	31	12.7%	37	14.2%	36	16.0%
Black or African American	30	12.8%	21	9.2%	34	13.9%	29	10.9%	18	8.0%
Hispanic/Latino	46	19.7%	43	18.9%	48	19.7%	53	20.3%	44	19.6%
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%	1	0.4%	0	0.0%	0	0.0%
White	121	51.7%	122	53.5%	117	48.0%	125	47.9%	114	50.7%
Two or More Races	10	4.3%	11	4.8%	13	5.3%	17	6.5%	11	4.9%
Non-Resident Alien (International)	15		4		4		5		7	
Unknown Race/Ethnicity	7		14		0		7		5	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	113	48.3%	106	46.5%	126	51.6%	136	52.1%	111	49.3%
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	256		246		248		273		237	
	FY 2019	Percent Minority	FY 2020	Percent Minority	FY 2021	Percent Minority	FY 2022	Percent Minority	FY 2023	Percent Minority
Other Enrollments										
Community Development and Inclusive Leadership	N/A		N/A		N/A		N/A		0	***
ASL-English Interpretation	50	16.3%	51	15.7%	48	29.2%	48	39.6%	41	24.2%
Master of Science in Secondary Education	6	40.0%	8	0%	22	36.4%	28	21.7%	38	29.7%
Total Minority Enrollments	124		120		154		162		130	
Total Enrollments	312		305		318		349		316	
Overall Percent Minority		42.7%		39.9%		47.5%		48.2%		42.9%

* New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

** These figures exclude non-degree-seeking students.

*** No new students enrolled.

Ethnicity of Enrolled Students

Minority enrollment at NTID has steadily increased from 8% in FY 1988 to 44.4% in FY 2023, more than five times what it was more than 30 years ago.

Until FY 2000, the number of international students was limited to 10% by a federally mandated cap. As a result of the reauthorization of the Education of the Deaf Act

in 1998, the cap on international students was increased to 15%. However, a significant decrease in support from Vocational Rehabilitation in Canada and limited resources of students from other countries have had a negative impact on international enrollment.

	FY 2019	Percent Minority	FY 2020	Percent Minority	FY 2021	Percent Minority	FY 2022	Percent Minority	FY 2023	Percent Minority
Deaf and Hard-of-Hearing Undergrad and Grad Students										
American Indian or Alaska Native	4	0.4%	3	0.3%	2	0.2%	1	0.1%	2	0.2%
Asian	117	12.6%	109	12.4%	115	13.6%	135	15.3%	133	15.4%
Black or African American	91	9.8%	84	9.6%	88	10.4%	95	10.8%	87	10.1%
Hispanic/Latino	142	15.4%	143	16.3%	143	16.9%	155	17.6%	164	19.0%
Native Hawaiian or Other Pacific Islander	1	0.1%	1	0.1%	2	0.2%	1	0.1%	1	0.1%
White	539	58.3%	508	57.9%	458	54.2%	452	51.2%	437	50.6%
Two or More Races	31	3.4%	30	3.4%	37	4.4%	44	5.0%	39	4.5%
Non-Resident Alien (International)	49		38		31		30		29	
Unknown Race/Ethnicity	31		27		10		16		12	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	386	41.7%	370	42.1%	387	45.8%	432	48.9%	426	49.4%
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	1,005		943		886		929		904	
Other Enrollments										
ASL-English Interpretation	148	17.9%	155	18.1%	170	22.5%	168	26.8%	144	22.4%
Community Development and Inclusive Leadership	N/A		N/A		N/A		N/A		3	*
Master of Science in Secondary Education	17	11.8%	22	10.0%	34	23.5%	56	25.5%	72	26.2%
Master of Science in Health Care Interpretation	12	20.0%	9	22.9%	11	27.3%	13	25.0%	12	36.4%
Total Minority Enrollments	416		401		436		492		482	
Total Enrollments	1,182		1,129		1,101		1,166		1,135	
Overall Percent Minority		38.2%		38.0%		41.2%		44.2%		44.4%

* Data not reported due to small cell size.

First-Year Student Persistence and Graduation Rates by Diversity Categories

NTID enrolls students with diverse backgrounds. This diversity has increased significantly during the past decade. However, there are noticeable differences among the various groups in terms of persistence and graduation rates. In FY 2008, the

Department of Education requested that NTID's performance indicators in the areas of persistence and graduation be consistent with IPEDS methodology. The information below follows this methodology.

First-Year Persistence Rates for First-Time Full-Time Students* Three-Year Moving Averages

Fall 2019-2021 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	71	79	118	5	282
Persisted to Second Year	51	69	88	4	207
First to Second Year Persistence Rate	72%	87%	75%	80%	73%

Six-Year Graduation Rates for First-Time Full-Time Freshmen* Three-Year Moving Averages

Fall 2014-2016 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	71	68	112	15	413
Graduated Within Six Years	29	55	39	10	231
Six-Year Graduation Rate	41%	81%	35%	67%	56%

* Figures reported do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data for those programs are included on separate pages for those programs.

Graduates by College and Program Areas: Minority Status

This table shows minority student graduates in the academic program areas.

	FY 2022 Number of Graduates		
	Minority	Non-Minority	Total**
NTID			
Career-Focused and Associate+Bachelor's Degrees	30	31	70
ASL-English Interpretation	10	34	44
Master of Science in Secondary Education	6	13	19
Master in Health Care Interpretation	1	3	4
Other Colleges of RIT*			
College of Engineering Technology	2	10	13
Saunders College of Business	5	13	19
B. Thomas Golisano College of Computing and Information Sciences	6	8	16
Golisano Institute for Sustainability	0	0	0
Kate Gleason College of Engineering	3	5	9
College of Health Sciences and Technology	2	4	8
College of Art and Design	4	15	21
College of Liberal Arts	8	12	21
College of Science	4	4	8
School of Individualized Study	9	8	20
Total	90	160	272

* Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as sub-baccalaureate degrees.

** Totals include individuals with unknown race/ethnicity and international visa status. Neither are considered minority or non-minority.

Diversity Report: Faculty and Staff

NTID continues to emphasize and encourage the hiring, promotion and persistence of women, minorities and individuals who are deaf and hard of hearing. Appropriate representation in each

category remains a priority for NTID, given the ever-increasing ethnic diversity in the student body. In the chart below, individuals may appear in more than one category.

FY 2022						
	Total Employees	Female	Black or African American	Hispanic /Latino	Other Racial/ Ethnic Categories*	Deaf and Hard-of-Hearing
Faculty**	144	78	11	8	8	67
Percent		54%	8%	6%	6%	47%
Exempt Staff**	132	79	17	4	4	52
Percent		60%	13%	3%	3%	39%
Executive/ Administrative Manager**	48	23	6	1	0	23
Percent		48%	13%	2%	0%	48%
Non-Exempt Staff						
Real-Time Captionist	63	48	0	2	2	0
Percent		76%	0%	3%	3%	0%
Interpreter	147	123	11	18	5	1
Percent		84%	7%	12%	3%	0.7%
Technical/ Clerical	92	69	10	8	5	38
Percent		75%	11%	9%	5%	41%
Total***	578	397	55	41	24	158
Percent		69%	10%	7%	4%	27%

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

** Of the 48 executive/administrative managers, 19 are included on the faculty line, 29 are included on the exempt staff line and 1 is included on the interpreter line. Therefore the numbers in the Executive/Administrative Manager row are not included in the column totals, since they already are included in the faculty or exempt staff lines.

*** Of the 578 employees, 502 are covered by operating funds.

Diversity Report: Faculty and Staff Applicants

RIT/NTID tracks minority status and gender of applicants via voluntary self-identification. A summary of those data are provided below. Individuals may be counted in more than one category.

FY 2022

	Number of NTID Positions Posted	Total Applicants	Number of Applicants by Category					
			Female	Black or African American	Hispanic/Latino	Other Racial /Ethnic Categories*	White Male	Unknown
Faculty	29	106	49	7	15	18	39	3
Exempt Staff	49	416	225	65	52	59	114	20
Non-Exempt Staff**	110	1,594	1072	161	171	124	367	35
Total	188	2,116	1,346	233	238	201	520	58

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

** Includes real-time captionists, interpreters and technical and clerical positions.

Diversity Report: Faculty and Staff Hiring Results

During FY 2022, individuals from an ethnic minority or who were deaf or hard of hearing totaled 49% of all new hires and women totaled 70% of all new hires. Individuals may appear in more than one category.

FY 2022

	Total New Employees	Female	Black or African American	Hispanic /Latino	Other Racial /Ethnic Categories*	Deaf and Hard-of-Hearing
Faculty	13	8 62%	1 8%	1 8%	2 15%	4 31%
Exempt Staff	22	12 55%	5 23%	1 5%	1 5%	12 55%
Non-Exempt Staff						
Real-Time Captionist	11	8 73%	0 0%	0 0%	1 9%	0 0%
Interpreter	32	26 84%	5 16%	7 23%	1 3%	0 0%
Technical/Clerical	27	17 68%	3 12%	4 16%	1 4%	12 48%
Total	105	71 70%	14 14%	13 13%	6 6%	28 27%

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

Diversity Report: Faculty and Staff Termination Results

During FY 2022, 23% of terminations were individuals from ethnic minorities and 68% were women. In the chart below, individuals may appear in more than one category.

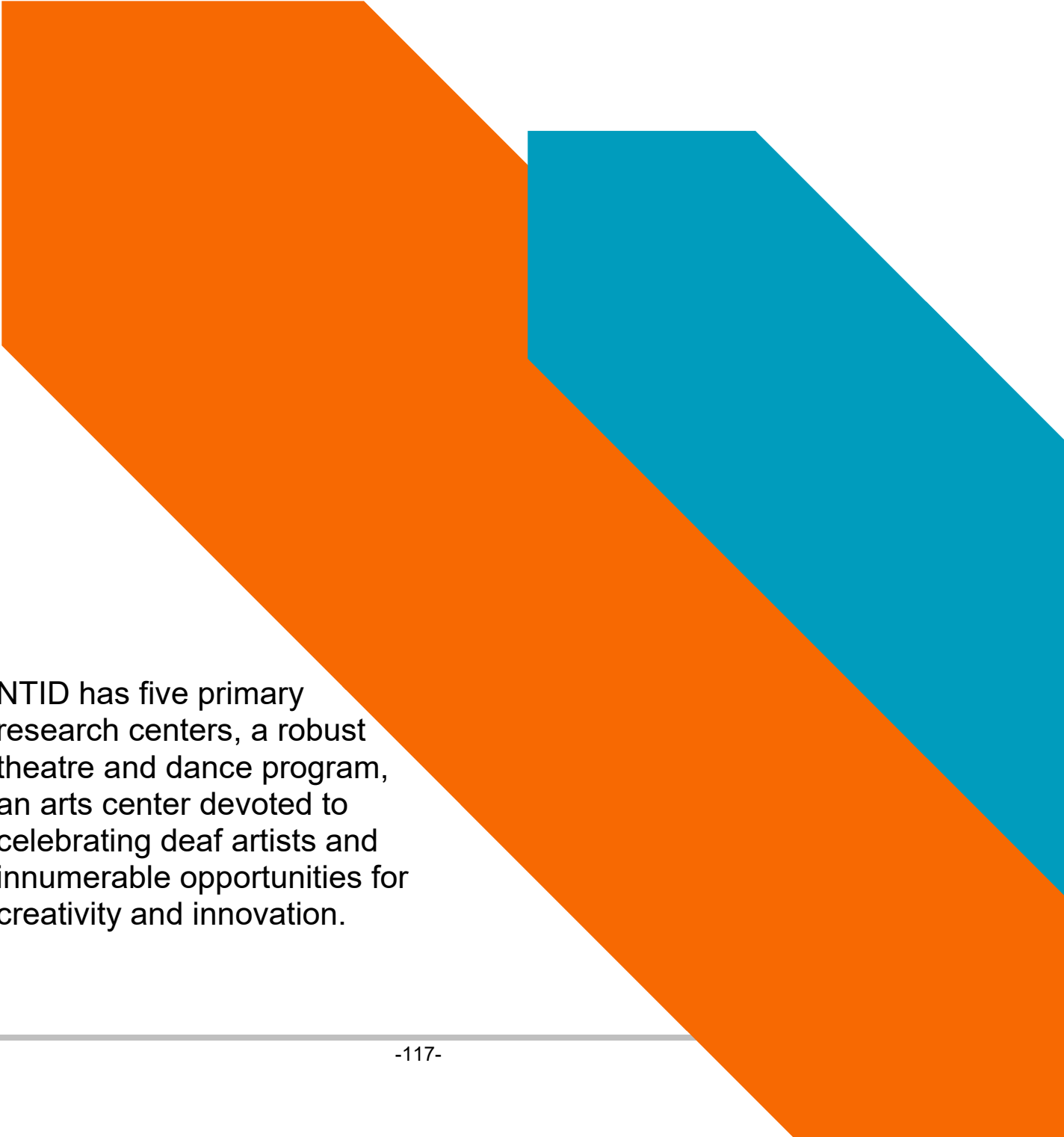
FY 2022

	Total Terminated Employees	Female	Black or African American	Hispanic/Latino	Other Racial /Ethnic Categories*	Deaf and Hard-of-Hearing
Faculty	17	4 25%	1 6%	0 0%	0 0%	9 53%
Exempt Staff	14	10 71%	2 14%	2 14%	1 7%	4 29%
Non-Exempt Staff**	44	34 83%	4 10%	3 7%	3 7%	5 11%
Total	75	48 68%	7 10%	5 7%	4 6%	18 24%

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

** Includes technical and clerical positions, real-time captionists and interpreters.

Research, Innovation & Creativity



NTID has five primary research centers, a robust theatre and dance program, an arts center devoted to celebrating deaf artists and innumerable opportunities for creativity and innovation.

Research

NTID Research Overview

NTID determines topics for research projects on the basis of priorities derived from both internal and external sources, including the U.S. Department of Education, the NTID National Advisory Group, the National Science Foundation, the National Institutes of Health and other federal, state and foundation funding sources. The NTID Research Enhancement Committee (NREC) provided NTID 15 recommendations, in January 2022, on how the college can advance faculty scholarship and meet the rising expectations of RIT for faculty to receive sponsored program funding and to produce scholarship that shows the world our faculty are experts in their disciplines. NTID faculty conduct research on special institutional projects established in response to immediate needs identified by the NTID administration. The research interests of the NTID faculty, often in combination with the faculty of other RIT colleges and/or institutions outside of RIT, contribute to the college's research activities. In addition to strategic research and special projects that are typically focused on people who are deaf or hard of hearing and the Deaf experience, NTID supports the research of scholars teaching in any NTID academic area, including mathematics, science, linguistics, sign language interpreting, business and other disciplines. NTID students are almost always involved in the research activities of the faculty, providing valuable learning experiences and skills development that better prepare them for a variety of careers. Research activity at NTID creates new knowledge that is passed along to NTID students in the classroom as well.

Office of the Associate Dean of Research (OADR)

Peter C. Hauser, Ph.D., interim associate dean of research

The mission of the OADR is to increase the number of funded projects in the college and to support and sustain NTID's research enterprise. The office is responsible for facilitating NTID efforts in evidence-based research relevant to deaf and hard-of-hearing individuals, including teaching and learning, communication and language, employment success, access technology, deaf health and other topics. In addition to providing leadership for strategic research in the college, the office provides direct administrative support, both pre- and post-award, for all research and grant-related activity at the college and plays a key role in expanding NTID's funding portfolio.

The office continued to focus on the 15 NREC recommendations in FY 2022 while providing fiscal and administrative support for research projects, professional development for principal investigators (PIs) and publicizing the research accomplishments of faculty and staff. In this annual report, three broad areas are described to illustrate samples of what the OADR provides.

a. Support for researchers and research initiatives

The OADR's Scholarship Portfolio Development Initiative (SPDI) is a program where intramural grants are awarded to meritorious applicants proposing innovative research, outreach initiatives or other types of scholarly projects. The program previously supported only early-stage principal investigators and soft-funded research faculty. In FY 2020, eligibility was expanded to include all NTID tenure-track faculty (pre- or post-tenure) and NTID staff who have served as principal investigators (PIs) on current or prior extramural awards. This expanded eligibility is designed to encourage applications from seasoned researchers who will utilize SPDI funds to conduct pilot studies to enhance the viability of subsequent extramural grant applications. In FY 2022, SPDI offered intramural funds of up to \$12,000 for one- or two-year projects. Applicants also could request an additional \$3,000 to support the involvement of collaborators from other colleges and institutions, another priority of the program. In FY 2022, one new SPDI proposal was funded for a total of \$12,000.

Research (continued)

The Profession of Signed Language Interpreting: Digital Database & Historical Timeline
5/1/2022–4/30/2023 \$12,000
PI: Kierstin Muroski

This grant project will develop the current prototype website into an online resource of material that will be open access, use rich metadata to allow for flexible searching and filtering, and include links to material that can be viewed by timeline, media type, age/date, subject matter or content/context. This online collection of information about resources related to the profession of signed language interpreting will offer a central location for interpreters, interpreting students and interpreter educators to access materials. The abundance of data shared in an open format will contribute resources for interpreter education, promote information sharing, supply data to inform a wide-array of research initiatives and offer a framework of historical context – all showcased within an RIT/NTID online platform. This will be a rich, significant and first-of-its-kind “born digital” publication that catalogues the wealth of material available to the profession.

Seven SPDI projects that were funded in prior fiscal years remain active at this time. A number of these projects’ time lines have been pushed forward due to RIT policy restrictions and other factors related to the COVID-19 pandemic.

Start-Up Packages (SUPs) are financial support agreements established for new tenure-track faculty, the goal of which is to facilitate their research and other scholarly activities in the early years of their employment at NTID. SUPs are funded by the OADR. The amount and intended usage of SUP funds is negotiated between the Associate Dean of Research and the individual faculty member and becomes a key aspect of their employment offer, whether they will be new to NTID faculty or are existing faculty who are new to a tenure-track position. Three new SUP accounts were established this year, bringing the total of currently active SUP accounts to nine. Examples of common SUP expenditures include faculty summer salary, research equipment, funds to hire student research assistants, travel support to attend and present at conferences, human subject fees and consultant fees.

The OADR also provides fiscal support for consultation from experts in three topic areas: statistics, program evaluation and writing/editing. Faculty may request any of these expert services in support of research or scholarship activities. The arrangement with professional statisticians from the College of Science (COS) was launched in FY 2020. In FY 2021, the program was expanded to include support for expert consultation regarding program evaluation and writing/editing. Each of these services enhances the viability of grant proposals, ongoing projects and/or manuscripts in preparation such as research reports and journal articles. These expert consultants also enhance the associated knowledge and skills of NTID faculty in these often challenging aspects of planning, conducting and disseminating research.

It is quite common for faculty to approach the Associate Dean for Research, seeking funding for various purposes that are not included in grant or academic department budgets or in expired SUPs. Such research-related purchases, which are almost always approved, include travel, equipment, human subject fees, open-access journal fees, captioning/translation costs, travel funds and more.

The OADR closely monitors communications from relevant research funding bodies, such as the National Science Foundation (NSF), the National Institutes of Health (NIH) and a number of foundations and other organizations. The OADR regularly analyzes these communications to determine those that are most relevant to our faculty and shares that information with the faculty as a whole or, sometimes, specific faculty members whose interests and activities are particularly suited to opportunities from funders. As detailed below, the OADR often directly supports faculty participation in professional development activities offered by funding agencies, where faculty learn about an agency’s funding priorities, grant procurement mechanisms and policies, etc.

Research (continued)

b. Professional development

In FY 2022, OADR successfully completed its fourth year of *PI Prime Time*, a professional development program designed to enhance faculty success in applying for extramural funding, improve their skills in managing funded projects and disseminating their research and scholarship products. The *PI Prime Time* planning committee consists of the OADR team, RIT pre- and post-award research administrators who serve NTID and three NTID faculty advisors. The committee is continuously refining their workshops based on feedback from evaluations. Five workshops were offered during the fall 2021 semester, and five workshops were offered during the spring 2022 semester.

Tenure-track faculty often use their SUP funds (see above) for professional development activities, primarily attending and presenting at conferences in their areas of academic concentration. The OADR also provides funding for professional development outside the SUP process, including for faculty who do not have SUPs or for whom their SUP accounts have expired after the five-year SUP spending limit. In the past, OADR has funded sign language interpreter services for some conferences and co-funds faculty groups attending high-priority conferences (e.g., one on quantitative research methods held in 2019). In FY 2022, the Associate Dean of Research recruited and funded three faculty to attend the Council on Undergraduate Research (CUR) “Dialogues” virtual conference, where presentations and individual meetings with program officials from major funders take place (e.g., NSF, NIH, the U.S. Department of Education and many more). This activity (usually involving a non-virtual conference trip) takes place annually, although trips to major funding agencies (e.g., NSF, NIH) or pertinent other conferences relevant to professional development for researchers also have been led by the OADR.

The OADR also emphasizes the importance of professional development for its staff. In FY 2022, OADR staff attended virtual conferences hosted by the Society of Research Administrators and the National Council of University Administrators.

c. Publicizing the accomplishments of NTID personnel working on funded projects

OADR regularly contributes content to the monthly newsletter from NTID’s Office of the President. This typically includes news of recently obtained grants by NTID faculty, awards or other accomplishments worthy of attention. The OADR hosts a Sponsored Project Awards program every two years (upcoming in FY 2023) that recognizes the research activities of NTID faculty, staff and students, as well as partners outside the college, for accomplishments supported by intramural or extramural funding sources. Awards are presented in the following categories: Student Researcher, Student Research Mentor, Up-and-Coming Principal Investigator (PI), X-Factor (presented to an individual who is not a PI or Co-PI but whose work significantly contributes to team success), Collaborator, Co-PI, PI and a Partner award presented to a valued colleague from another college or institution who has made significant contributions to sponsored projects at NTID.

Research (continued)

RESEARCH CENTERS

This section summarizes the activities and accomplishments of each of the NTID Research Centers during FY 2022. When there is collaboration among several research centers, the activity is described in connection with the research center leading the effort.

NTID Sensory, Perceptual and Cognitive Ecology (SPaCE) Center

Matthew W. G. Dye, Ph.D., director

The research mission of the NTID SPaCE Center is to study the sensory, perceptual and cognitive capabilities of deaf and hard-of-hearing individuals, and to explore how those individuals create deaf-friendly environments within which they can most effectively function. In FY 2022, SPaCE Center faculty and staff published five peer-reviewed journal articles, two book chapters and presented at virtual and in-person academic conferences.

SPaCE currently encompasses four research laboratories:

1. deaf *x* laboratory

Matthew W. G. Dye, Ph.D., principal investigator

The mission of the deaf *x* laboratory is to investigate how the deaf experience (“*x*”) shapes cognition, including attention and the executive brain functions. During FY 2022, the deaf *x* laboratory continued work on three major research projects:

- Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Experience
National Institutes for Health: NIDCD R01DC016346 7/1/2017–6/30/2023
PI: Matthew Dye \$2,604,026

The overall aim of this project is to examine the effects of auditory development, cognitive function and language outcomes in a large group of young deaf adults. The results of this study will provide much-needed and timely answers regarding the possible benefits of early cochlear implantation and early intervention with sign language that parents and policy-makers seek as they determine how best to intervene with the next generation of deaf infants who are cochlear implant recipients or candidates. In FY 2022, the team continued data collection activities and presented initial results. In the coming year, data collection will continue and dissemination activities will begin.

- Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution
National Science Foundation: BCS-1749376 7/1/2018–12/31/2023
PI: Matthew Dye \$343,975

The research team will take advantage of the fully visible articulators of sign languages to develop novel pose estimation algorithms so that they can automatically extract information contained in 2D video to create accurate 3D models of articulator movement during sign language production. These models will be used to empirically assess the extent to which linguistic changes are driven by perceptual constraints imposed by the human visual system and/or articulatory constraints imposed by the musculoskeletal system. This project is a collaboration between RIT/NTID, Pennsylvania State University, Boston University, Bryn Mawr College and Barnard College.

Research (continued)

- A Comparative Modeling Approach to Exploring Speech Processing in the Human Visual System
URMC Del Monte Institute Pilot Project Program 7/1/2021–6/30/2023
Co-PI: Matthew Dye \$49,690

This study aims to use EEG recordings to characterize the cortical representation of visually lip-read speech in deaf individuals and to explore audio, visual and audiovisual speech representations in people who use cochlear implants (CIs), as a function of their pre-implant deafness and their length of CI use.

2. Perception, Language & Attention in Youth (PLAY) Laboratory

Rain G. Bosworth, Ph.D., principal investigator

The mission of the PLAY Laboratory is to investigate how different types of sensory experience shape the ways in which we perceive the world, with a particular emphasis on the study of infants and young children. During FY 2022, the PLAY Laboratory continued work on two research projects:

- Do Tactile Exploratory Behaviors Predict Language Development in Deaf Signing Children?
James S. McDonnell Foundation: JMSF 2021-2864 9/1/2021–8/31/2025
PI: Rain Bosworth \$249,695

Deaf signing children may explore their surroundings in the classroom in adaptive ways that afford learning benefits for them. In this proposal, we describe and classify tactile exploratory and communicative behaviors of deaf preschoolers during free play activities in an ASL-primary classroom. We will assess this using a multiple-camera system installed in the classroom and with lightweight, miniaturized inertial measurement (IMU) bilateral wristbands that each contain an accelerometer, gyroscope and magnetometer.

- Development of the Visual Listening Cognitive Effort Scale for Sign Language Users
NTID Scholarship Portfolio Development Initiative (SPDI) 6/1/2021–5/31/2023
PI: Rain Bosworth \$14,947

The goals of the present research are to develop a survey instrument that measures perceived cognitive load during virtual visual listening experiences (i.e. “Zoom”) in deaf and hard-of-hearing and hearing signers, and to establish a link between self-reported cognitive load while engaged in a Zoom gallery-view simulation and behavioral measures of visual listening effort.

With fiscal and other assistance from OADR and the enthusiastic support of the Rochester School for the Deaf (RSD) administration, Dr. Bosworth established a PLAY Laboratory located on the RSD campus. This space enhances recruitment and participation of children and families from RSD and elsewhere and allows the conduct of studies employing the specialized equipment and other child-friendly amenities present in this new space.

3. Perception & Acquisition of Words (PAW) Laboratory

Allison Fitch*, Ph.D., principal investigator

Established in FY 2021, the mission of the PAW Laboratory is to study the inter-relationships between the developing visual cognitive system and language acquisition. A particular interest is how joint attention contributes to language acquisition and the relationship between early language experiences and low-level visual attention mechanisms. These questions are addressed in infant and toddler populations, particularly deaf children acquiring ASL.

* Dr. Fitch is an assistant professor in the College of Liberal Arts at RIT.

Research (continued)

4. Research on Interpretation and Translation Education (RITE) Laboratory

Kierstin Muroski, Ph.D., principal investigator

Established in FY 2022, the mission of the RITE lab is to perform socially conscious research on the education of signed language interpreters including a broad focus on: students, faculty, curricula, assessment, history and institutions. The goal of the lab is to create inquiry-based scholarship to inform improvements to the discipline of interpreter education and improve the quality of services to the Deaf community.

Selected Publications

- Bosworth R. G., Hwang S. O., & Corina D. P. (2022) Visual attention for linguistic and non-linguistic body actions in non-signing and native signing children. *Frontiers in Psychology*, 13, 951057. doi: 10.3389/fpsyg.2022.951057
- Caselli, N.K., Occhino, C., Artacho, B., Savakis, A.E. & Dye, M.W.G. (2022). Perceptual optimization of language: Evidence from American Sign Language. *Cognition*, 224, <https://doi.org/10.1016/j.cognition.2022.105040>.
- Dye, M. W. G., & Terhune-Cotter, B. (2022). Development of visual sustained selective attention and response inhibition in deaf children. *Memory & Cognition*, <https://doi.org/10.3758/s13421-022-01330-1>
- Fitch, A., Arunachalam, S. & Lieberman, A.M. (2021), Mapping word to world in ASL: Evidence from a human simulation paradigm. *Cognitive Science*, 45, e13061.
- Kurz, K. B., Muroski, K. S., & Talbott, V. B. (2021) The DISC® personal profiles of emerging sign language interpreters. *Journal of Interpretation*, 29(1), 7.

Center on Access Technology (CAT)

Gary Behm '78, '81, director; Spencer Montan, associate director

The Center on Access Technology (CAT) was established in 2006 to address the challenges of utilizing, developing and/or adapting new technologies for use by people who are deaf or hard of hearing in order to improve access to personal communication within educational environments, social settings and the workplace. CAT investigates, evaluates and reports on the most effective use of access technologies and trains individuals in order to accelerate the implementation of best practices within postsecondary deaf education. The center's main strands of research include cyber-infrastructure and provision of remote services, classroom access technologies, mobile and personal communication technologies, training and evaluation services and audio technologies that are of particular interest to hard-of-hearing people.

The NTID CAT lab strives to involve students in the R&D enterprise. Faculty and students at all levels (associate, bachelor's, master's and doctorate) collaborate on multidisciplinary projects leading to real solutions.

Presentation

- Montan, S., Behm, G., Stinson, M. & Francis, P. (June 30, 2022). *Impacts of captioning and speech-to-text on communication during the pandemic*. Paper presented at the Biennial Conference of the National Association of the Deaf, Orlando, FL.

Research (continued)

- MITRE FCC Telecommunications Relay Services (TRS): Year Four
Federal Communications Commission / MITRE Corporation \$749,000
PI: Michael Stinson

RIT is collaborating with the MITRE research corporation on research, testing and procedures in order to share assessment approaches to obtain test results on Video Relay Service (VRS) and Internet Protocol Captioned Telephone Service (IP-CTS), further develop approaches and research, and share plans and results. This project involves, but is not limited to: (a) usability research on consumer perspectives regarding the use of IP-CTS, VRS and other assistive technologies and on determining the accuracy and latency threshold of captions in IP-CTS technology; (b) assessment of the interoperability of VRS devices; (c) assessment of the quality of VRS and IP-CTS services; and (d) research and development of various prototypes closely related to the ongoing ACE efforts.

NTID Research Center on Culture and Language (CCL)

Peter C. Hauser, Ph.D., director; Joseph Hill, Ph.D., associate director

The vision of the NTID Research Center on Culture and Language (CCL) is to create an accessible world where deaf and hard-of-hearing people live, learn and thrive with equal footing in different communities and environments. The mission of the center is to promote access and education through research, development and mentorship focusing on cultural and linguistic characteristics and processes of deaf and hard-of-hearing communities. This Deaf and sign-language-centered place for research and development values mentorship and collaboration. The center has several mentorship programs to broaden the participation of deaf and hard-of-hearing individuals in STEM fields. CCL globally disseminates the center's discoveries to foster a transformative impact on deaf people's lives.

CCL operates six research laboratories and two research education programs.

1. Deaf Studies Laboratory (DSL)

Joseph Hill, Ph.D., director

The Deaf Studies Laboratory, established in 2003 by CCL's director, is the original laboratory that eventually evolved into CCL. DSL's research mission is to study variation in, perception of and ideology surrounding the linguistic, social and historical aspects of sign language communities. During FY 2022, DSL lab personnel worked on three projects: Black Deaf Families, Language Evaluation of Signing Avatars, and Documenting Individual Variation in ASL (DIVA).

- Black Deaf Families
NTID Startup Package and CCL
PI: Joseph Hill

This is an empirical study of Black Deaf families based on the filmed interviews of the members of Black Deaf families in the United States. This study is to address the gap in the literature on African-American deaf and hard-of-hearing Americans and the gap is even larger when it comes to Black Deaf families and to expand the community and familial contexts of Black ASL in which 10 percent of the participants in the Black ASL study (published in 2011) are members of multi-generational Black Deaf families. A student from Cornell University, Janel Excell, was hired as an assistant in summer 2022 to code the interview transcripts of individuals who identified themselves as part of Black Deaf families and the transcripts of Black Deaf participants who participated in a workshop discussion about Black Deaf families. The first round of coding was completed and the preliminary analysis was performed to discover thematic relationships among the codes. The assistant compiled the list of literature sources relevant to the thematic relationships. The second round of coding will begin in spring 2023.

Research (continued)

- Language Evaluation of Signing Avatars
NTID Scholarship Portfolio Development Initiative (SPDI), CCL, NTID Academic Affairs
PI: Joseph Hill

This is an exploratory study of people's attitudes toward ASL signed statements reproduced by animated signing avatars with the identifiable racial and gender markers. The overall purposes of language attitude studies are to reveal the underlying language ideology held by various language communities, to study various contexts that sustain the language attitudes, and to expose social stereotypes against marginalized communities based on their language use. The goal of language evaluation methods is to indirectly capture subjects' underlying attitudes about target language samples. Speech samples can be obtained without any visual markers that betray the target speakers' social identities. However, with signed language varieties, there are so few studies on language attitudes about variation in signed languages (Hill, 2012). Since the goal of language evaluation methods is to capture subjects' attitudes indirectly, it is quite difficult to discern whether their attitudes are the response to sign language samples or the signer's appearance and identities. Sign language is expressed through face and body and it cannot be disembodied as it can be done with speech samples on audio recordings. With the current motion capture and animation technology, it is possible to separate signing motion from the human signer's appearance by employing animated avatars. The aim is to determine whether the differences in the participants' perception and evaluation of the signing production could be observed due to the presence of racial and gender markers of the avatars.

My student assistants and I conducted the sessions in summer 2022 with ASL signing participants. In the study, ASL participants were asked to view the cartoon videos for comprehension and the ASL retelling narrative in the signing avatar videos. The participants were then asked to evaluate the signing production of five different signing avatars. The avatars differed by gender and race based on the appearance markers: one black female, one black male, one white female and one white male. The other avatar was designed to be gender and racially ambiguous with blue skin as a comparison to the human-like avatars. All avatars were based on a single human signing model; the signing production, including the facial expressions and body movements, was identical, and the participants were not informed of this fact. Despite the computer-animated appearance of the avatars, the participants showed their preferences for the certain avatars based on their comments about the appearance, signing production, facial expressions and personality. This indicates that the use of signing avatars is a useful tool in addressing the challenge of visual-kinetic modality in masking the actual signer's identity and in eliciting participants' true feelings.

The presentation abstract has been accepted at the High Desert Linguistic Society conference in Albuquerque, New Mexico and our findings will be presented on November 13, 2022.

- Documenting Individual Variation in ASL (DIVA)
NTID Scholarship Portfolio Development Initiative (SPDI) and CCL 7/1/2018–8/30/2022
PI: Joseph Hill \$9,968

The goal of this project is to collect recordings of RIT/NTID students of varying regional, racial, ethnic and socio-economic backgrounds to create a preliminary database of individual linguistic variation in ASL. The objectives of this study are to: 1) describe the natural variation of ASL signers with diverse backgrounds; 2) evaluate ASL users' perceptions of non-standard varieties; and 3) develop a framework and preliminary data for a proposal to the National Science Foundation that will further explore the role of variation in educational and interpreting situations involving deaf individuals. Occhino and Hill submitted their National Endowment for the Humanities (NEH) grant proposal twice in 2019 and 2020 for building an online crowdsourcing sociolinguistic platform, but they were rejected due to the personnel size required for the project development and the unclear data management and sustainability plan. We redirected our efforts to have a team of developers from NTID's Technology and Information Services develop a website prototype. The website prototype has been used in meetings with Open@RIT,

Research (continued)

Research Computing and Google to explore what is needed for the platform to work and the infrastructure required to maintain it. Meanwhile, we had student assistants organizing and coding signed items on SooSL, which is an electronic dictionary reference. The plan is to extract the data file from SooSL and add to the database system, which will eventually be part of the online crowdsourcing sociolinguistic platform.

2. Deaf Health Laboratory

Tiffany Panko, '08, '08, MD, MBA, director

The Deaf Health Laboratory was established by Jessica Cuculick '98, '02, in 2016. The DHL's mission is to promote health justice through research and initiatives in health priority areas including but not limited to healthcare systemic barriers, health literacy, family planning and preventive health. During FY 2022, lab personnel worked on four projects, two funded by the NIH, in collaboration with multiple institutes:

- Mechanisms of Health Literacy and Information Accessibility
National Institutes of Health: 1R01DC014703 9/17/2015–8/31/2022
Subaward from University of Michigan \$600,189
PI: Peter C. Hauser

This project investigates the mechanisms of health literacy among deaf people, focusing particularly on how deaf people navigate and use websites to obtain health-related information. During FY 2022, the project team focused on its collaborative data analysis with sites in Michigan and Illinois for scholarship presentation and manuscript development. A total of 900 deaf and hearing adults were tested for 90 minutes with a battery of cognitive, learning and health literacy measures along with behavioral and eye-tracking data on their website navigation practices in search for health information. A sample of 60 participants were tested in a second session that involved semi-structured qualitative interviews, more eye-tracking navigation data and post-performance cognitive interviews.

- Pregnancy Outcomes and Experiences of Deaf and Hard-of-Hearing Women Year Five
National Institutes of Health 6/1/2021–5/31/2022
PI: Jessica Cuculick '98, '02 \$19,603

This project is investigating deaf and hard-of-hearing women's peri-, neo- and post-natal experiences. During FY 2022, the qualitative data has been analyzed for common themes these deaf women experienced and manuscripts are in development for publication. To date, one manuscript has been published in *BJOG: An International Journal of Obstetrics and Gynecology*.

- Reproductive Health Experiences of Deaf Women: A Mixed-Methods Study
NTID Scholarship Portfolio Development Initiative (SPDI) 9/1/2020–8/31/2022
\$15,000

Society of Family Planning 1/1/2021–12/31/2022
PI: Tiffany Panko '08, '08 \$72,549
Co-PI: Corrine Occhino, Mentor: Jess Cuculick '98, '02

The goal of this project is to gather national data on the reproductive behaviors and healthcare system use of deaf and hard-of-hearing women as well as qualitative data through socio-linguistics interviews. During FY 2022, the national survey was in circulation, and the interviews have been underway.

Research (continued)

3. Sign Language Acquisition and Assessment Laboratory

Peter C. Hauser, Ph.D., director

The research mission of CCL's Sign Language Acquisition and Assessment Laboratory is to understand how different individuals learn a signed language and to create theory-based sign language proficiency with evidence of psychometric validity and reliability. During FY 2022, the laboratory personnel focused on publishing the recently developed Fingerspelling and Number Comprehension Test (FaNCT) and the results of the longitudinal NTID study of adult learners of ASL. The results of the FaNCT illustrated that the test serves as a successful tool to document ASL comprehension of new to expert faculty signers. The results of the longitudinal study demonstrated the learning trajectory for adult second language learners who master skills in construction action productions and the use of depicting verbs in sentence constructions.

4. XR Accessibility Solutions Laboratory (XR-ASL)

Wendy Dannels '98, '99, '00, '05, director

XR-ASL develops real-time, immersive and interactive technologies such as mixed, augmented and virtual reality with a focus on accessible and inclusive experiences. Wendy Dannels mentored a student giving a presentation at the undergraduate student research symposium on this project titled, "Perceptions Analysis of Conference Room Webcam for Video Remote Interpreting". Software Engineer, Aaron Parker, gave a presentation titled, "Increasing Accessibility in Health Care with Smart Glasses" at the Association of Medical Professionals with Hearing Losses Conference. Seven students, one staff and one faculty demonstrated "Experience Smart Glasses Enhancing Language Access for Healthcare" at Imagine RIT. Three students, one staff and one faculty demonstrated "Mixed Reality Prototype Device Showcase" at the 6th Annual Frameless XR Symposium.

During FY 2022, the XR-ASL laboratory focused on the scope of work of the following grant:

- Augmented Reality: Accessible Dynamic Informal STEM Learning for Deaf and Hard-of-Hearing
National Science Foundation: DRL-1811509 9/1/2018–8/31/2022
PI: Wendy A. Dannels '98, '99, '00, '05; \$258,861
Co-PIs: Brian Trager '00, '05 and Sara Schley

This project is funded by the Advancing Informal STEM Learning program's Pilot and Feasibility Studies, which seeks new approaches to design and development of STEM learning to be accessible to all learners in informal environments. Often Deaf and hard-of-hearing (DHH) learners are excluded from learning STEM topics. The major goal of this project is to explore augmented reality technology to make STEM content accessible, especially in live presentations to DHH learners. The team is developing an app to be installed on commercial smart glasses. The app provides the live streaming of sign language interpreting and real-time captioning.

5. ASL Education for Second Language Learners Research Lab (ASL²ED)

Jason Listman, '07, '09, Ed.D., director

ASL Education for Second Language Learners Research Laboratory (ASL²ED) is a new addition to NTID's Center on Culture and Language. The mission of ASL²ED is to improve the quality of ASL education for second-language learners. The lab is dedicated to studying and understanding how individuals learn a second language (L2) in a signed modality and how to improve sign language pedagogy. Through evidence-based research, ASL²ED aims to bridge the gap between fields of linguistics, interpreting and second-language education by broadening knowledge and diverse

Research (continued)

perspectives within these fields, thereby translating research into practice. The following projects are ongoing at ASL²ED:

- BS in Interpreting Benchmark Study: Evaluating Interpreting Students' ASL Proficiency
CCL Fund 5/1/2022–present
PI: Jason Listman '07, '09; Co-PI; Peter Hauser
Student Investigator: One O'Neill

This collaborative project is between two labs under CCL, ASL²ED and Sign Language Acquisition and Assessment Laboratory. They aim to investigate interpreting students' ASL skills throughout the four-year program. This longitudinal study is currently being developed, and hopes to begin data collection in fall 2023.

- BIPOC Interpreting Students' Perspective on Interpreting Training Programs
CCL Fund and Honors Program 9/1/2021–present
PI: Jason Listman '07, '09; Co-PI; Joseph Hill \$500.00
Student Investigator: Taylor Harris & Manjot Sidhu

This study is a student-run project by Taylor Harris, former research assistant, and current research assistant Manjot Sidhu, who aims to explore BIPOC students' perspective on interpreting education programs. Drs. Jason Listman and Joseph Hill are their current mentors for this project. They presented their preliminary findings at the Conferences of Interpreter Trainers in fall 2022. The data collection is still ongoing, and they are preparing a manuscript.

- Students' Perception of the Learning Assistant Model in Interpreting Program Courses
CCL Fund and Honors Program 9/1/2021–present
PI: Jason Listman '07, '09 \$250.00
Student Investigator: Tadhg Hicken

This is a student research project by a former research assistant, Tadhg Hicken, with Dr. Jason Listman as a mentor. They aim to investigate further how Learning Assistants can best promote student success in interpreting courses. Dr. Listman and Tadhg co-presented their study at Conferences of Interpreter Trainers in fall 2022. The manuscript is currently being prepared and hopes to be submitted by the end of AY 2022-2023.

- The Climate of the ASL Profession: ASL Pedagogy, Curriculum, and Assessment
Office Associate Dean of Research and CCL 9/1/2021–present
PI: Jason Listman '07, '09; Co-PI: Kim Pudans-Smith \$2,080
Co-PI: John Pirone; Co-PI: Tracy Ivy '96, '00, '09

This project conducted a series of focus group discussions with ASL experts and a nationwide survey to build a better understanding of the climate of the ASL profession concerning pedagogy, curriculum and assessment. Data collection is completed and a manuscript was submitted to Foreign Language Annals. This study was funded by the Office of the Associate Dean of Research.

- Phonological Production Errors in L2 ASL Students
CCL 9/2020–present
PI: Jason Listman '07, '09
Student Investigator: Kira Hart

This project is led by a former research assistant, Kira Hart, as part of her independent research project and aims to explore what are the common L2 phonological errors in interpreting students.

Research (continued)

During FY 2021-2022, we completed the data collection and began analyzing the data. The manuscript is currently being prepared.

6. Deaf MetaLiteracy Lab (DML)

Jordan Wright, Ph.D., director

The Deaf MetaLiteracy Lab, established in 2021 encompasses the study of health, technological and cultural literacies as they coexist with the lives of deaf, deafblind, deafdisabled and hard-of-hearing individuals. The lab is dedicated to the study of the lived experience of deaf individuals as it relates to strands of literacy with particular emphasis on marginalized deaf populations. It is our goal to broaden the concept of traditional literacy in line with how deaf individuals interact with, understand and navigate systemic barriers in an aural, visual world.

Currently, DML has two major studies deployed which both aim to secure external funding:

- Deaf and Hard of Hearing People Living with HIV (DHHPLWH)
NTID Research Start-Up Funding 9/1/2021–present
PI: Jordan Wright \$2,500
Mentor: Peter Hauser

This particular study is two-fold in that it seeks to understand the barriers DHHPLWH face in medical systems, health literacy and the continuum of sexually transmitted infection (STI)-specific medical care. It also aims to seek the experiences of ASL interpreters in STI-specific settings, what barriers are present and the aptitude necessary to successfully interpret within such settings. Data collection for both strands are complete, and will be translated into peer-reviewed publications as well as an R15 NIH proposal.

- Bias, Anxiety, Mental Health and Audism (B-MAD)
NTID Microgrant 8/1/2022–present
PI: Jordan Wright \$10,000
Student Investigators: Chase Martin, Lucas Cirrincione, Dylan Levinson, Hayden Orr
Mentor: Peter Hauser

B-MAD is a student-led, three-phase study that seeks to understand bias, mental health, anxiety and self-perception in deaf and hard-of-hearing people. It is one of the first studies that attempts to quantify and measure audism as it correlates to anxiety and depression. Each phase is unique in that it focuses on different populations: Phase 1: general USA deaf and hard-of-hearing individuals ($n=400$); Phase 2: deaf and hard-of-hearing LGBTQIA+ individuals ($n=400$); and Phase 3: NTID deaf and hard-of-hearing students ($n=400$).

The ultimate goal of B-MAD is to create new implicit bias measures, along with submitting large-scale data for R01 funding.

CCL Science Mentorship Programs

The CCL plays a major role in two ongoing research education programs for deaf and hard-of-hearing individuals: the *Rochester Bridges to the Doctorate Program*, and the *IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing Program*. These programs are detailed in the sections below entitled: “Toward a National Hub of Excellence for Deaf and Hard-of-Hearing Scientists” and “Support for Student Involvement in Research.”

During FY 2022, CCL continued its *Summer Training in Academia and Research Summit (STARS)* program. STARS had total of 10 students (co-op, full-time, part-time) to work with various labs in CCL as well as two novice interpreters. The interpreters were recent graduates of RIT/NTID’s interpreting programs and were hired to have a mentored experience gaining knowledge and skills for academic research interpreting. STARS research assistants presented at the RIT Undergraduate Research

Research (continued)

Symposium and DEAF ROC Conference, and many will be presenting at the Annual Biomedical Research Conference for Minoritized Scientists. STARS continues to be successful and will be offered again in FY 2023.

Education Programs

The CCL presently plays a major role in two ongoing research education programs for deaf and hard-of-hearing individuals: the *Rochester Bridges to the Doctorate Program* and the *Rochester Post-Doctoral Partnership*. These programs are detailed in the section below entitled: “Toward a National Hub of Excellence for Deaf and Hard-of-Hearing Scientists.”

Selected CCL Publications (CCL authors in bold, students underlined)

- Dye, T. D., Alcantara, L., Siddiqi, S., Barbosu, M., Sharma, S., **Panko, T.**, & Pressman, E. (2020). Risk of COVID-19-related bullying, harassment and stigma among healthcare workers: an analytical cross-sectional global study. *BMJ open*. 1:10(12).
- Hill, J. C.**, Isakson, S. K., & Nakahara, C. (2022). Infusing Social Justice in Interpreting Education. In L. Swabey & R. E. Herring (Eds.), *Signed Language Interpreting Pedagogy: Insights and Innovations from the Conference of Interpreters Trainers* (1st ed., Vol. 13, pp. 394–407). Gallaudet University Press
- Hill, J. C.**, & Tamene, E. H. (2022). Hierarchies and Constellations: Language Attitudes and Ideologies of Signed Languages. *Journal of Sociolinguistics*, 0(0), 1–5. <https://doi.org/10.1111/josl.12525>
- Mazique, R., **Panko, T. L.**, & Cuculick, J. A. (2022). Reproductive and Disability Justice: Deaf Peoples' Right to Be Born. In *The Palgrave Handbook of Reproductive Justice and Literature* (pp. 221-246). Palgrave Macmillan, Cham.
- Mussallem, A., **Panko, T. L.**, **Contreras, J. M.**, Plegue, M. A., **Dannels, W. A.**, Roman, G., **Hauser, P. C.**, & McKee, M. M. (2022). Making virtual health care accessible to the deaf community: Findings from the telehealth survey. *Journal of Telemedicine and Telecare*.
- Panko, T. L.** (2022). Reproductive Justice for the Deaf Community. *Obstetrics & Gynecology*, 10-1097.
- Panko, T. L.**, Cuculick, J., Albert, S., Smith, L. D., Cooley, M. M., Herschel, M., ... & McKee, M. (2022). Deaf women's experiences of pregnancy and perinatal healthcare access: A qualitative study. *BJOG: An International Journal of Obstetrics & Gynaecology*.
- Silvasi, P. M., Bell, D., **Contreras, J.**, Rothman-Marshall, S. F. A. G., Ernest, J. L., & Edlund, J. E. (2022). Miranda Warning Comprehension: The Influence of Verbal Aptitude and Hearing Status. *Psychological Reports*, 00332941211051266.
- Wright, S. J.**, Lawyer, G. & Bart, E. (2022). Decision Making in the Era of Post-Modern Audism: Examining the colonizing normate. In *Who decides? Power, disability, and educational administration*. Eds. O'Brien, C. Black, W. & Danzig, A. Information Age Publishing

Selected CCL Presentations (CCL authors in bold, students underlined)

- Anderson, J., (2022) *Perception analysis of conference room webcam for video remote interpreting*. Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Contreras, J.**, Levenson, D., **Panko, T.**, Hose, T., **Hauser, P.**, & McKee, M. (2022, August 20). *Public health need for deaf healthcare providers and healthcare interpreters*. Presentation presented at Association for Medical Professionals with Hearing Loss, Las Vegas, NV.
- Cirrincione, L., Martin, C., & **Wright, J.**, (2022). *Audism and self-perception of deaf and hard of hearing individuals*. Presentation presented at Deaf ROC. Rochester, NY.
- Cirrincione, L., & **Wright, J.**, (2022). *Elucidating barriers to HIV treatment and access for the Deaf community*. Presentation presented at Annual Biomedical Conference for Minoritized Scientists (ABRCMS). Anaheim, CA.
- D'Aurio T., **Panko TL.** Perspectives of Comfort in Interpreting Reproductive Health Care. Online. 3 August 2022. RIT Undergraduate Symposium.

Research (continued)

- Delis, T., Panko, T., & Paracha, M., (2022). *Doctors and deaf/hard of hearing patients communication in Emergency Department.* Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Doane, R. & Panko, T., (2022). *Impacts of Abortion Stigma in the Deaf Community.* Presentation presented at Deaf Roc. Rochester, NY.
- Doane, E., & Panko, T., (2022). *Menstrual Stigma and Reusable Period Products in the Rochester Deaf Community.* Presentation presented at Deaf ROC. Rochester, NY.
- Doane R, Occhino C, & Panko TL. Abortion Stigma in the Deaf Community. Rochester, NY. 28 July 2022. RIT Undergraduate Symposium.
- Essex, B. & Paracha, M., (2022). *RxASL: Medication-Related Experiences of Deaf American Sign Language Users.* Presentation presented at Deaf Roc. Rochester, NY.
- Harris, T., Kaur, M., Hill, J.C., & Listman, J.** (2022, September). Black Indigenous People of Color Interpreting Students' Perspective on Interpreter Training Programs. Conference for Interpreter Trainers. King of Prussia, PA. [Paper presentation, Onsite]
- Hill, J.C.** (2022, February). DEI Issues in Linguistics: The Case of Black American Sign Language. Texas Linguistic Society. Austin, TX. [Keynote presentation, Onsite]
- Leiderman, T., & Paracha, M., (2022). Management of Type 2 Diabetes in the deaf and hard-of-hearing community. Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Levenson, D., (2022). *Bias, language, gender, and hearing within the ability of facial recognition.* Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Levenson, D., & Wright, J., (2022). *Audism and Self-Perception of Deaf and Hard of Hearing Individuals.* Presentation presented at Deaf Roc. Rochester, NY.
- Ghimire, B., Hauser, P., & Contreras, J., (2022, July). *Summer Training in Academic Research Summit.* Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Ghimire, B., Contreras, J., & Hauser, P. C., (2022) *Mentoring Deaf and Hard of Hearing Scientists: Student Training in Academic Research Summit (STARS).* Presentation presented at Annual Biomedical Conference for Minoritized Scientists (ABRCMS). Anaheim, CA.
- Katz-Hernandez, L., **Dannels, W.A.**, and Hochgesang, J. "Paths Forward on Tech Impacting Deaf/Hard of Hearing Communities" (May 2022) Microsoft Ability Summit, Live Online Q/A."
- Martin, C., (2022). *Visual comprehension of deaf individuals: Cognitive processing and sign language variations.* Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Martin, C. & Wright, J., (2022). *Audism and self-perception of deaf and hard of hearing individuals.* Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Martin, C., & Wright, J., (2022). *The effects of Audism on American Deaf and Hard of Hearing Individuals Mental Health.* Presentation presented at Annual Biomedical Conference for Minoritized Scientists (ABRCMS). Anaheim, CA.
- McEvoy, M., & Listman, J., (2022). *A critical analysis of U.S. Deaf schools' communication and language policies.* Presentation presented at Online RIT Undergrad Research Symposium (International Day), Rochester, NY.
- Mathew, R., Mak, B, & Dannels, W., (2022) *Access on Demand: Real-time, Multi-modal Accessibility for the Deaf and Hard-of-hearing based on Augmented-Reality.* Presented at ASSETS 22 Experience Report. Athens, Greece.
- Panko, T., Hauser, P., & Contreras, J., (2022, June).** *Collaboration to Success: Best Practices in training student STEM researchers.* STEM Education Research Symposium, Rochester, NY.

Research (continued)

Center for Education Research Partnerships (CERP)

Jessica Williams Trussell, Ph.D., co-director; Thomastine Sarchet-Maher, '03, '09, Ed.D., co-director

The Center for Education Research Partnerships (CERP) is charged with establishing and joining research partnerships concerning development and learning among deaf and hard-of-hearing students across the lifespan and in various educational settings (rit.edu/ntid/cerp/). Primary activities include promotion of related research collaboration among individuals, educational institutions and organizations, both nationally and internationally. These and other activities focus on bridging research and practice to optimize educational opportunities and success for students who are deaf or hard of hearing. This notion of serving as a collaborator and an incubator for new ideas lies at the heart of the research center.

CERP was established to contribute to the education of deaf and hard-of-hearing students of all ages through the sharing of research findings and expertise with others. In FY 2022, CERP faculty members delivered a variety of invited/keynote lectures for schools and organizations in the United States and abroad, in addition to conference presentations. CERP members collaborated with colleagues at schools and universities in the U.S. and abroad through ongoing research and joint publications.

Beyond this sharing of knowledge related to deaf education, CERP activities bring greater visibility to RIT/NTID, thus creating additional opportunities for both collaborations and extramural funding. CERP partnered with the Summer Transition Education Program (STP) department to host its third cohort during the summer of 2021. The program supported 33 first-year NTID students. The Summer Transition Education Program is slated to continue in future years at NTID, expanding to other regions in the United States. At the same time, a shorter version of the program for high school students will be implemented in four states with the NTID Regional STEM Center during July 2023. Beyond providing essential academic support for students, the program is expected to attract new students in the future and provide a wealth of data for forthcoming publications. The STP program has been a core focus of CERP's research agenda over the last three years.

Dissemination

In FY 2022, CERP personnel published or have in press three peer-reviewed journal articles, with two more under review. CERP personnel have also served the field of deaf education by giving two peer-reviewed presentations.

Selected Publications

Alonzo, O., Trussell, J. W., Watkins, M., Lee, S., & Huenerfauth, M. (in review). Methods for evaluating the fluency of automatically simplified texts with deaf and hard-of-hearing adults at various literacy levels. *Proceedings of CHI 2021 (Human Computer Interaction)*

Beal, J., Williams, J., & Walton, D. (2022). Four American Sign Language learner groups: Are they really different? *Journal of Deaf Studies and Deaf Education*, 27(3), 283-296.
<https://doi.org/10.1093/deafed/enac004>

Williams, J., Sarchet, T., & Walton, D. (2022). Reading and writing instruction for academically at-risk deaf and hard of hearing first-year college students. *Community College Review*, 50(1), 30-50.
<https://doi.org/10.1177/00915521211047672>

Peer-Reviewed Conference Presentations

Williams, J. (March, 2022). Fostering STEM literate DHH students. Presented at the Deaf. Blind. Limitless Conference. Mobile, AL.

Williams, J. (March, 2022). Purposeful texts and purposeful planning: Raising the bar for reading instruction. Presented at the Deaf. Blind. Limitless Conference. Mobile, AL.

Research (continued)

Research Center for Teaching and Learning (RCfTL)

Sara Schley, Ed.D., director; Carol Marchetti, Ph.D., associate director

The primary mission of the RCfTL is to create a sustainable setting in which diverse teams of faculty and students conduct research that will improve deaf education, expose students to research practice and prepare a future generation of NTID educational researchers and scholars. A secondary mission is to facilitate the development of collaborative partnerships between NTID faculty and faculty in the other colleges of RIT focused on the education of deaf and hard-of-hearing students.

Research Projects

- Let's Talk Money: Building Community Understanding of the Institutional Compensation System
National Science Foundation ADVANCE Partnership Program 10/1/2021–9/30/2026
PI: Carol Marchetti, Co-PIs Margaret Bailey \$1,314,681
and Iris Rivero (COE), Jessica Bennett (APLU),
Gloria Blackwell (AAUW)
Internal Evaluator: Sara Schley

This project aims to significantly expand knowledge of best practices for faculty compensation to a broader community in higher education and provide critical insights to guide compensation practices via collaborations with three university partners, Villanova, Drexel and Gallaudet; the American Association of University Women (AAUW); the NSF INCLUDES Hub and the ASPIRE Alliance. The three partner-universities will undertake actions to: promote an inclusive work environment and informed faculty community that understands its financial model about compensation; align university resources with institutional values to promote enhanced equity; and support systemic, sustainable change through institutionalization of compensation interventions. Ongoing formative assessment will include input from women of color and deaf and hard-of-hearing women. The project's reach will expand to additional institutions through partnerships with the AAUW, NSF INCLUDES Hub and the ASPIRE Alliance. Expected outcomes include implementation of compensation-related accountability measures, improved faculty understanding of pay practices, increased comprehension of equity among salary decision-makers and infrastructure changes to support ongoing progress.

Dissemination

In FY 2022, RCfTL personnel gave six peer-reviewed conference and poster presentations, led one workshop, had eight peer-reviewed journal articles published and submitted two for review.

Peer-Reviewed Publications

- Schley, S., Chua, M., Le Doux, J. M. & Fernandez, T. (Under Review). Incorporating human body variance in an analytically focused undergraduate biomechanics course. Submitted to *Biomedical Engineering Education*, Aug. 2022.
- Marchetti, C. E., Foster, S. B., Schley, S., Kavin, D. (under review). Pathways of Women Who Are Deaf or Hard of Hearing to Faculty Careers in Higher Education. *The Advance Journal*.
- Schley, S. & Marchetti, C. (in press). Moving From Access to Inclusion by Making Communication a Priority. to appear in *The Journal of Educational Innovation, Partnership and Change*.
- Marchetti, C. & Bailey, M. (in press). The Importance of HOW in Faculty Salary Equity Studies: Development and Impact of an ADVANCE Salary Equity Study and Workshop Series to Promote an Inclusive Academic Environment. *The Advance Journal*.
- Bailey, M., Mason, S., Marchetti, C. Dell, E. & Litzler, E. (in press). Reimagining Seed Grants for the 21st Century: Individual and Institutional Impacts of a Mini-Grants Program. *The Advance Journal*.

Research (continued)

- Marchetti, C., & Bailey, M., & Rivero, I., & Bennett, J., & Blackwell, G. (2022, August), Building Community Understanding of Institutional Compensation Systems: An ADVANCE Partnership Project Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. <https://strategy.asee.org/40553>
- Mason, S., & Bailey, M., & Marchetti, C., & Dell, E., & Valentine, M. (2022, August), Mirroring and Modeling an External Award Process: Structuring a Career Development Grants Program for Women at a Striving University Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. <https://strategy.asee.org/40481>
- Dell, E., Esterman, M. & Marchetti, C. (2022, February). Equity and Inclusion Considerations in the Work of Academic Governance. Proceedings of the ASEE Conference for Industry and Education Collaboration, Tempe, AZ.
- Schley, S., Cawthon, S., Marchetti, C. & Atkins, W.S. 2021. From Access to Inclusion: A Faculty Learning Community Curriculum. Journal of Faculty Development. 35(3), 44-50. Note: Selected as first *Featured Article* of this journal, a new designation to highlight timely and valuable contributions to the field.
- Atkins, W. S., Schley, S., Cawthon, S., Schmitz, K. & Marchetti, C. 2021. Centering the Deaf Experience: Student/Faculty Partnerships in Inclusive Pedagogy Development. Learning Communities Journal, 13(1), 9-32.

Workshops and Presentations

- Le Doux, J., Carrion, C., Schley, S., 2022 (Jun 6-9). The Problem Solving Studio: June 2022. Faculty Professional Development Workshop, [Engineering Unleashed](#), Kern Entrepreneurial Engineering Network (KEEN). In-person: Atlanta, GA.
- Schley, S. 2022 (June 22). Transforming for Inclusion. NSF EOP Workshop RED Panel: Strategies to Foster Organization and Culture Change.
- Marchetti, C., Bailey, B., Rivero, I., Bennett, J., Blackwell, G., & Smith, M. (May 31, 2022). Can building community understanding of the institutional compensation system improve salary equity? [Poster presentation]. Equity in STEM Community Convening (WEPAN and ARC Network), Washington, D.C.
- Marchetti, C., & Bennett, J. (May 10, 2022). Let's Talk Money: Building Community Understanding of the Institutional Compensation System [Presentation]. ADVANCE Implementation Mentors (AIM) Network Meeting, online.
- Marchetti, C., Bailey, M., Ross, C., & Rivero, I. (Mar 29, 2022). Let's Talk Money: Understanding RIT Pay Practices. RIT Faculty Workshop. Rochester, NY.
- Freeman, C. & Schley, S. 2022 (Feb 23-25). Foundations for Access and Inclusion in Your Programs. Association of Schools of Journalism and Mass Communication Winter Meeting, Las Vegas, NV.

OTHER FUNDED RESEARCH AND OUTREACH EFFORTS

Communication Research

Michael Stinson, principal investigator

- Investigating Team Knowledge Building in Complex Science and Statistics Problem Solving when the Teams Include Deaf/Hard-of-hearing and Hearing College Students.
National Science Foundation 9/1/2015–11/31/2021
PI: Michael Stinson; Co-PIs: Lisa Elliot, Carol Marchetti \$499,830
(RCfTL), Judith Rentsch (University of Tennessee)

This project is testing the contribution of team knowledge building theory to optimal solution of complex problems in teams with deaf, hard-of-hearing and hearing students. It uses statistics as the test domain. While group work often is incorporated in science, technology, engineering and mathematics (STEM) classes because of its perceived pedagogical benefits, groups that consist of deaf and hard-of-hearing students as well as hearing students often struggle to communicate

Research (continued)

while working on these critical STEM learning activities. Test teams with two deaf and hard-of-hearing students and two hearing students participated in one of three conditions: (a) control, (b) training and information board or (c) training, information board and messaging. The study informs development of interventions and strategies that directly translate to improved problem solving and participation by team members with diverse characteristics, including deaf and hard-of-hearing members, in STEM secondary and postsecondary classrooms and work settings.

- Investigating Messaging Technology on Interactions of Deaf and Hard-of-Hearing College Students

NTID Support

9/1/2015–8/31/2022

PI: Michael Stinson

This study investigated effects of computer-based messaging and training in communication strategies on the interactions of deaf and typically hearing (TH) teammates in completing decision-making tasks without interpreter support. Fifteen teams, each comprised of two deaf and two TH college students, completed three decision-making tasks, one without messaging, one with messaging and one with messaging and training in communication strategies. The study found that availability of messaging increased the extent that participants used this method to communicate and reduced misunderstandings among teammates.

Publications

Stinson, M., Gamta, R., Meyer, L., Powers-Blom, C., & Singer, S. (in press). Effects of messaging and communication strategy training on interaction in teams with deaf and hearing college students. *American Annals for the Deaf*.

Stinson, M., Elliot, L.B., Marchetti, & C. Rentsch, J. (2021). Effects of schema-enriched communication in teams with diverse hearing status. *Journal of Deaf Studies and Deaf Education*, 26 (4), 522-534, <https://doi.org/10.1093/deafed/enab017>

Stinson, M., Elliot, L.B., Marchetti, C. Rentsch, J., & Devor, D.J. (2021). Sharing knowledge and problem solving when teammates have diverse hearing status. *Small Group Research*, 52(6), 738-772, <https://doi.org/10.1177/10464964211010218>

Deaf STEM Community Alliance

Lisa Elliot, Ph.D., principal investigator

- DCL: NSF INCLUDES EAGER: A Study of Online Scientific and Scholarly Communities for Broadening Participation in STEM

National Science Foundation

9/1/2018–8/31/2022

PI: Lisa Elliot

\$299,347

This project compares the online scientific and scholarly community groups created by the Deaf STEM Community Alliance, which is hosted by RIT/NTID, and the NSF INCLUDES Open Forum, which is hosted by the American Association for the Advancement of Science (AAAS). The project tracks the life cycle stages of the communities, analyzes the development of leadership and community engagement managers' roles and skills, and investigates members' perceptions of social capital and benefits for each community. The findings will add new knowledge that will contribute to strengthening the NSF INCLUDES Network and other NSF efforts to broaden STEM participation.

Toward a National Hub of Excellence for Deaf and Hard-of-Hearing Scientists

RIT/NTID is participating in a partnership with the University of Rochester (UR) and the Rochester Regional Health (RRH) organization to develop a National Hub of Excellence that will support the academic development, professional training and career advancement of deaf and hard-of-hearing

Research (continued)

individuals pursuing careers in biomedical and behavioral science fields. These institutions are combining their experience and expertise in research training, health care and the education of deaf and hard-of-hearing students. The Rochester Hub concept is explained in the following publication.

Buckley, G., Smith, S., DeCaro, J., Barnett, S., & Dewhurst S. (Jan. 19, 2017). Building community for deaf scientists. *Science*, 355(6322), 255.

Three NIH-funded educational development programs form the nucleus of the Hub pipeline to support the academic development of deaf and hard-of-hearing students who aspire to careers in biomedical and behavioral science fields: RIT-RISE/RIT-U-RISE (for RIT undergraduate students), Rochester Bridges to the Doctorate (for RIT graduate students) and the Rochester Postdoctoral Partnership (for postdoctoral fellows). The first award is a partnership across six colleges of RIT, and the latter two awards are in full partnership with the University of Rochester Medical Center.

RIT-RISE Scientists-In-Training Program for Deaf and Hard-of-Hearing Undergraduates

National Institutes of Health	4/5/2017–3/31/2023
PI: Vincent Samar; Co-PI: Paul Craig (COS)	\$1,025,191

*Vincent Samar retired 6/30/2022, Paul Craig will continue as PI for the remainder of the project.

RIT U-RISE Scientists-in-Training Program for Deaf and Hard-of-Hearing Undergraduates

National Institutes of Health	4/6/2022–3/31/2027
PI: Bonnie Jacob; Co-PI: Paul Craig (COS)	\$1,194,050

NIH funds a number of programs, formerly entitled Research Training Initiative for Student Enhancement (RISE) and recently changed to Undergraduate Research Training Initiative for Student Enhancement (U-RISE). The RIT U-RISE Scientists-In-Training Program for Deaf and Hard of Hearing Undergraduates (RIT U-RISE) is a cross-campus collaboration among NTID and RIT's College of Science, College of Liberal Arts, College of Health Sciences and Technology, Kate Gleason College of Engineering and B. Thomas Golisano College of Computing and Information Sciences. The goal of the program is to diversify the national scientific workforce by increasing the number of deaf and hard-of-hearing biomedical, biobehavioral and clinical research scientists.

In its first year in a new cycle, RIT U-RISE is providing research preparation, research experience, supplemental research training and career preparation to support four deaf/hard-of-hearing undergraduate RIT students (U-RISE trainees) who aspire to become successful Ph.D. scientists. U-RISE trainees engage in intensive research training, working closely with selected RIT faculty and external mentors during three academic years and two summer terms. The grant pays stipends to students as well partial tuition remission, and provides funds for lab and other research supplies. U-RISE trainees also receive ongoing advising/counseling, feedback on their writing, special research-environment accommodations as determined by periodic research-environment communication access assessments and enhanced academic mentoring from faculty researchers. The project team uses doctoral readiness meetings and individualized research development plan assessments to track the success of each trainee in achieving targeted core research competencies.

The RIT U-RISE Program also provides ongoing curricular and co-curricular programming to promote undergraduate research experiences for students throughout RIT. RIT U-RISE sponsors Scientists-in-Training Series (SITS) presentations to expose trainees and the greater RIT community to leading-edge scientific research by deaf and hard-of-hearing and hearing scientists and to the personal career journeys of successful deaf and hard-of-hearing scientists. RIT U-RISE also developed two new career and research-oriented courses, two new summer research training workshops and two new online certification courses that introduce interested students and faculty

Research (continued)

to career options in biomedical science, scientific writing and essential professional development topics such as the responsible conduct of research and the principles of rigor and reproducibility in science. RIT U-RISE also collaborated with NTID's Department of American Sign Language and Interpreting Education (ASLIE) to develop new classroom and online courses for undergraduate and graduate interpreting students at RIT/NTID, focused on interpreting in research settings. RIT U-RISE also provides cultural competence training for hearing research mentors who work with deaf and hard-of-hearing U-RISE trainees. RIT U-RISE has developed partnerships with several research-intensive universities and institutions to facilitate opportunities for our trainees to participate in undergraduate summer research experiences and internships before applying to graduate programs in the biomedical sciences. For more information about the U-RISE program, visit rit.edu/ntid/riase/.

Program Presentations

- Craig, P.A., Listman, J., Kurz, K.B., Picioli, A. Navigating as a Deaf and Hard of Hearing Undergraduate in Research Laboratories: Barriers and Inclusion. FASEB J 36.S1.OR712. DOI: <https://doi.org/10.1096/fasebj.2022.36.S1.OR712>. This was a poster presentation at the ASBMB meeting in Philadelphia, PA, in April, 2022.
- Samar, V., Craig, P., Rosica, M., Listman, J., Kurz, K., Renner-Cosgrove, S., Womack, K., & Doolittle, R. (2022, August 12). Rochester Institute of Technology RISE Scientists-In-Training Program for Deaf and Hard of Hearing Undergraduates [Poster Presentation]. DEAF ROC Conference. Rochester, NY.

Trainee Presentations and Preprints

- "Early Pandemic Alcohol and Cannabis Use in Adults at High vs. Low Risk for COVID-19" poster presented at 3rd Annual Western New York Undergraduate Psychology Conference at the University at Buffalo (April 9)
- Allaby, Bo. "Associations Between Cognitive Reserve and Neurocognitive Health" poster presented at RIT Undergraduate Research Symposium (July 28).
- Kasper, Anna; Rogers, Forrest D.; Pena, Catherine J. "Uncovering the Neural Basis of Paternal Care in African Striped Mice," poster presented at DEAF and HH Scientists ROC, August 2022. (Note: Best Poster Award!)
- Daniel C. DiMartino, John S. Cognetti, Zachary S. Sobel-Pressman, and Benjamin L. Miller, Photonic Ring Resonator-Incorporated Tissue Chip as Novel Tool for Assessing Astrocyte Signaling during an Inflammatory Response, University of Rochester Summer Scholars Poster Session, August 4, 2022.
- Hannah DeFelice, Kaitlin Stack Whitney. "Impacts of habitat restoration on animal-related vehicular collisions in New York, USA. Undergraduate Research Symposium Summer 2022. July 28, 2022. Rochester, NY.
- Hannah DeFelice, Kaitlin Stack Whitney. "Impacts of habitat restoration on animal-related vehicular collisions in New York, USA. Poster for Deaf ROC Science Conference 2022. August 12, 2022. Rochester, NY.
- Hannah DeFelice, Kaitlin Stack Whitney. "Impacts of habitat restoration on animal-related vehicular collisions in New York, USA. Poster for Ecological Society of America Conference 2022. August 17, 2022. Montreal, Quebec, Canada.

Rochester Bridges to the Doctorate

NIH R25 GM107739/417472G	8/1/2018–7/31/2023
PIs: Steven Barnett (URMC), Bonnie Jacob (NTID)	\$1,161,992
*As of 9/1/22, NTID PI changed from Peter C. Hauser to Bonnie Jacob	

The Rochester Bridges program is a partnership between University of Rochester Medical Center (URMC) and RIT/NTID that aims to increase the number of deaf and hard-of-hearing master's degree students who go on to enroll in biomedical and behavioral science doctoral programs. The Rochester Bridges Program provides RIT graduate students with unparalleled mentored research

Research (continued)

experiences at RIT and UR. The scholars, who also take three or more doctoral-level courses at UR, receive research stipends, tuition waivers and conference travel funds. The program supported five deaf and hard-of-hearing scholars during FY 2022. For more information about the Rochester Bridges to the Doctorate Program, visit rit.edu/deafscientists/.

Contreras, J., Panko, T., Nordhaus, J., Hauser, P., Smolock, E., White, P., Barnett, S., & Clark, M.D. (2021). Mentoring Deaf and Hard of Hearing Scientists: Lessons Learned from COVID and Beyond. *Understanding Interventions*, 12(Supplemental 1), 27184.

Cureaux, M., Contreras, J., Cuculick, J., & Panko, T. (2021). Rochester Bridges to Doctorate: Lessons Learned. *Texas STEMinar Series*. Online Presentation.

Hauser, P.C., Cuculick, J., & Barnett S. (2022, August 12). Group Mentoring at a Distance: Videoconferencing to Promote Deaf Scholar Resilience, Persistence, Retention and Success. [Poster Presentation]. DEAF ROC Conference. Rochester, NY.

Simpson-Haidaris, P.J., Hauser, P.C., Cuculick, J., & Barnett, S. (2022, August 12). Rochester Bridges to the Doctorate for Deaf and Hard-of-Hearing Students. [Poster Presentation]. DEAF ROC Conference. Rochester, NY.

Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars

NIH K12 GM106997

7/1/2021–6/30/2026

PIs: Stephen Dewhurst (URMC), Gerry Buckley '78 (NTID)

\$1,147,594

Program Coordinator: Matthew Dye

This program began in 2015. In July 2021, NIH renewed this project for another five years. A partnership between NTID, the University of Rochester Medical Center (URMC) and its National Center for Deaf Health Research, the “Rochester Postdoc Partnership” (RPP) offers learning opportunities at each institution to create a pipeline of deaf and hard-of-hearing scientists who have doctoral degrees, preparing them for careers in academia. The program’s fellows engage in research activities at URMC laboratories and teach courses at NTID in their fields of expertise. The program has an excellent record of its fellows securing employment in academia. Every two years, this program hosts a popular national conference for deaf and hard-of-hearing persons interested in research and academia, drawing participants from around the country and facilitating applications to the RPP program. In August 2022, the third such conference was held in Rochester focused on the theme, “The Open Road: Creating Opportunities with Deaf and Hard-of-Hearing Scientists.” For more information about the Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars Program, visit urmc.rochester.edu/academic-research-careers-deaf-scholars.aspx.

Simpson-Haidaris, P.J., Hauser P.C., Barnett, S., Martina, C.A., Lynn, M.A., Elliott, M.R., Morrell, C.N., Doolittle, R., & Dewhurst, S. (2022, August 12). Rochester Postdoc Partnership (RPP) to Advance Research and Academic Careers of Deaf Postdoctoral Scholars. [Poster Presentation]. DEAF ROC Conference. Rochester, NY.

Center for International Educational Outreach

Thomastine A. Sarchet-Maher, Ed.D., '03, '09, director

The mission of the Center for International Educational Outreach (IEO) at NTID is to share its expertise to help expand education opportunities for deaf communities outside of the United States. This is accomplished through partnerships and collaboration with deaf and hard-of-hearing leaders and institutions in other countries to build centers of excellence in deaf and hard-of-hearing education. IEO works to establish and expand opportunities for RIT/NTID students and faculty to participate in cultural, academic and research exchanges between NTID and international organizations involved in educating and employing deaf and hard-of-hearing people.

Research (continued)

IEO was established in 2016 to maintain and expand the global network of partnerships developed by RIT/NTID through the Postsecondary Education Network-International and Pre-College Education Network projects funded by Japan's Nippon Foundation. The center's main focus is sharing knowledge and expertise on best practices in the education and employment of deaf and hard-of-hearing people. Further, the center has received external funding to provide curriculum development, technical assistance, research assistance and workshops to deaf education professionals in several countries.

Externally Funded Projects

In FY 2022, IEO continued their partnership with RIT/NTID faculty to lead two externally funded projects and renewal of one federal research project.

- Transforming Reading in Early Education for Deaf Children

World Vision

7/1/2021–9/30/2023

PI: Christopher Kurz '91, '95; Co-PIs: Patrick Graham,

\$274,067

Stephen Jacobs, Thomastine Sarchet-Maher '03, '09

This project will transform reading experiences for young deaf and hard-of-hearing children in the following five countries: Fiji, Indonesia, Papua New Guinea, the Philippines and Samoa. This will be done through a playful innovative sign language/written language bridging method on World Around You (WAY) Platform. Several challenges that early childhood professionals face are finding instructional strategies, curriculum materials and assessment approaches in literacy for deaf and hard-of-hearing children from birth to 8 years old. Additionally, these strategies must be visually engaging and follow developmentally appropriate practices of early learning to attract young deaf and hard-of-hearing children to reading. The main focus is reducing the global deaf literacy gap earlier. Now with the increasing acceptance and recognition of sign languages all around the world, professionals have been exploring innovative ways to bridge the gap between the sign language and the written language, especially for children from 4 to 6 years old.

More information on the World Around You (WAY) Platform may be found here:

rit.edu/ntid/ieo#current-projects.

- Establishment of Centers on Employment for the Deaf in the Philippines and Viet Nam

The Nippon Foundation of Japan: 2021 000991

9/1/2021–1/31/2023

PI: Thomastine Sarchet-Maher '03, '09

\$464,814

The primary objective of this project is to develop two self-sustaining Centers of Employment to support the education and employment of people who are deaf or hard of hearing in the Philippines and Việt Nam that will be self-sustaining at the end of Year 5. The proposed project includes establishing National Centers of Employment in the Philippines and Việt Nam that would provide comprehensive support for employees seeking employment as well as support for businesses seeking support in hiring deaf employees. The Centers of Employment will employ counselors to assist deaf job-seekers with the resume/application process and interviewing skills.

The centers' counselors will also work with local businesses to advocate for the employment of deaf people and provide expertise on how to utilize resources such as interpreting, captioning and emerging technology to ensure successful employment.

- World Around You: International Collaborative Multilingual Sign Language Books

USAID-United States Agency for International Development:

3/24/2020–6/30/2023

AID-OAA-A-13-00074 / PO31908

PI: Christopher Kurz '91, '95; Co-PIs: Stephen Jacobs,

\$236,956

Kim Kurz '93, '95, Thomastine Sarchet-Maher '03, '09

Research (continued)

One of All Children Reading: A Grand Challenge for Development's most recent competitions is Begin with Books, launched in 2019 in partnership with the Global Book Alliance. Begin with Books is designed to create thousands of books in languages that children use and understand. The goal of this project is to create 200 digital books to promote early grade literacy for deaf and hard-of-hearing children in several countries. National partners include: the Philippines, Indonesia, Papua New Guinea, Fiji, Samoa and Somalia. Each book will have six eligible sign languages (Filipino Sign Language, Indonesian Sign Language and other sign languages local to the archipelago, Somali Sign Language, Papua New Guinean Sign Language, Samoan Sign Language and Fijian Sign Language). Books will be available on WAY (deafworldaroundyou.org/Stories) and Global Digital Library.

Global Partnerships

In FY 2022, the Center for International Educational Outreach conducted one significant partnership activity:

- RIT/NTID entered a new partnership with the University of Macerata in Macerata, Italy. This university partnership will facilitate student and faculty exchanges for study abroad experiences and to conduct research.

Visiting Scholars

In FY 2022 the center hosted two international scholars at NTID:

- Ilaria D'Angelo - Virtual environment for educational design. Doctoral dissertation research. University of Macerata, Macerata, Italy.
- Eyasu Tamene - Establishing a center of excellence for African sign languages. Fulbright scholar research. Addis Ababa University, Addis Ababa, Ethiopia.

Study Abroad Experiences

In FY 2019, NTID's study abroad programs were reorganized into the Center for International Educational Outreach. In recent years, NTID has offered a study abroad program through a three-pronged approach: 1.) NTID faculty-led study abroad experiences, 2.) sending students to an affiliated university with established curriculum (offered by the affiliated university and/or NTID faculty), with housing and access services provided and 3.) exchange programs (partnership with educational institutions that allow students to directly enroll for five weeks). These programs are offered for three general education credits under International Studies Seminar. They are open to all NTID-coded students at RIT, including the MSSE and ASLIE programs.

For FY 2022, NTID developed a faculty-led program to France. Twenty-four students and three faculty visited sites in Paris. Excursions included visits to the La Balme-les-Grottes (Laurent Clerc's birthplace and museum and the Caves of La Balme), Louhans (Ferdinand Berthier's birthplace and museum), Lyons (Roman architecture - water aqueduct), Rouen (religion, historical sites), Rheims (bi-annual festival of Deaf arts) and Versailles (1700s French royalty).

Recognitions

The World Around You Platform developed by Chris Kurz, Stephen Jacobs, Kim Kurz and Thomastine Sarchet-Maher was selected for the Zero Project Impact Transfer Program and was honored as an Innovative Solution Awardee at the Zero Project Conference in Vienna, Austria (rit.edu/news/rit-ntid-multilingual-platform-world-around-you-earns-2022-zero-project-award).

*More information about the Zero Project Awards may be found here: https://youtu.be/CUgp_hy6GZU

Selected Publications

- Giaconi, C., De Bianco, N., D'Angelo, I., & Sarchet-Maher, T. (2022). Families with young people with profound intellectual and multiple disabilities: Crisis or rebirth? MeTis.
- Anathanarayana, T., Priyanshu, S., Akas, C., Akhil, S., Landy, B., Panaro, J., Webster, A., Kotecha, N., Shagan, S., Sarchet, T., Ptchua, R., Nwogu, I., (2021). Deep learning methods for Sign Language Translation. ACM Transactions on Accessible Computing 14, (4), 1-30. <https://doi.org/10.1145/3477498>

Research (continued)

Presentations

- Sarchet-Maher, T. Growing Regional Opportunities for Work in the Philippines and Viet Nam [virtual presentation]. DisabilityIN APAC Council, Washington, DC.
- Kurz, C., & Sarchet-Maher, T. (2022, May 26). Zero Project-Impact Transfer Program [conference panel]. Zero Project Conference for Latin America and the Spanish-speaking World Accessibility and ICT, Madrid, Spain.
- Kurz, C., & Sarchet-Maher, T. (2022, February 23). Converting books and stories into accessible formats [conference presentation]. Zero Project Conference 2022, Vienna, Austria.
- Kurz, C., & Sarchet-Maher, T. (2022, February 23). Zero Project-Impact Transfer 2022: World Around You (WAY) [conference presentation]. Zero Project Conference 2022, Vienna, Austria.

Language Experience, Sign Language & Interpreter Education Research Lab

Kim Kurz '93, '95, Ph.D., director

The main research focus is to investigate issues in sign language education and experience, and research methods and issues in interpretation and translation.

Book Chapters

- Kurz, K. (in press). Deaf interpreters as language models and educational interpreters. In L. Johnson, M.M. Taylor, B. Schick, S. Brown, S., & L. Bolster (Eds.), *Complexities in educational interpreting: An investigation into patterns of practice*. Interpreting Consolidated.
- Kurz, K. (2022). Interpreting for Deaf children. In C. Stone, R. Adam, R. Muller de Quadros, & C.Rathmann (Eds.), *The Routledge handbook of sign language translation and interpreting* (pp.425-441). Taylor & Francis Group.
- Kurz, K., (2022). No two interpretations are alike: A study of constructed meaning in English to ASL interpretations in education. In Winston, E. A. & Fitzmaurice, S (Eds.). *Advances in educational interpreting*. Gallaudet University Press.

National Presentations (Peer-Reviewed)

- Prinzi, L., & Kurz, K. (2022). The Certificate in Educational Interpreting (CEI): An Examination into Specialized Professional Development for ASL-English Interpreters Working in Educational Settings. Conference of Interpreter Trainers, King of Prussia, PA.
- Talbott, V., Muroski, K., & Kurz, K. DISC Personal Assessment 101 for Interpreter Educators. Conference of Interpreter Trainers, King of Prussia, PA.
- Craig, P., Kurz, K., Listman, J., & Picoli, A. (2022). Navigating as a Deaf and Hard of Hearing Undergraduate in Research Laboratories: Barriers and Inclusion. ROC Scientists Conference, Rochester, NY.
- Kurz, K., Bronk, A., Cagle, K., & Listman, J. (2022). A National Survey: Deaf Interpreters in the 21st Century. National Association of the Deaf, Orlando, FL.
- Craig, P., Listman, J., Kurz, K., & Picioli, A. (2022). Navigating as a Deaf and Hard of Hearing Undergraduate in Research Laboratories: Barriers and Inclusion. American Society of Biochemistry and Molecular Biology, Philadelphia, PA.

International Presentations (Peer-Reviewed)

- Kurz, K., Postl, D., Contreras, J., & Hauser, P. (2022). American Sign Language Comprehension Test Predicts Second Language Learners' Production Skills. *Theoretical Issues in Sign Language Research*, Osaka, Japan (online).
- Kurz, K., Kartheiser, G., & Hauser, P. (2022). Learning Constructed Actions in a Second Language and Second Modality. *The Fourth International Conference on Sign Language Acquisition* (online).

Research (continued)

Kartheiser, G., Kurz, K., Emmorey, K., Brozdowski, C., & Hauser, P. (2022). Learning Sign Language as a Second Language Facilitates Nonlinguistic Spatial Cognitive Skills. The Fourth International Conference on Sign Language Acquisition (online).

DEAF Math and Science Language Learning Lab (DMS-L3)

Chris Kurz, '91, '95, Ph.D., director

This lab focuses on deaf experience related to language learning and conceptual understanding in mathematics and science. This lab is dedicated to understanding processes involved in accessing, acquiring and producing content knowledge and skills with support of multimodal literacies, including American Sign Language and English. By studying how deaf people learn and use mathematics and science effectively, we can relate learning to practice at home and at school.

Projects

World Around You: International Collaborative Multilingual Sign Language Books

All Children Reading – A Grand Challenge Development: Begin with Books 2020–2023
PI C. Kurz '91, '95, Co-PI S. Jacobs, Co-PI K. Kurz '93, '95, & Co-PI T. Sarchet '03, '09 \$236,956

This project will produce 50 bilingual storybooks for each grade from preschool to 2nd grade. In the past year, we have produced early grade literacy materials in multiple languages, including Filipino Sign Language, Fiji Sign Language, Somali Sign Language and Jakarta Sign Language.

- 85 preschool storybooks
- 94 kindergarten storybooks
- 73 1st grade storybooks
- 43 2nd grade storybooks
- 12 original storybooks
- 12 storybooks with deaf characters

International countries partners: the Philippines, Indonesia, Papua New Guinea, Fiji, Samoa and Somali

Project TREE – Transforming Reading in Early Education for Deaf Children

All Children Reading – A Grand Challenge Development: Ready2Read 2021–2023
PI C. Kurz '91, '95, Co-PI P.J. Graham, S. Jacobs, & Co-PI T. Sarchet '03, '09 \$300,000
2021: All Children Reading: A Grand Challenge Grant – Ready2Read.

This proposed Project TREE will transform early-grade reading experience for young deaf and hard-of-hearing (DHH) children through Sign Language Rhythm and Rhyme (SLRR) and Shared Multilingual Reading Strategies (SMRS) on the ACR GCD: World Around You (WAY) platform. Project TREE commits to producing SLRR and SMRS training materials and providing training-of-trainers to partner country teams for maximum success in the assimilation of materials in three different countries: Fiji, Papua New Guinea and the Philippines. We are partnering with deaf community leaders in these countries.

Awards

2021 mEducation, Inclusive Education award winner, 1st Annual mEducation Alliance Award Show
2021 mEducation, EdTech Researcher Extraordinaire award honorable mention, 1st Annual mEducation Alliance Award Show

Selected Publications

Kurz, C., & Kurz, K. (2022). Debunking the myths of American Sign Language in academic settings. In Winston, E. A. & Fitzmaurice, S (Eds.). *Advances in educational interpreting*. Gallaudet University Press.

Research (continued)

- Koulidobrova, E., Vera, G.M., Kurz, K., & Kurz, C. (2022). Revisiting gradability in ASL, Chicago Linguistics Proceedings.
- Golaszewski, M., & Kurz, C. (2022). *Laurent Clerc and Thomas H. Gallaudet: A Franco-American partnership in deaf education still standing*. Consortium laccess LSF Pour Tous.
- Kurz, C., Golos, D., Kuntze, M., Scott, J., & Henner, J. (2021). *Multilingual Deaf Education in the United States and Canada: Guidelines for Teacher Preparation Programs*. Washington, DC: Gallaudet University Press.
- Langdon, C., Kurz, C., & Copolla, M. (2021). The importance of early number concepts for learning mathematics in deaf and hard of hearing children. *Special Issue: Perspectives on Early Childhood Psychology and Education*, 5(2), 125-155.
- Pagliaro, C., & Kurz, C. (2021). Using ASL to navigate the semantic circuit in the bilingual mathematics classroom. In C. Enns, J. Henner, & L. McQuarrie. (Eds.), *Discussing bilingualism in deaf children: Essays in honor of Robert Hoffmeister*, pp. 187-196. New York, NY: Routledge.

Presentations

- Golaszewski, M., & Kurz, C. (2021, December 9). Franco-American Partnership in Deaf Education, RIT/NTID ASL-Deaf Studies Community Center – Master of Science in Secondary Education – Research.
- Josa, H., Kurz, C., Mobedji, H., & Oetman, M. (2021, November 14). Literacy & Learning Without Limits: Digital Tools to Ensure Inclusion of Children with Disabilities. Presented at the NetHope Global Summit 2021, November 15-19, 2021 [virtual conference – COVID-19]
- Jacobs, S., & Kurz, C. (2021, October 19). World Around You: An Open Source Platform for Deaf Education Equity. Presented at the All Things Open conference, Raleigh, NC, October 18-19, 2021.
- Kurz, C. [Panelist]. (2021, September 28). Accessibility Panel, hosted by All Children Reading. mEducation Alliance [virtual conference – COVID-19]. Panelists: SIL Global Sign Languages Team, Valerie Karr, Mean Vibol Ratanak, Georgine Aune, Matt Utterback, Chris Kurz and Stephen Jacobs.
- Kurz, C. (2021, September 23). Contributions of Deaf and Hard of Hearing People to Mathematics: A Hidden Legacy. Presented at the NCTM annual conference, Atlanta, GA, September 22-25, 2021 [converted to virtual conference – COVID-19].
- Kurz, C. (2021, July 17). Mathematical Literacy Citizenship: Deaf and Hard-of-Hearing Experience, TSG 4 Session 1, International Council of Mathematics Education, Shanghai, China [converted to virtual conference – COVID-19].
- Golos, D., Graham, P., & Kurz, C. (2021, July 7). Language Access: Ages 0-5. Presented at the International Congress on the Education of the Deaf conference, July 5-8, 2021, Brisbane, Australia [converted to virtual conference – COVID-19].
- Koulidobrova, H., Vera, G.M., Kurz, K., & Kurz, C. (2021, May 7). Gradability and degree(less)ness in ASL. Poster Presentation at Chicago Linguistics Society 57 [virtual conference – COVID-19].

Substance and Addiction Intervention Services for the Deaf (SAISD)

Keven Poore, program director

Ongoing funding
NYS Office of Addiction Services and Supports (OASAS)
Monroe County Office of Mental Health
DHHS Substance Abuse and Mental Health

SAISD has been in continuous operation since 1979. The five staff members at SAISD provide alcohol, tobacco and other drug information/referral, prevention/education, intervention, cross-disability professional consultation and training and support to treatment programs. The target population served includes the deaf and hard-of-hearing student population at RIT/NTID and the deaf and hard-of-hearing

Research (continued)

community in Monroe County and 15 surrounding counties in upstate New York (approximately 55,000 individuals). SAISD has increased its use of social media, videos and informational campaigns.

STUDENT RESEARCH ACTIVITIES

Todd Pagano, Ph.D., associate dean for teaching & scholarship excellence

RIT and NTID place significant emphasis on student involvement in research. RIT's strategic plan discusses the "Student-Centered Research University" as one of the five tenets of the RIT plan for "greatness through difference." NTID's *Strategic Decisions* also highlights the importance of student participation in "Innovation and Scholarship Research." Through participation in the research process, students can enhance their content knowledge, self-confidence and educational/professional aspirations. NTID has become a leader at RIT in supporting students in research projects.

FY 2022 saw the beginning of a rebound in in-person student researcher activity from COVID-19 disruptions. Some in-person research experiences returned to campus, but a portion of the work (especially some hands-on research) remained limited due to fall-out from the pandemic. Still, student researchers took advantage of funding opportunities to support their research and present (often virtually, but sometimes in-person) the fruits of their research at professional conferences. Several student researchers were listed as co-authors on peer-reviewed published journal articles. We look forward to the return of the NTID Student Research Fair this coming spring. NTID also again offered a grant-supported summer research program open to deaf and hard-of-hearing undergraduates from across the country.

Support for Student Involvement in Research

Beyond individual faculty researchers' efforts and fiscal support for engaging students in research activities, student researchers took advantage of all three of NTID's main support programs to encourage student involvement in research this past year:

- Student research micro-grants: Students (with approval of a faculty mentor) can apply for up to \$1,000 in funding to support a specific research project. For example, students can request funds to purchase a specific software program or chemicals or to pay subject fees.
- Summer Undergraduate Research Fellows (SURF): Funds have been allocated to support NTID undergraduate students conducting research under the direction of a faculty mentor during the summer term. The funds are used to pay student stipends.
- Conference travel awards: Undergraduate students who have made significant progress can apply for funding to travel to a professional conference and present their findings.

NTID also provides research poster printing services for students who present poster at professional conferences. Finally, given that involvement in faculty-guided research can be among the best learning opportunities for our students, most NTID academic programs now have Undergraduate Research courses that are available for student enrollment.

For three of the last four years, NTID has also offered a grant-supported summer research program open to deaf and hard-of-hearing undergraduates from across the country. This summer, the program ran virtually because of COVID-19-related restrictions, with 10 deaf and hard-of-hearing undergraduates (associate and bachelor's degree-seeking levels) from across the United States joining remotely.

- REU Site: Summer Undergraduate Research for Students who are Deaf or Hard-of-Hearing in Applying Mathematical and Statistical Methods to Problems from the Sciences (REU@NTID)
National Science Foundation
PI: Bonnie Jacob, Co-PI: Jason Nordhaus
- 6/1/2017–5/31/2022
\$303,000

Research (continued)

This program is a unique REU Site geared toward the needs of deaf and hard-of-hearing scholars. It provides paid research experiences to undergraduates from RIT or other institutions across the country, who spend the summer working at NTID with faculty mentors who are proficient in American Sign Language and accustomed to interacting with deaf and hard-of-hearing students. The program ran for three summers (2018, 2019 and 2021), and resulted in numerous student presentations both at RIT and at national conferences.

Publications resulting from this award

Adams, Alyssa and Bonnie Jacob. "Failed zero forcing and critical sets on directed graphs." *Australasian Journal of Combinatorics* 81. (2021): 367-387.

Presentations involving REU students

Nnaemeka Nnamani, Jenna Hackett, Gigi Zeng. (2022, March 14-18). A novel method of quantitative comparison of the benefit and the risk of hydrogen and select heavy ions radiotherapy on breast cancer tumor using SRIM ion transport code. [Conference presentation abstract]. American Physical Society March Meeting, Chicago, IL.

Gomes, Antonia; Bida, Morgan. R.; Holmquist, Melody; Guerrero, Angela; and Pagano, Todd. "Composition of Volatile Compounds from Rare and Endangered *Illicium* species, Endemic to Hispaniola". Annual Rochester American Chemical Society Undergraduate Research Symposium, Rochester, NY, April, 2022.

Gomes, Antonia; Bida, Morgan. R.; Holmquist, Melody; Guerrero, Angela; and Pagano, Todd. "Composition of Volatile Compounds from Rare and Endangered *Illicium* species, Endemic to Hispaniola". American Chemical Society National Meeting, San Diego, CA, March, 2022.

Gomes, Antonia; Bida, Morgan. R.; Holmquist, Melody; Guerrero, Angela; and Pagano, Todd. "Composition of Volatile Compounds from Rare and Endangered *Illicium* species, Endemic to Hispaniola". Sigma Xi Annual Meeting. Sigma Xi Scientific Research Honor Society, Virtual, November, 2021.

Labbe N, William Z, Hasselbeck J, Cirrincione L, Michel LV, Thurston G, Mills J (ASBMB 2022, Philadelphia, PA) Elucidating the effect of point mutations on Gamma B crystallin protein interactions.

Williams Z, Labbe N, Cirrincione L, Hasselbeck J, Michel LV, Thurston G, Mills J (ASBMB 2022, Philadelphia, PA) Analysis of global and residue-specific gamma B crystallin protein dynamics via NMR spectroscopy and dynamic light scattering; poster.

Dr. Joseph Hill from the NTID Research Center on Culture and Language (CCL) received an international science mentorship award from NSF in collaboration with the Department of Linguistics at Stockholm University.

- IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing
National Science Foundation 8/1/2020–7/31/2023
PI: Joseph Hill; Co-PI: Matthew Dye \$401,828

This proposal supports 8 - 10 graduate students annually for two years at an Advanced Studies Institute in Stockholm University (Sweden) titled "Inclusive Assessment of Multi-Model Multilinguals." For the summers of 2022 and 2023, the institute is two weeks in length and it has a particular focus on print literacy in deaf and hard-of-hearing children who commonly participate in translanguaging practices. The grant was awarded in 2020 and the first institute was planned for the summer of 2021 but it was postponed due to the COVID-19 pandemic. During FY 2021, the project team of PI and co-PI met with the RIT Global Office to collect materials, developed and

Research (continued)

launched a website (iam3.info/) to recruit students, developed an online application and set an institute curriculum for summer 2022. During FY 2022, the project team had the overall responsibility in developing the syllabus and curriculum and leading the development meetings with the faculty to develop a series of integrated lectures, workshops and group activities around the following topics: translanguaging and literacy, language assessment and language processing in multilinguals. The project team recruited a group of eight Ph.D. students from US-based universities to the 2022 institute, which had a collection of 12 experts in sign language assessment, speech assessment, bilingual assessment, literacy assessment, psychometrics and neuroimaging. Another eight Ph.D. students from European universities were invited by our Swedish collaborator to participate at their own expenses. At the 2022 institute, the COVID-19 guideline was in place to ensure everyone's safety; two students had contracted the virus before the institute so the project team created a hybrid platform for those who could participate online while recovering. By the end of the institute, two more individuals, including the PI, contracted COVID-19; the rest of the participants and faculty had not contracted the virus. The faculty gave the talks during the institute and their slides would be available on the website. The students participated in almost every session and they gave their dissertation improvement proposal presentations that incorporated the materials they learned. The project team is currently planning for the final institute for summer 2023, and the syllabus and curriculum will change in response to the students' feedback.

Dr. Jason Nordhaus has received two awards that provide research experiences for deaf and hard-of-hearing students through discipline-based research.

- Lost in Translation: Removing barriers for deaf participation in STEM fields
Gordon and Betty Moore Foundation 5/1/2019–4/30/2022
PI: Jason Nordhaus \$294,219

Deaf and hard-of-hearing participation in STEM fields is severely limited due to the presence of significant language barriers. In the college classroom, access to content is mediated via ASL interpreters. When communicating in ASL, interpreters must choose the correct signs to indicate meaning, a practice known as signing with conceptual accuracy. Conceptual accuracy is critical to understanding because the interpreter will not use signs that simply match the English words but signs that convey the meaning of the concept being taught. Unfortunately, it is rare for interpreters to possess STEM backgrounds and/or the conceptual understanding of high-level STEM content. Compounding the issue is a serious lack of well-developed technical signs in STEM disciplines. Quite literally, information can be lost in translation.

This project is creating and testing a novel and scalable solution that addresses the language barrier in physics. Namely, we are producing a comprehensive series of short (2-3 minutes) conceptually accurate signed videos, each of which is centered on a singular physics concept. As part of this process, we are developing and releasing new technical content. Conceptual understanding is being measured in RIT physics classrooms when the videos are used in the following configurations: (i.) students only, (ii.) interpreters only, (iii.) students and interpreters simultaneously. It is our belief that this project will result in an inspiring template that can be repeated for any discipline, thereby permanently eliminating the language barrier that inhibits deaf participation in STEM disciplines.

Publications resulting from the award

AstroDance: Engaging Deaf and Hard-of-Hearing Students in Astrophysics via Multimedia Performances

Nordhaus, J., Campanelli, M., Bochner, J., Warfield, T., Bischof, H.-P., Noel-Storr, J. 2020
Journal of Science Education for Students with Disabilities 23, 1

Research (continued)

- Brief But Spectacular: New Windows into the Physics of Common Envelope Evolution
National Science Foundation: AST-2009713 7/1/2020–6/30/2023
PI: Jason Nordhaus \$341,225

This award supports two deaf and hard-of-hearing students for a summer research experience for each year of the award with a project team studying the physics of common envelope evolution. A variety of exotic compact objects are formed when two stars merge. This requires a close binary orbit. One common way to shrink the orbit of two binary stars is during a “common envelope” phase (CE). This phase only lasts a local year, but it is transformative. The star with the most mass swells as it grows old and engulfs its companion. The resulting friction reduces the distance between the stars. Progress in understanding this brief but important phase in stellar evolution has been hampered by a lack of observational data to test the models. Only two post-CE systems have been identified. The team will conduct a large-scale systematic search in hundreds of open star clusters. Once the post-CE systems are identified, the team will determine the orbital properties of the binary system, the temperatures and masses of the binary stars and age of the stellar cluster. Using this data, the team will be able to place tight constraints on both the pre- and post-CE phases. For the first time, theorists will be able to match the simulations to a set of real outcomes drawn from this new catalog of post-CE binary stars.

Publications resulting from the award

Convection Reconciles the Difference in Efficiencies Between Low-mass and High-mass Common Envelopes
Wilson, E., Nordhaus, J., 2022 *MNRAS* 516, 2189

The Formation of Discs in the Interior of AGB Star from the Tidal Disruption of Planets and Brown Dwarfs
Guidarelli, G., Nordhaus, J., Carroll-Nellenback, J., Chamandy, L., Blackman, E., Frank, A. 2022 *MNRAS* 511, 5994

Revised Stellar Parameters for V471 Tau, a Post-Common Envelope Binary in the Hyades
Muirhead, P., Nordhaus, J., Drout, M. 2022 *Astronomical Journal* 163, 34

Successive Common Envelopes from Multiple Planets
Chamandy, L., Blackman, E., Nordhaus, J., Wilson, E. 2021 *MNRAS* 502, 110

Convection and Spin-Up During Common Envelope Evolution: The Formation of Short-Period Double White Dwarfs. Wilson, E., Nordhaus, J. 2020 *MNRAS* 497, 1895

Bipolar Planetary Nebulae from Outflow Collimation by Common Envelope Evolution.
Zuo, Y., Frank, A., Reichardt, T., De Marco, O., Blackman, E., Nordhaus, J., Balick, B., Carroll-Nellenback, J., Chamandy, L., Liu, B. 2020 *MNRAS* 497, 2855

RIT's Undergraduate Research Symposium

Each year, RIT hosts a large undergraduate research symposium. In summer 2022 there was a return to the in-person version of the symposium. NTID-supported students disseminated their research with either posters or symposia presentations. NTID student research was supported by federal grants, internal awards or faculty start-up funds. Fifteen NTID-supported undergraduate student researchers presented at the summer symposium. The projects represented both discipline-based research and center-based research that explore deafness and the deaf experience.

Imagine RIT: Innovation and Creativity Festival

For the first time in three years, RIT held its 14th annual Imagine RIT: Innovation and Creativity Festival in person. This year's festival featured exhibits in science, technology, engineering, the arts, mathematics and more.

The 14th annual Imagine RIT: Innovation + Creativity Festival, a one-day celebration of RIT's unique blend of technology and the arts, was held in person after two years of COVID-19 restrictions.

NTID student, faculty and staff exhibits included:

- **SPaCE Center, including deaf x lab and PLAY Lab** – Designed to engage families, providing activities for young children (ages 3 and up) and their parents, the deaf x lab provided arts and crafts activities with a “brain” theme that appealed to all ages. The PLAY Lab provided more play-centered activities for younger children. In addition, student and staff volunteers proficient in ASL made this a great place for young deaf and hard-of-hearing children to interact and play.
- **PopSign** – PopSign is an app that makes learning American Sign Language fun and interactive. The aim of the game is to pop as many bubbles as possible, matching a written word with an ASL sign on the bottom of the screen. It is intended to educate parents with deaf and hard-of-hearing children in ASL, but it is open for anyone who wants to learn sign language and fingerspelling. It is still in beta testing mode, but can be downloaded from Google Play Store. The Center on Access Technology, along with Google and Georgia Tech, is working on perfecting and making it available on the Apple App Store.
- **Project IRIS** – Project IRIS aims to make smartphones even more accessible for deaf and hard-of-hearing users. It strives to have telecommunications relay services built into smartphones so the customer does not need to download extraneous apps to make their phone accessible; it comes with these features right out of the box and the customer can set their preferred TRS in the phone's accessibility settings. The customer need only remember one phone number—the number that comes with the smartphone—and they can still choose their VRS and call-captioning provider. Project IRIS benefits not only deaf and hard-of-hearing people, but also hearing people in that it provides Three-Party Video calls with an interpreter. It also offers Next-Gen 911 in which the smartphone connects to local Public Safety through the auto Three-Party Video call with VRS, and the phone's GPS leads first responders directly to the person in distress.
- **Visual Media Capstone Projects** – Seniors in the Visual Media program in the School of Photographic Arts and Sciences shared their capstone projects, showcasing their capabilities to address relevant issues and concerns of the present and near future with elegant and effective use of various digital and analog media technologies.
- **RADSCC Activities** – RADSCC hosted a table for children to make bookmarks with manual alphabet rubber stamps and learn some sign languages (ASL, Mexican Sign Language, Russian Sign Language, ProTactile ASL). They also provided learning opportunities about the Deaf community and DeafBlind community through DeafBlind simulation goggles and resources/degree programs from ASL & Interpreting Education (ASLIE) explaining how students on campus learn and live together.
- **Sunshine 2.0 “Mobius Squared”** – “Mobius Squared” is a one-hour virtual show for school students and older about four college students who are spellbound by a wizard and go on a journey to a different part of the world. They have to face their insecurities and fears and solve their own issues. This show demonstrates that each of the four college students overcome adversity. The show provides full communication access (captions, American Sign Language and voice). It also includes STEM content, mini workshops and interactive activities. Sunshine 2.0 members created the script, storyboard, costumes and background for the show.

All of the exhibits, activities and performances demonstrated the innovative thinking and creative spirit and energy that are uniquely RIT; they exemplify RIT President David Munson's vision of RIT as a creative and innovative university that leverages the power of technology, the arts and design for the greater good.

Innovation and Creativity at NTID

Over the last decade, RIT has increased its emphasis on innovation and creativity, both in the curriculum and in other activities across campus.

The sampling of projects below reflects the innovative and creative activities underway within the National Technical Institute for the Deaf.

Digital Language Laboratory for Interpreting Instruction

ASLIE's three department classrooms are each equipped with four HD cameras, three "smart" microphones, two large-screen televisions, a white board and a teacher's station with an Apple computer. The technology is controlled by a specially designed touchpad and a camera controller. Additionally, each classroom is equipped with the following technology for students: Apple MacBooks and headsets with microphones. The classrooms use Apple's wireless technology to connect faculty and student devices to the TVs. Capturing student work or presentations is done with GoReact, a web-based video capture and storage program, or with other applications such as Zoom, Photo Booth or QuickTime.

Keeping Current in Communication Studies and Services

The Communication Studies and Services (CSS) department recognizes the exciting benefits of emerging technological trends to enhance communication access for deaf and hard-of-hearing individuals. CSS faculty and staff continuously participate in training activities to remain current and share these communication-related resources and options with students. Recent examples include:

- **Bluetooth technology:** Hearing aids and cochlear implants now have the ability to stream from mobile devices, such as cell phones and tablets. Deaf and hard-of-hearing students enjoy improved communication on the phone for voice and/or video calls, as well as increased access to other media on their devices.
- **Mobile applications (apps):** There are myriad new and evolving apps that can be used as tools for communication and accessibility. The faculty and staff in the CSS department actively encourage and train students to use these apps to maximize their communication potential. Trending apps explored with students include those designed for automatic speech recognition, team communication, live captioning of mobile phone calls and real-time hearing device adjustment. Furthermore, to improve access for deaf and hard-of-hearing students, the department has maintained relationships with app developers to explore adaptations.
- **Hybrid delivery options for speech-language services:** The speech-language pathologists at NTID have expanded meeting options for students to include both virtual and traditional in-person formats. Insights learned through the COVID-19 pandemic have shown that maintaining a virtual meeting option helps ensure continuity of support for students when health concerns or physical meeting restrictions would otherwise lead to canceled sessions. In addition, students today are facing a heightened need to solidify their virtual communication skills given the global shift to virtual classes, meetings, interviews and teamwork. Virtual speech-language sessions at NTID, in this way, are also serving to prepare students to become confident and successful communicators in virtual environments.

CSS remains current with regard to emerging research on electroacoustic hearing configuration, or the use of both electrical stimulation (cochlear implant) and acoustic amplification (hearing aid). Research has suggested improvements in several areas, including music appreciation, general sound quality and speech understanding, particularly in noise. Acoustic components now are available for use with current speech processors from all three major cochlear implant companies, allowing for even more students to benefit from a cochlear implant, if they choose. NTID audiologists have been trained to work with these devices and counsel prospective candidates on expected outcomes.

This research also indicates that the benefits of electroacoustic hearing are observed even when the electric and acoustic stimulation are on opposite ears (bimodal configuration). The CSS faculty and staff have observed that many students coming to college with just one cochlear implant are curious about technology for the contralateral ear, but have either been discouraged from use of a second device or are nervous about the outcomes, due to an extended period of auditory deprivation on that side. The

Innovation and Creativity at NTID (continued)

Audiology Center provides semester-long loans of current hearing aid technology so that students can decide whether a bimodal configuration is right for them.

In addition to departmental pursuit of ongoing training in communication-related topics, CSS faculty and staff are actively initiating or invited to participate in various research initiatives across the fields of audiology, speech-language pathology, accessibility and deaf education. Recent projects have focused on:

- bimodal amplification (simultaneous hearing aid and cochlear implant use) in the classroom;
- use of mobile applications to enhance cross-cultural communication;
- online learning initiatives for deaf learners;
- usability of automatic speech recognition for telephone captioning; and
- effects of cochlear implantation and sign language exposure on cognitive outcomes of young deaf adults.

A significant uptick in request for professional counsel and support for the University's LGBTQIA+ student population resulted in the creation of an ongoing collaboration between CSS speech-language pathologists and RIT's Q Center. Informational workshops on topics such as voice identity and vocal health have been well received across the RIT community. Direct communication group sessions for gender-affirming voice coaching have been routinely frequented by students, hearing and deaf alike. Consulting and training of best practices are also shared internationally in Ethiopia, where a CSS audiologist and speech-language pathologist are routinely part of a volunteer initiative to empower a Deaf community in Ethiopia.

NTID Performing Arts

The department's 48th season in AY 2021-2022 was a mix of virtual and in-person events. Attendance at shows was restricted to 50% capacity, due to the ongoing COVID-19 pandemic. Over the academic year, NTID Performing Arts presented three mainstage productions and several special events that involved more than 854 deaf, hard-of-hearing and hearing students, faculty, staff and Rochester community members. They participated as actors, dancers, theater technicians and front-of-house staff. These performances were attended by more than 1,837 people from all across New York State, as well as schools and community groups from neighboring states.

This season included a joint production of *Angels in America Part One: Millennium Approaches*, by Tony Kushner, directed by faculty Andy Head. The production received a 2022 Kennedy Center American College Theatre College Region II Award. *Angels in America* was also selected as one of the Region 2 Festival's invited productions.

NTID Performing Arts formed a new student dance company, DanceCore, under the leadership of faculty Marc Ellis Holland. DanceCore debuted on the Panara Theatre mainstage as part of the Performing Arts showcase "IGNITE...the ART in YOU."

The final mainstage production was *In the Heights*, pictured here, by Lin-Manuel Miranda and Quiara Alegría Hudes, directed by faculty Dr. Luane Davis Haggerty. For this production, NTID Performing Arts committed to partnering with the larger Rochester community. *In the Heights* brought in members of the Rochester Latino Theatre Company as cultural consultants, actors and designers. Special artist/choreographer Jayme Bermudez, the Educations Coordinator at Ibero American Action League, and Borinquen Dance Theatre collaborated on the production. Deaf Latino visual vernacular artist Joel Ortiz served as the song/stage ASL consultant.



Innovation and Creativity at NTID (continued)

Angels in America had 548 viewers, *IGNITE* had 357 viewers and *In the Heights* had 932 viewers.

Under the direction of faculty Aaron Kelstone, the department also produced the Deaf Play Creators Festival (DPCF). DPCF was a collaboration with the MAP 2020-2021 National Deaf 10 Minute Play Festival. DPCF featured *Plumb Crazy Pipe Dream* by Aimee Chou and *Pushing Buttons* by Robert Roth. Due to the Omicron variant spike, the productions were filmed for streaming in AY 2022-2023.

During AY 2021-2022, 453 students enrolled in Performing Arts classes and online classes. Fourteen students were awarded performing arts scholarships and five students were awarded a performing arts certificate this past year.

In total, approximately 6,383 people were served by NTID's Performing Arts program during the AY 2021-2022 season.

Showcasing Deaf Artists

A team of NTID faculty and staff developed a website that showcases and promotes the works of Deaf and hard-of-hearing artists (deaf-art.org/). The site features art and biographical information on more than 100 professional Deaf artists from around the world, as well as streaming videos and articles related to Deaf artists, Deaf art and Deaf artistic movements. The site offers a range of accessible materials for classroom use, including visual timelines, a summary of popular Deaf motifs, free access to scholarly articles regarding Deaf art and more. Also included on the site are the self-portraits of a group of RIT/NTID students, along with video and/or written descriptions.

Preserving Deaf History

The experiences of Deaf people during World War II are captured in a website developed by a team of NTID faculty and staff (deafww2.com/). The site focuses on three spheres of the world involved in this conflict, as Deaf North American, Deaf European and Deaf Asian peoples' lives are examined before, during and after the war. Designed for students, teachers, scholars, researchers and historians, the site features articles, scripts, video clips, testimonies, artwork, books and links to related sites. Also included is an award-winning NTID documentary, *Exodus: A Deaf Jewish Family Escapes the Holocaust*, and the documentary, *Worry: A Jewish Deaf-Blind Survivor Shares Her Story*.

The HeART of Deaf Culture: Literary & Artistic Expressions of the Deaf Experience

This multimedia interactive website, produced and edited by retired NTID faculty members Karen Christie and Patti Durr, explores Deaf visual art, ASL and English literature, Deaf theater and Deaf cinema. It contains in-depth interviews with Deaf scholars and creators from each genre, and features more than 300 artworks, poems, ABC stories, performances and film clips: heartdeaf.com/.

Deaf Studies Archive

The RIT/NTID Deaf Studies Archive (library.rit.edu/archives/deaf-studies-archive) documents RIT's central role in educating people who are deaf or hard of hearing in the United States. This archive also draws from Rochester's significant deaf community. The focus of the popular and continually growing archive is Deaf culture, studies, education, theater and art. This significant archive contains primary resources, artwork, videos and books documenting the founding and growth of NTID, and highlights the many remarkable contributions of deaf, hard-of-hearing and hearing individuals affiliated with NTID. The Rochester area is home to a vibrant deaf community, and the Deaf Studies Archive represents a first-time effort that has been made to preserve some record of this culture. Including, but not limited to, the papers of distinguished faculty, artwork by alumni and the records of a local deaf theater group, this growing archive showcases the many talented and dedicated individuals affiliated with NTID and beyond. The Deaf Studies Archive (infoguides.rit.edu/dsa) is located in the RIT Archives in the Wallace Center and is curated by the NTID librarian, Joan Naturale, and the RIT archivist, Elizabeth Call. The NTID librarian also teaches Deaf Studies classes.

Innovation and Creativity at NTID (continued)

The Deaf Studies Archive has posted rare ASL Poetry and Literature streaming videos in its Digital Collections via digitalcollections.rit.edu/luna/servlet/RIT~7~7 in addition to the YouTube videos that were created last year (found among the Libraries' playlists at youtube.com/c/RITLibraries/playlists?view=50&sort=dd&shelf_id=7). The videos feature NTID ASL Poetry and Literature conferences showcasing nationally renowned sign language artists, including performances, interviews conducted by NTID interpreter, Miriam Lerner, and lectures from NTID faculty, staff, students and alumni, such as Dr. Robert Panara, Dr. Patrick Graybill, Dr. Clayton Valli '74, Peter Cook '81, '86 and Kenny Lerner, together, and Debbie Rennie '76, '89. The 1984 Symposium coordinated by Jim Cohn '84 featured Allen Ginsberg and Robert Panara discussing imagery in poetry, which sparked an explosion of ASL poetry among the students, inspiring Peter Cook and Debbie Rennie to create original poetry in sign language. In addition, the first known 1987 ASL poetry conference videos are in the collection, featuring the pioneer sign language artist: Ella Mae Lentz.

The YouTube videos listed above were the result of a Digitizing Hidden Collections grant (co-PI, Joan Naturale, NTID Librarian) from the Council on Library and Information Resources (CLIR) that was made possible by funding from the Andrew W. Mellon Foundation. The project was an institute-wide collaboration, with support from the NTID President's Office, NTID's Department of Cultural and Creative Studies and the Communications, Marketing & Multimedia Services team, as well as RIT Archive Collections and Libraries Metadata and Digital Scholarship Services. These rare videos are captioned, voiced, transcribed and signed for accessibility to all.

Thanks to a collective effort, the TRIPOD collection's finding aids and guides are now available on this website: rit.edu/ntid/radsc/tripod/. The website was made possible with support from Megan Williams, one of TRIPOD's founders, who secured funding for the development of the website; Jeanne Behm, '78, '80, RADSCC coordinator; Simon Ting, NTID web developer (retired) and current web developer, Cea Dorn; Joan Naturale, NTID Librarian; RIT Libraries; and RIT/NTID Deaf Studies Archives.

Founded in the Los Angeles area in 1982 by Megan Williams, the mother of two young deaf and hearing children, TRIPOD was intended to meet the complex educational needs of deaf children and their families. Based on Williams's concept of a holistic learning environment that removed barriers to communication, TRIPOD enjoyed the support of local philanthropists associated with the film industry. The TRIPOD Montessori Preschool opened its doors in 1984 with four pupils, but in 1989 was integrated as a public/private program with the Burbank Unified School District. As Williams's son grew, so did the program, ultimately serving more than 120 students.

TRIPOD is notable in deaf history as an early bilingual curriculum. This curriculum was supported by Carl Kirchner of California State University, Northridge and Cindy Murphy of Gallaudet University in Washington, DC, all of which are well-known and regarded educators of the deaf. TRIPOD sought to include deaf, hard-of-hearing and hearing students in the classroom. Total Communication was selected as the instructional modality, in which hearing children model English acquisition, and all children acquire sign language skills together, overseen by deaf and hearing teachers.

Williams's son, the first student to be enrolled in the program, graduated in 1998; he, along with many other TRIPOD graduates, is a successful professional in his field. Hearing graduates have become excellent interpreters and deaf graduates have gone on to become artists, film producers and teachers in their own right—some, including Williams's son, are also RIT/NTID alumni.

The TRIPOD model is now replicated in numerous public schools around the country.

RIT ASL & Deaf Studies Community Center (RADSCC)

The RIT ASL & Deaf Studies Community Center (RADSCC) continues to promote education, understanding and participation in the RIT/NTID deaf community by all members of the RIT/NTID community. A variety of events, ranging from weekly ASL classes to regular community meetings, are hosted in the RADSCC space, which is located in RIT's Wallace Memorial Center. As of September 2021,

Innovation and Creativity at NTID (continued)

the RADSCC classroom has been relocated temporarily to the Gordon Field House, and will remain there until the completion of the upcoming Student Hall for Exploration and Development (SHED).

In April 2022, the RADSCC participated in Imagine RIT in collaboration with NTID's ASL Training and Evaluation office and the DeafBlind community.

The RADSCC's annual DeafMute Banquet did not take place during FY 2022 and will need to be revisited in the post-pandemic period. The RADSCC did however host a "coffee chat" with students and Tawny Holmes Hlibok, a prominent Deaf Studies expert, which was the first in-person gathering of students and faculty since the beginning of the COVID-19 pandemic.

In Spring 2022, the RADSCC led ASL and Deaf culture trainings for students at Nativity Preparatory Academy. Students from Nazareth College later joined in teaching students a song in ASL for their final production. This represents the first collaborative outreach program that RADSCC has provided to the Rochester community.

RADSCC provided ASL and Deaf Culture awareness training to the Seneca Park Zoo staff in advance of their first Deaf Awareness Day which occurred on September 17, 2022. The event was accessible and successful.

The RADSCC continues to host the ASL Lecture Series webinars. Participation in these webinars increased significantly as compared to in-person lectures. Lectures included experts in Deaf culture and ASL, including Barbara Spiecker (September 2021), Keith Gamache, Jr. (November 2021), a special presentation with Joan Naturale as a facilitator with Chris Kurz and Mireille Golaszewski (December 2021), Ben Jarashow (January 2022), Tawny Holmes Hlibok (April 2022) and Dan Veltri (September 2022). Past presentations can be found here: rit.edu/ntid/radsc-resentations-asl.

Sunshine 2.0

Sunshine 2.0 is a professional traveling theater troupe based at NTID in the Department of Performing Arts. The troupe provides performances and activities for deaf and hard-of-hearing children and adults that highlight the fields of science, technology, engineering, arts and math (STEAM), as well as educational topics pertaining to the Deaf experience. They also perform and give workshops at many conferences and festivals (virtually and in person) to reach the community at large. In FY 2022, Sunshine 2.0 contacted schools to see if COVID-19 restrictions had been eased, allowing for in-person performances. However, many schools were still adjusting to in-person learning. Sunshine 2.0 shifted its emphasis to performing at conferences, festivals and expos so they could reach students outside of the educational setting. They were able to connect with school administrators, school faculty and staff and Deaf organizations (interpreter agencies, youth programs, community organizations). These performances and workshops involved approximately 13,000 youth and adults and were hosted at 32 sites in the following states: Alabama, California, Florida, Georgia, Maryland, Minnesota, Nevada, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, Texas, Utah and Washington, D.C.

Fred Beam '85, coordinator for Sunshine 2.0, also gave presentations on combining ASL, performing arts and/or STEM.

Sunshine 2.0 attended the American Deafness and Rehabilitation Association (ADARA) Conference, Bay Area International Deaf Dance Festival, Hands and Voices Conference, Music at the Anthology (MATA) Festival and Southeast Regional Institute on Deafness (SERID) Conference to promote NTID and provide virtual performances and workshops related to STEAM and Deaf culture.

Sunshine 2.0 also provided presentations, workshops and performances to RIT/NTID students during summer and fall 2022.

Innovation and Creativity at NTID (continued)

TigerChat™

TigerChat™ is a communication app developed by NTID to help the RIT community eliminate communication barriers during the COVID pandemic. Members of the RIT community can use TigerChat to converse using automatic speech recognition (ASR) technology and typing. The app displays the conversation as it happens, which helps provide a more natural flow of communication. TigerChat has proven beneficial with spontaneous communication, meetings or point of service locations.

ASLCORE

Specialized vocabularies used in academic disciplines often lack established ASL signs. Interpreters often fingerspell these words or develop ad-hoc signs that can be unclear and potentially confusing. ASLCORE (aslcore.org/) began with an NTID innovation grant in 2015 with the goal of developing and making available online new signs for advanced concepts in philosophy courses. After some initial success, the ASLCORE website expanded to include discipline-related terminology in art, biology, computer science, engineering, literature, physics and sustainability. All ASLCORE signs are generated by Deaf users of ASL via a team of Deaf content experts for that discipline and Deaf translators who have native fluency in ASL. With more than 1,500 total entries, ASLCORE also collaborates with a similar project, ASL Clear, a partnership between Boston University's Center for the Study of Communication and the Deaf and The Center for Research and Training at the Learning Center for the Deaf in Framingham, Massachusetts.

Dyer Arts Center

In AY 2021-2022, the RIT/NTID Joseph F. and Helen C. Dyer Arts Center hosted three in-person events and five online events, including receptions and virtual artist talks. Approximately 152 people attended the online events and as a result, the outreach of the Deaf community nationally and internationally diversified.

The Dyer Arts Center hosted 11 exhibitions, four of which were online using Omeka as a platform and seven of which were in-person. Some notable exhibitions include a first-ever pop-up traveling exhibition in Washington, DC, titled *Traversing Boundaries; Shaped by the American Dream: Deaf History through Deaf Art* featuring more than 140 artworks by 30 deaf artists from years 1889 to 1989 and *Signwaves: Reimagine*, by Deaf *Project Runway* fashion designer, Justin LeBlanc. *Shaped by the American Dream: Deaf History through Deaf Art* is funded by a grant of \$50,000 from the Terra Foundation of American Art from last academic year. Additionally, this exhibition is also funded by a grant of \$25,000 from the New York State Council on the Arts (NYSCA). The Dyer Arts Center started a year-long online exhibition of the *La Descolonización del Arte* exploring the Latin Deaf experience through art.

From April to June 2022, the Dyer Arts Center had a complete renovation of the lighting systems and ceilings in both the main gallery and the Glassroom, an area of the gallery that had not been updated since it opened in 2001.

The Dyer Arts Center also had some changes throughout the year that includes the departure of our former director, Tabitha Jacques, in February 2022 and the welcoming of our new director, Fran Flaherty, in August 2022. The permanent collection has acquired more than 250 new pieces.

Intellectual Property: Licensed Educational Materials, Patents and Inventions

NTID educational materials developed after RIT's Intellectual Property Policy was implemented in October, 1997, are licensed, and the sales revenue is shared by the creator(s) of the materials and NTID, per the requirements of the policy. All

materials are copyrighted to Rochester Institute of Technology and are available through a variety of vendors. Below is a summary of the materials and distribution information.

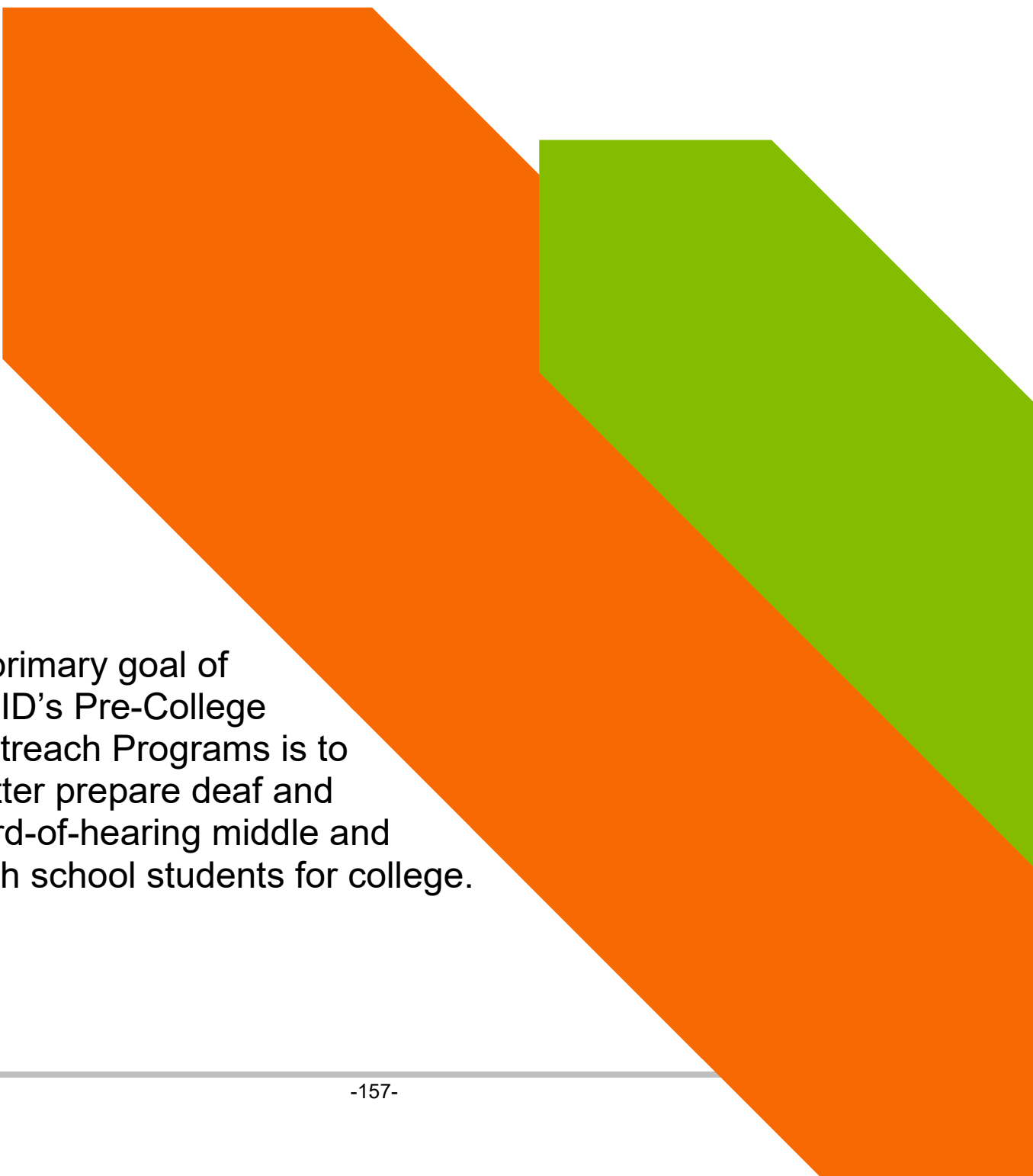
Licensed Educational Materials

- *Attention Deficit Scales for Adults - Sign Language Version*
Distributed through NTID Communications, Marketing and Multimedia Services
- *ASL at Work* (textbook with accompanying DVD)
Distributed by Dawn Sign Press
- *ASL Dictionary and Inflection Guide*
Available for online subscription through rit.edu/ntid/dictionary/
- C-Print® Pro Software and C-Print® online training
Distributed through NTID College Operations
- *Educational Interpreting* (DVDs and companion booklet)
Distributed through Harris Communications, Butte Publications and NTID Communications, Marketing and Multimedia Services
- *NTID Speechreading* (DVD and supplementary materials)
Distributed through AUDITEC
- *A Shining Beacon: Fifty Years of the National Technical Institute for the Deaf* (hardcover book)
Distributed through NTID Communications, Marketing and Multimedia Services and RIT Press

Patents/Inventions and Copyrights

- U.S. Patent granted by U.S.P.T.O. for "Method for Determining Hearing Thresholds in the Absence of Pure-Tone Testing." Date of Patent: December 5, 2017. Patent Number: US 9,833,174 B2. Available for license.
- Provisional Patent filed with U.S.P.T.O. for "Method for Measuring Sign Recognition Ability in Learners of American Sign Language (ASL) as a Second Language." Application date: July 18, 2017. Converted to non-provisional June, 2018.
- Trademark NTID Speech Recognition Test® (NSRT®).
- Translation to ASL of the Connor-Davidson Resilience Scale (CD-RISC), by NTID's Center on Cognition and Language through an agreement between Connor-Davidson and the University of Michigan.
- An ASL Dictionary and Inflection Guide translation to South African Sign Language via license agreement from NTID through the ASLIE Department.
- Translation agreement to digitize and make publicly accessible more than 60 videotapes held in the RIT/NTID Deaf Studies Archive through a grant from the Council on Library and Information Resources (CLIR).
- "Method and System to Enhance Telecommunication Relay System for People with Disability." Provisional patent filed February 14, 2019. Converted to non-provisional filed February 14, 2020.

Outreach

A decorative graphic on the right side of the page consists of several overlapping geometric shapes. The largest shape is a large orange trapezoid that tapers towards the bottom right. Overlapping its top-right corner is a smaller green trapezoid, also tapering towards the bottom right. The background is white.

A primary goal of NTID's Pre-College Outreach Programs is to better prepare deaf and hard-of-hearing middle and high school students for college.

Outreach Highlights

NTID's educational outreach efforts include a number of innovative programs designed to share educational information and provide technical assistance to alumni, teachers of deaf and hard-of-hearing students, employers, Vocational Rehabilitation personnel, secondary and middle school students, parents of deaf and hard-of-hearing children and other deaf and hard-of-hearing adults.

Pre-College Outreach Programs

Outreach is responsible for arranging camps and competitions for deaf and hard-of-hearing middle and high school students. The flagship program of the department, Explore Your Future, provided two sessions with a reduced number of registrations. Two other summer programs offered in 2022 were TechCamp and Health Care Careers Exploration Program. The Math Competition was held virtually, with students competing individually.

Outreach is currently working on several virtual programs for the fall and spring. FutureQuest is a one-hour webinar for students and parents to learn how a college-bound student can prepare for their first semester. Career Exploration Series is four webinars focusing on STEM career areas. The STEM Trivia Contest, offered on two different dates, is a one-day trivia competition for deaf and hard-of-hearing high school students. There are two Science Fairs with a specific theme, a Rube Goldberg and an egg drop competition.

- During FY 2022, NTID faculty and staff conducted three virtual outreach programs: the SpiRIT Writing Contest, for students in grades 10–12; the Digital Arts, Film and Animation Competition, for students in grades 9–12; and the Math Competition, for students in grades 6–8.
- FutureQuest webinars were offered in five states during FY 2022 for middle and high school deaf and hard-of-hearing students and their parents/guardians. States that offered the webinar include: Pennsylvania, Missouri, Arkansas, Washington and Massachusetts. The registrations totaled 19 students and their parent/guardian. During these webinars, the topics included picking the right high school curriculum and activities for college-bound students, starting the college search process, financing a college education, connecting with a Vocational Rehabilitation counselor/office, ways to get your child interested, deciding which academic programs to enroll in and learning more about Pre-Employment Transition Services.
- NTID Outreach offered a Career Exploration Series, four activity-based webinars for deaf and hard-of-hearing high school students focusing on a STEM career area. The webinars were led by STEM role models from NTID, who led students through a STEM activity and discussed careers within their field of expertise. Students were able to register for one or all of the webinars, and were sent activity materials for each webinar for which they registered. Each of the webinar's participation averaged well over 200 students. The webinar topics were Art and Museum Studies, Forensic Science, Architecture and Innovation.
- Explore Your Future (EYF), a week-long career exploration and evaluation program for deaf and hard-of-hearing students about to enter their junior or senior year of high school, is one of NTID's most successful outreach programs. EYF provides opportunities for high school students to learn about themselves and their educational and life/career choices. The program is based on the idea that people have differing interests in six areas: Realistic, Investigative (Computing), Artistic, Social, Enterprising and Investigative (Science). Students participate in hands-on career exploration classes and personal awareness instruction. A total of 7,331 students have participated in EYF over the past 37 years. Twenty-one of the Summer 2021 participants subsequently enrolled at NTID. Two sessions were offered in Summer 2022. This year's participants came from 23 states and the United Arab Emirates.
- TechCamp is for middle school deaf and hard-of-hearing students. This week-long program is for girls and boys entering 7th, 8th or 9th grade who are interested in careers in science, technology, engineering and math. Campers will use state-of-the-art technology to create a high-tech gadget to take home, conduct laboratory experiments and more.

Outreach Highlights

- Health Care Careers Exploration Program is designed for deaf and hard-of-hearing students entering 10th, 11th or 12th grade who are interested in pursuing a career in the fast-growing field of health care. The program helps students explore a range of career options in the field and learn about important issues in health care.

Other Outreach Activities

- The NTID Office of Alumni & Constituent Relations plans and implements strategies for engaging alumni and other constituents through social and professional-development events, volunteer opportunities and other activities, both on campus and in targeted regions around the country. With counsel from, and in collaboration with, members of the NTID Alumni Association Board of Directors, Alumni & Constituent Relations works to build and maintain connections between NTID and its almost 10,000 alumni. NTID retirees and parents of current students are also included in events, activities and engagement initiatives. AY 2021-2022 had 1,000+ alumni and guests participating in more than 30 activities and events including a return to some in-person activities and gatherings, an online Distinguished Alumni Awardee celebration and NTID Alumni Association Board of Directors meetings on campus.



RIT/NTID alumni gather for a 'tailgate' party in downtown Rochester prior to the RIT men's hockey game, part of the university's Brick City Homecoming and Family Weekend.

Pre-College Outreach

NTID's *Strategic Vision 2010* called for development of an educational outreach consortium that would allow NTID to share its expertise to improve the education and career development of individuals who are deaf or hard of hearing. An outgrowth of this decision has been a series of outreach initiatives designed to provide educational experiences for students in grades 6–12.

NTID's pre-college outreach focuses on empowering deaf and hard-of-hearing middle school and secondary students and their parents with information to help students' long-term career success. A special focus of this effort is young women and Black or African American, Hispanic/Latino and American Indian or Alaska Native students.

In 2022, RIT/NTID welcomed 301 middle school and high school students, and their parents, from all over the country to five pre-college outreach efforts. Participation is expected to grow annually as marketing and other promotional efforts continue.

Parents, students and teachers alike had high praise for the 2022 competitions and camps. With the success of these initiatives, RIT/NTID is well on its way to its goal of making outreach a central focus through sharing 50 years of expertise in access services, program development, the application of technology and ensuring that students will possess the skills and knowledge necessary to be active participants in the 21st Century American workforce.

Digital Arts, Film and Animation Competition

Four deaf and hard-of-hearing students were registered in the 2022 Digital Arts, Film and Animation competition for students in grades 9–12. The categories for the competition include Web page design, graphic media, photo illustration and film. Two winners were selected and received cash prizes.

Math Competition

RIT/NTID's national Math Competition for middle school students challenges math skills, develops self-confidence and rewards achievements. The intent of the competition is to foster interest in mathematics.

Due to the COVID-19 pandemic, this contest was held virtually with 107 registered students. There were three rounds of competition and the 1st, 2nd and 3rd place winners received cash prizes.

SpiRIT Writing Contest

RIT's 18th annual SpiRIT Writing Contest for deaf and hard-of-hearing students attracted submissions from five students in grades 10–12 from around the United States in March 2022. Students and their teachers submitted portfolios of the students' best work. The winners received either a full scholarship to NTID's Explore Your Future program or a \$500 cash prize.

TechGirlz and TechBoyz Camps

These week-long summer camps give girls and boys the opportunity to learn more about careers in science and technology-related fields. They build their own computers, learn how to program a robotic car, learn how to make educated money decisions and become versed in Adobe programs.

Due to the COVID-19 pandemic, the summer 2021 sessions of TechGirlz and TechBoyz were canceled. In 2022, RIT welcomed 21 girls and 27 boys, respectively, for the 14th year for TechGirlz and the 9th year for TechBoyz.

Pre-College Outreach AY 2021-2022

	Total Participants	Minorities	
		Number	Percent
Explore Your Future	117	63	54%
SpiRIT Writing Contest	5	4	80%
Digital Arts, Film and Animation	4	1	25%
Math Competition	107	32	30%
TechGirlz	21	6	29%
TechBoyz	27	10	37%

NTID Regional STEM Center

The mission of the NTID Regional STEM Center (NRSC) is to promote exposure to STEM for middle and high school deaf and hard-of-hearing students in Science, Technology, Engineering and Mathematics (STEM) fields. The ultimate goal is to increase post-secondary participation for deaf and hard-of-hearing students in STEM fields, resulting in substantial employment. Congress authorized this project to establish a formal regional partnership with at least one organization in the southeastern United States to expand the geographic reach of activities and services supported by NTID consistent with NTID's

mission and strategic plan. NTID has contracted with the Alabama Institute for Deaf and Blind (AIDB) since November 2016 to serve as the NTID Regional STEM Center-Southeast (NRSC-SE). The region served by this partnership includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee and Texas. Additional programming can be provided outside the 12-state region on a case-by-case basis.

The NRSC targets five specific groups:

Students and Families

Camps, programs and activities offered to deaf and hard-of-hearing middle- and high-school students include but are not limited to: robotics tournaments, drones activities, cybersecurity activities, STEM days and fairs, ACT Testing Strategies training, biology and biotech camps, Mechatronic Engineering Leadership in Deafness programs, STEM in agriculture programs, Career Exploration webinars, Explore Your Future camps, FutureQuest workshops, TechBoyz and TechGirlz camps, and Health Care Careers Exploration programs. NTID's annual Math Competition also targets deaf and hard-of-hearing middle-school students and will be expanded to regional competitions, leading up to a national competition on campus in spring 2023. There is also a new and growing focus on student transition programming, supported by our Summer Transition Programs on the RIT/NTID campus and Alabama Institute for Deaf and Blind (in combination with a STEM academy at AIDB). A new regional Summer Transition Program is also planned for the Northwest region in summer 2022, at the Washington School for the Deaf.

Scholarships are offered for participation in camps and activities, as well as sponsorships for external STEM camps and activities. Sunshine 2.0, NTID's theater troupe, has also traveled throughout the country, offering STEM-related performances and workshops.

Teachers

NRSC has provided support for state, local and regional conferences on education of deaf and hard-of-hearing secondary and postsecondary students, with an emphasis on STEM topics. In addition, NRSC offers scholarships for undergraduate students in STEM programs at RIT/NTID, as well as ASLIE and MSSE students who demonstrate interest in working in STEM fields. Priority is placed on BIPOC students in the scholarship selection process. NRSC is also providing support for NTID's expanded national Project Fast Forward dual-credit program for high schools serving deaf and hard-of-hearing students.

Vocational Rehabilitation (VR) Personnel

NRSC staff have provided training, consultations and visits to VR personnel, and a full-time VR specialist was hired to do outreach and training. A new advisory board has been established.

Sign Language Interpreters

NTID employs a full-time STEM interpreter trainer who organizes and provides professional training activities, exchange programs and mentorship for educational trainers on STEM topics.

Employers

NTID Co-op and Career Center (NCCC) conducts training for employers, ranging from private corporations to non-profits, and visits job sites where students have worked. The team also attends various conferences, educating leaders about hiring and working with deaf and hard-of-hearing employees and how to make workplaces more accessible. In collaboration with Gallaudet University, National Association of the Deaf and Communication Service for the Deaf, NCCC staff also offered a series of virtual seminars on employment-related topics. A national employment summit is planned for spring 2023.

Explore Your Future

Explore Your Future (EYF) is a week-long career exploration and evaluation program conducted at NTID each summer for deaf and hard-of-hearing students about to enter their junior or senior year of high school. It is one of the college's most successful outreach programs. The program provides high school students with the opportunity to learn about themselves and their educational and life/career choices. It incorporates the framework that people have differing interests in six areas: Realistic, Investigative (Computer), Artistic, Social, Enterprising and Investigative (Science).

Students participate in hands-on career exploration classes and personal awareness instruction. Myriad social activities and dorm-living opportunities give participants a taste of college life. A total of 7,449 students have participated in EYF over the past 38 years. Fifteen percent of Summer 2021 participants subsequently enrolled at NTID. Two sessions were offered in summer 2022. This year's participants came from 22 states and the United Arab Emirates.

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Number of Participants	179	212	136	137	117
Percentage of Minorities	51%	57%	47%	39%	54%
Percentage Enrolling at NTID*	27%	44%	26%	15%	N/A**



Lab technician and Explore Your Future (EYF) instructor, Lori Poole-Clement '04, right, leads EYF students in an experiment involving chemical reactions.

* Since EYF participants are juniors and seniors, the percentage of an EYF cohort that enrolls at NTID is recalculated each year to capture additional enrollments.

** Students from EYF 2022 currently are in the process of applying to NTID.

Explore Your Future – Enrollment by Location

Summer 2022 EYF students represented 22 states and United Arab Emirates.

Home State or Country	Number in EYF Summer 2022
Alabama	1
California	25
Colorado	2
Connecticut	4
Georgia	2
Illinois	6
Indiana	3
Maine	1
Massachusetts	10
Maryland	9
Minnesota	2
Missouri	2
Nebraska	1
New Hampshire	1
New Jersey	7
New Mexico	1
New York	16
North Carolina	4
Ohio	2
Pennsylvania	7
Rhode Island	4
South Carolina	1
Texas	5
United Arab Emirates	1
Total	117

DeafTEC

The National Science Foundation (NSF) Advanced Technological Education (ATE) National Center of Excellence grant, *DeafTEC: Technological Education Center for Deaf and Hard-of-Hearing Students*, was awarded in August 2011. A four-year renewal of the award was received in August 2015. As the largest NSF award in RIT's history, DeafTEC established the first ATE center to support individuals who are deaf or hard-of-hearing. In August 2019, a three-year DeafTEC Resource Center was awarded to RIT to continue and disseminate the work of DeafTEC.

The goal of DeafTEC is to increase the number of deaf and hard-of-hearing individuals in highly skilled technician jobs in which there continues to be underrepresentation and underutilization of such individuals in the workplace. The DeafTEC Resource Center provides deaf and hard-of-hearing students, as well as their teachers, counselors, employers and co-workers, with the resources that will help those individuals succeed, both in the classroom and on the job. The center is currently in a no-cost one-year extension.

DeafTEC Resource Center

The DeafTEC Resource Center builds on and utilizes the exemplary materials and network that have been developed as part of the DeafTEC National Center. The DeafTEC Resource Center: (1) leverages partnerships to broaden professional development opportunities onsite and online for high school teachers, community college faculty and employers to improve access to learning and technician employment for deaf and hard-of-hearing students; (2) expands, enhances and broadly distributes DeafTEC's innovative online resources and curricula available through its websites that serve as an information clearinghouse related to technical education and technician careers for deaf and hard-of-hearing students and a national resource for teaching student veterans with hearing loss and (3) collaborates and provides mentoring for prospective principal investigators and current ATE projects and centers on creating inclusive environments for deaf and hard-of-hearing students and military veteran students with hearing loss. Some of the DeafTEC highlights from this year are given below.

Khan Academy ASL Demonstration Website

In partnership with Khan Academy, DeafTEC established an ASL demonstration website in the Khan Academy portal system and became the Khan Academy Language Advocate for ASL. To become a demonstration site, Khan Academy required the translation (or localization) of 100% of the videos contained within one of Khan's basic math subjects. Given that algebra is often considered a gatekeeping course to higher mathematics required in technician education, we localized Khan's Algebra-Basics videos. Localization involved recreating all of the 201 videos in ASL and mapping the ASL videos to the English versions, totaling 17 hours of spoken English instruction. Being led by Co-PI Keith Mousley '78, '80, the team of five deaf secondary math teachers from Schools for the Deaf across the country and two math professors from NTID developed a model for producing videos, created guidelines for evaluating videos and established the math signs lexicon for the demo site. The demo site went live in September 2022, providing access to this incredible resource for deaf and hard-of-hearing students, their teachers and parents.

Working Together: Deaf and Hearing People Online Course

Ninety-four people have registered for the online Working Together Course (workingtogether.deaftec.org/); 77 completed at least one of the modules with 28 finishing all of the modules and 23 completing the survey to receive a Certificate of Completion and a digital badge. To date, 840 people have registered for the course, 602 have taken at least one module, 313 have finished all modules and 184 have completed the survey and received a Certificate of Completion and a digital badge.

Project Access Online Course

Through four self-paced modules, this new online course explores ways to optimize teaching in the classroom, provides real-life strategies and provides extensive online resources to help teachers and faculty modify their teaching behaviors to provide greater access to learning for deaf students, which in turn benefits all students. The course went live in August 2022.

DeafTEC (continued)

Math Observations in Deaf Education (MODE) Webinars

MODE is a monthly webinar series hosted by Dr. Dawn Kidd, a middle school math teacher at the Texas School for the Deaf. Dr. Kidd invites different guests each month to discuss a particular current topic in math education in ASL. The webinar is presented in an informal talk show format, complete with visual aids, ideas for teaching, etc. Voice interpreting and captioning are provided for each webinar. The webinar series, which began in March 2021, has presented seven webinars totaling 1,451 registrants (919 unique) and 818 attendees (536 unique). We are thrilled with the response to these workshops, given the audience of math educators of the deaf is quite small. Through this webinar series, we are providing this community with much needed resources and conversations aimed at reducing the achievement gap of deaf and hard-of-hearing students in mathematics. This year, four webinars were offered:

MODE #4 Lessons Learned: What Changed for the Better in Education During the Pandemic? was offered on October 27, 2021 from 6:00-7:00 PM EST: 159 people registered with 76 (48%) people attending. During this webinar, four educators who teach mathematics to deaf and hard-of-hearing students discussed how pandemic teaching has impacted their instruction and what has changed for the better in deaf education. Panelists shared teaching strategies, time management techniques, resources and technology they used from the past year that they hope to continue. In addition to Dr. Kidd, the webinar featured Cathie Gibbons, secondary math teacher at St. Mary's School for the Deaf in Buffalo, NY; William Jennison, high school math teacher at the Alabama School for the Deaf; and Matt Stefano, principal lecturer, Department of Science and Mathematics at RIT/NTID.

MODE #5 The M in STEM was offered on December 1, 2021 from 6:00-7:00 PM EST: 124 people registered with 65 (52%) attending. This webinar featured Harry Wood, a STEM Trainer for the NTID Regional STEM Center at the Alabama Institute for Deaf and Blind. During the webinar, Harry discussed his experience teaching STEM topics to deaf and hard-of-hearing students and teachers. Math skills such as measurement, angles, logic/sequencing, data collection, scale, mathematical reasoning and computation are integral to STEM activities such as robotics where highlighted.

MODE #6 A Practical Discussion of Mathematics Assessment for Deaf/HH Students was offered on March 2, 2022 from 6:00 -7:00 PM EDT: 259 people registered for the workshop with 136 (53%) attending. Two professionals in the area of educational assessment, Heather Costner from Wisconsin School for the Deaf and Tamara Copeland-Samaripa from the Texas School for the Deaf, discussed all things related to "testing" deaf and hard-of-hearing students. From standardized tests to classroom evaluations, practical ideas and resources were presented to support secondary math teachers in their work to evaluate deaf and hard-of-hearing students fairly.

MODE #7 The Current Teacher Shortage and Its Impact on Math Education for Deaf Students was offered on May 16, 2022 from 6:00 -7:00 PM EDT: 156 people registered for the workshop with 74 (47%) attending. This webinar featured two guests, Dr. Claudia M. Pagliaro who is a professor and co-coordinator of the K-12 Deaf and Hard of Hearing Teacher Licensure Program at the University of North Carolina Greensboro and Dr. Kym Meyer, the director of public school partnerships at The Learning Center for the Deaf, who explored the current teacher shortage in education, with specific attention to the field of mathematics education within deaf education. They discussed why this shortage is happening and what can be done about it.

CompTIA Webinars

PI Professor Donna Lange recently joined the CompTIA Technical Education Advisory Council as member of a special interest group for students with disabilities and accessibility. This group intends to design strategies to diversify the tech workforce and shape the future of CTE tech curriculum. Among the many benefits from this membership, DeafTEC has been able to promote CompTIA's virtual career panels to our network of schools and community colleges. Two of the panels have featured deaf and hard-of-hearing tech professionals, providing much needed role models for deaf and hard-of-hearing students. The first webinar featured NTID alumni, Scott Van Nice '01 for the panel. Scott was one of four cybersecurity professionals on the panel and was the only deaf panelist. More than 6,000 people attended the virtual panel, including 79 deaf students and 27 of their teachers. The second virtual career

DeafTEC (continued)

panel, *Information Technology is for Everyone*, focused on the deaf community with an all deaf panel and deaf moderator on January 25, 2022. This all-deaf panel was watched in 142 schools by 1,682 students and 153 teachers/staff. It is estimated that around 133 students who are deaf or hard of hearing watched the webinar.

Pilot Program to Prepare Adults who are Deaf or Hard-of-Hearing for Skilled Technical Positions in Information Technology.

This NSF ATE grant (award # 2100330 for \$470,069) is a partnership between DeafTEC and CompTIA to establish the DeafTEC Ready program, which provided a full-time 10-week hands-on training course (bootcamp) offered in person from May 25th- August 5th on the RIT campus for 12 non-matriculated deaf and hard-of-hearing individuals. The bootcamp was taught in American Sign Language by experienced, credentialed NTID faculty. Bootcamp participants learned technical skills, such as repairing and maintaining computer equipment, networks and operating systems, as well as key workplace skills such as professional communication and problem solving. After completing their training, participants took the CompTIA A+ (Core 1 and Core 2) certification exams. All 12 participants who enrolled completed the program. Eight of the 12 are fully certified, passing the CompTIA Core 1 and Core 2 A+ certification exams, one passed Core 1 exam and is studying for Core 2 with support from NTID faculty. Two of the students who did not initially pass the exams are taking an NTID Applied Computer Technology A+ Certification Prep course and will sit for the exams upon its completion. Participants are receiving direct job placement assistance from CompTIA's career services staff.

Project Fast Forward

Project Fast Forward originally was established in 2006, with a three-year grant from the National Science Foundation's Advanced Technological Education program, under award DUE#: 0602761. Project Fast Forward transitioned from DeafTEC to NTID Academic Affairs during February 2020. In July 2022, Project Fast Forward transitioned to the NTID Regional STEM Center. The program is primarily funded by the NTID Regional STEM

Center for all STEM-related courses. The goal of the project is to build a pathway for deaf and hard-of-hearing students to transition from high school to college in selected STEM disciplines by allowing these students to take dual-credit courses, earning RIT/NTID college credit while they are still in high school.

School Partners. During AY 2021-2022, 54 dual credit course sections were offered at 27 established schools. All of the current Project Fast Forward school partners are listed below:

1. Alabama Institute for Deaf and Blind, Talladega, Alabama
2. American School for the Deaf, West Hartford, Connecticut
3. Arkansas School for the Deaf, Little Rock, Arkansas
4. Arizona State Schools for the Deaf and Blind, Tucson, Arizona
5. Atlanta Area School for the Deaf, Atlanta, Georgia
6. California School for the Deaf, Fremont, California
7. California School for the Deaf, Riverside, California
8. Cypress Ridge High School, Houston, Texas
9. Delaware School for the Deaf, Newark, Delaware
10. Eastern North Carolina School for the Deaf, Wilson, North Carolina
11. Florida School for the Deaf and the Blind, St. Augustine, Florida
12. Georgia School for the Deaf, Cave Spring, Georgia
13. Hinsdale South High School, Hinsdale, Illinois
14. Idaho School for the Deaf, Gooding, Idaho
15. Indiana School for the Deaf, Indianapolis, Indiana
16. The Learning Center, Framingham, Massachusetts
17. Lemont High School, Lemont, Illinois
18. Lexington School for the Deaf, Jackson Heights, Queens, New York
19. Marilton School for the Deaf, Los Angeles, California
20. Maryland School for the Deaf, Frederick, Maryland
21. McNeil High School, Round Rock, Texas
22. Metro Deaf School, St. Paul, Minnesota
23. Mill Neck Manor School for the Deaf, Mill Neck, New York
24. Minnesota State Academy for the Deaf, Faribault, Minnesota
25. Model Secondary School for the Deaf, Washington, DC
26. Pennsylvania School for the Deaf, Philadelphia, Pennsylvania
27. Phoenix Day School for the Deaf, Phoenix, Arizona
28. New Mexico School for the Deaf, Santa Fe, New Mexico
29. New York School for the Deaf, White Plains, New York
30. North Carolina School for the Deaf, Morganton, North Carolina
31. Ohio School for the Deaf, Columbus, Ohio
32. Oklahoma School for the Deaf, Sulphur, Oklahoma
33. Plano Senior High School, Plano, Texas
34. Rhode Island School for the Deaf, Providence, Rhode Island
35. Rochester School for the Deaf, Rochester, New York
36. Rocky Mountain Deaf School, Denver, Colorado
37. St. Mary's School for the Deaf, Buffalo, New York
38. Tennessee School for the Deaf, Knoxville, Tennessee
39. Texas School for the Deaf, Austin, Texas
40. University High School, Irvine, California
41. Utah Schools for the Deaf and the Blind, Ogden, Utah
42. Vines High School, Plano, Texas

Project Fast Forward (continued)

43. Washington School for the Deaf, Vancouver, Washington
44. Western Pennsylvania School for the Deaf, Pittsburgh, Pennsylvania

Dual-Credit Courses. The following courses were developed for high schools to teach and earn their students RIT/NTID college credit.

1. *Computer Applications:* An introduction to word processing, spreadsheet, presentation and database applications
2. *Web Development I:* An introduction to Web page development, including XHTML and Web graphics
3. *PC Hardware I:* An introduction to the fundamental hardware concepts of personal computer (PC) systems, including their structure and components
4. *Introduction to Programming:* An introduction to the fundamental concepts and terminology of computer programming
5. *Visual Idea Development:* An introduction to strategies for developing concepts and organization of thought processes, as well as systems to formulate solutions to design problems utilizing different mediums
6. *Page Layout I:* An introduction to page layout applications to produce pages and documents to given specifications
7. *Raster/Vector Graphics:* Introduces the skills needed for the successful production and manipulation of raster and vector images using image creation and production software
8. *Blueprint Reading:* An introduction to the skills necessary to read and interpret fundamental engineering drawings of details, subassemblies and assemblies
9. *Engineering Graphics:* Introduces the skills needed to create professional 2D mechanical, architectural and civil drawings using AutoCAD software
10. *CAD Applications:* Introduces skills using computer-aided drafting (CAD) as a tool to generate 2D graphics and 3D solid models
11. *Mathematics in Society:* An exploration of mathematical thinking and procedures including applications to real world situations and using problem-solving skills
12. *Processes of Science: Forensics:* An introduction to science processes using the content of forensics as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
13. *Processes of Science: Biological Studies:* An introduction to science processes using biology content as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
14. *Processes of Science: Environmental Studies:* An introduction to science processes using the content of environmental studies as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
15. *Personal Finance:* An introduction to basic financial literacy so they can develop sound financial management of their personal income, as well as an understanding of the economic events that can influence their financial well-being and society as a whole
16. *Fundamentals of Spreadsheet Applications:* An introduction to developing a strong foundation in the fundamentals concepts of developing a spreadsheet
17. *Orientation to Business:* An introduction to a broad overview of the form and structure of multinational organizations and how businesses operate
18. *Critical Reading and Writing:* Through inquiry-based assignment sequences, students will improve their writing by developing academic research and literacy practices that will be further strengthened in First-Year Writing.

Courses Taught and Credit Earned. During AY 2021-2022, 54 course sections were taught at 27 partner high schools, with 303 deaf and hard-of-hearing high school students enrolled in those courses and 44 students enrolled in more than one course for dual credit, bringing the total to 347 registered students. Of these students, 226 students, or 65% of the total, successfully completed their dual-credit course and earned three RIT credits. The COVID-19 pandemic had an impact on high school teachers' ability to satisfy NTID course objectives in the transition to remote instruction. Some high schools reported their students did not have access to the software and hardware at home in order to complete coursework, which is why the passing rate for AY 2021-2022 is significantly lower compared to pre-

Project Fast Forward (continued)

pandemic years. The following is the total number of Project Fast Forward dual-credit courses taught and students served through Project Fast Forward, from fall 2007 to spring 2022:

- 376 dual-credit course sections were taught by 115 teachers in their high schools.
- 2,287 registrations were recorded in Project Fast Forward courses.
- 1,667 unique deaf and hard-of-hearing students participated in the program.
- 620 deaf and hard-of-hearing students took more than one course.
- 1,422 (62%) of students enrolled in dual-credit courses received passing grades.
 - When removing teacher errors, 68% of students received passing grades.
- 4,266 RIT/NTID credits were awarded to deaf and hard-of-hearing students.

In AY 2022-2023, 54 dual-credit participants matriculated at RIT/NTID compared to 39 students during AY 2021-2022.

At press time, 260 students were registered in 48 course sections for AY 2022-2023, with more possible enrollments over time. Forecasting the number of sections has been challenging due to the COVID-19 pandemic. Additionally, in January 2020, an award program to support under-resourced high schools serving predominantly BIPOC students was established. Schools have the option of applying for an award amount up to \$5,000 to cover instructional materials and associated software related to the dual-credit courses. Fifteen such awards have been processed amounting to \$53,000 in awards. A high school teacher from Illinois described the impact of the award on her students, "...of nine of our graduating seniors, five of them participated in dual-credit courses through your university...all five are pursuing college degrees in the field of science/math/technology."

Professional Development. Offered to high school teachers from partnering high schools. Teachers receive technical training on course content, teaching methodologies and improving access for deaf and hard-of-hearing students in mainstream classrooms. Both teachers and counselors also receive training on selected STEM career opportunities for deaf and hard-of-hearing individuals and on the dual-credit program.

In June and July 2022, training was offered both in person and virtually to 18 new Project Fast Forward high school teachers and seven returning Project Fast Forward high school teachers. There was a new high school partner present at the training. Due to the pandemic, the training for high school counselors was not offered. Two high school teachers enrolled into the Master of Science in Secondary Education program as a result of the dual-credit program training, during which they met with Dr. Patrick Graham to discuss their enrollment. During the 15 summers of Project Fast Forward, between 2007 and 2022, the following numbers of teachers and counselors have participated in summer professional development:

- 159 teachers from 49 high schools have attended summer professional development to prepare to teach dual-credit courses in their high schools, with many teachers returning to NTID to learn content for a second and third course, for a total of 235 teacher trainings.
- 44 guidance counselors attended summer professional development activities to work with students taking dual-credit courses in their high schools.

Employer Outreach

NTID initiates and delivers consultation, training, follow-up and other support services to employers. Through these services, employers become aware of the needs of deaf and hard-of-hearing people for

employment and, in partnership with NTID, facilitate graduates entering the workforce and continuing their career development.

Employer Training and Educational Programs

The NTID Co-op and Career Center (NCCC) conducted, delivered and presented 10 virtual programs for 479 human resources professionals and company representatives.

NTID Information Sessions

Eight employers met with 151 students and alumni. The employer representatives explained their various mission areas, talked about what it is like to work, grow and advance within their organization and gave an overview of the types of work roles they hire for and skills they desire.

NTID Virtual Career Fair

Twenty-three employers participated in the first virtual event. The top five employers visited by students were Microsoft, Google, NSA, U.S. Bureau of Reclamation and Dow.

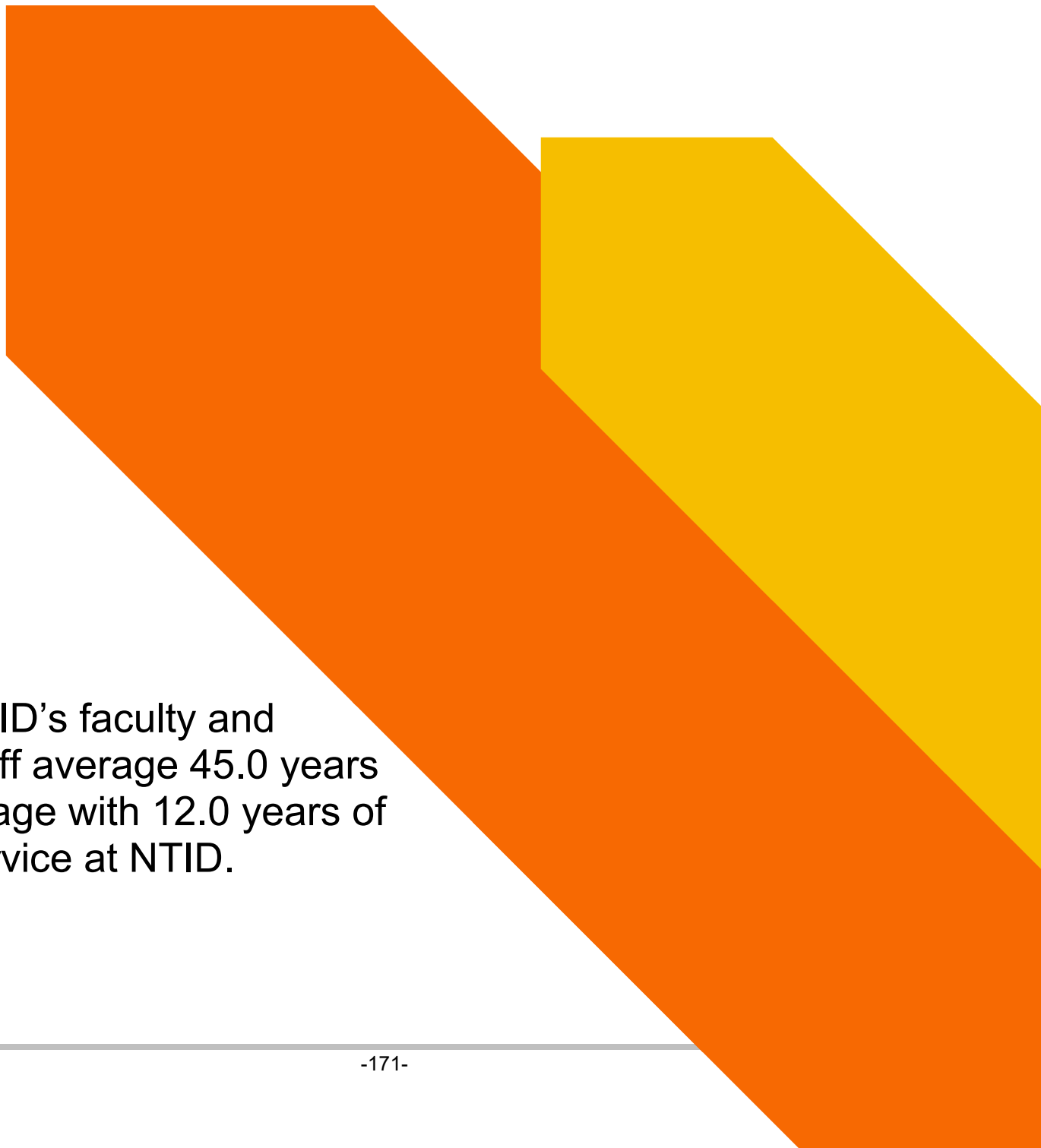
Outreach to Employers

- National Association for the Deaf, Communication Service for the Deaf, Gallaudet University and NTID partnered together to provide one Deaf Employment Summit webinar program to 233 participants:
 - 1) “Reasonable Accommodation Models in the Workplace” – October 2021
- Exhibited, networked and participated in four national conferences:
 - 1) SHRM Diversity & Inclusion – October 2021
 - 2) SHRM Talent Management Conference & Exposition – April 2022
 - 3) National Association of Colleges and Employers – June 2022
 - 4) Disability:IN Annual Conference – July 2022
- Successful presentation to 53 participants from Princeton University, who attended “Creating a Culture of Inclusion for Deaf and Hard-of-Hearing Employees” – April 2022
- Served on one virtual panel:
 - 1) “Building an Accessible Pipeline for Disabled Talent” organized by Starkloff Disability Institute – October 2021 – 144 viewers

NCCC Marketing Highlights

- Developed news releases and articles to promote employer participation in the NTID Information Sessions and NTID Virtual Career Fair.
- Reviewed and revised the program marketing pieces, NCCC brochure and NCCC website (rit.edu/ntid/nccc) to ensure content was up to date.
- Posted current relevant information on NCCC Facebook, LinkedIn and Instagram.
- Featured student and recent graduate success stories on the NCCC website at least once a month.

Faculty and Staff

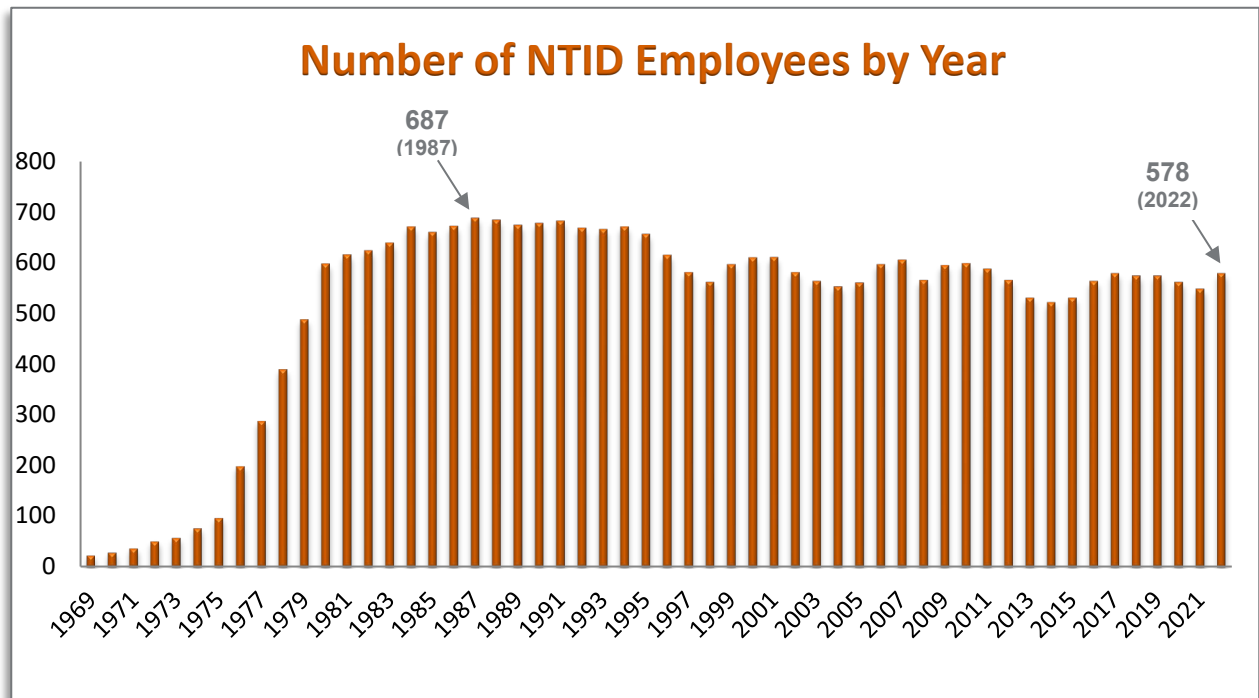


NTID's faculty and staff average 45.0 years of age with 12.0 years of service at NTID.

Faculty and Staff Highlights

Attracting and retaining the most capable and dedicated faculty and staff in order to provide an exceptional learning environment for deaf and hard-of-hearing students is central to fulfilling NTID's mission and purpose. NTID's highly qualified faculty and staff bring to the institute a wide variety of experiences, skills and backgrounds. Some are veteran educators with many years of higher education teaching experience, while others bring to the NTID classroom a wealth of hands-on knowledge gained from working in business and industry. Among the latter group are alumni who, after gaining significant work experience away from NTID, have returned to their alma mater to share the expertise they have learned on the job with a new generation of students.

In 1987, NTID employed 687 faculty and staff. As of fall 2022, NTID employed 578* faculty and staff, up from 548 in fall 2021.



* Of the 578 employees, 502 are covered by NTID's operating funds.

Average Salary: Faculty and Staff

RIT endeavors to maintain faculty salaries that are on par with the colleges and universities with which it competes. Similarly, RIT provides staff salaries that are competitive with other local and regional colleges and businesses. Annual pay increments for NTID faculty and staff are established by RIT.

	Total Number in Position	Average Salary* FY 2022
Faculty		
Professor	14	\$111,140
Associate Professor	33	\$96,950
Assistant Professor	22	\$74,281
Principal/Senior Lecturer	37	\$73,728
Lecturer	38	\$63,740
Subtotal Faculty	144	\$80,136
Staff		
Exempt Staff	132	\$71,740
Non-Exempt Staff	302	\$50,305
Subtotal Staff	434	\$57,010
Total	578**	\$62,894

* Average salary calculations are based on a standard full-time schedule for each faculty/staff category of 40 hours per week, 52 weeks per year. Individual variances are adjusted to the same scale.

** Of the 578 employees, 502 are covered by NTID's operating funds.

Tenure-Track Positions and Faculty Rank

In FY 2022, senior-level faculty members (professor and associate professor) comprised 76% of all ranked tenure-track faculty as compared to 47% in FY 1985. Of the 58 tenure-track positions, 84% are tenured.

Rank	Number of Tenure-Track Positions*					FY 2022 Faculty with Tenure	
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Number	Percent
Professor	20	20	15	16	14	14	100%
Associate Professor	33	35	35	30	30	30	100%
Assistant Professor	22	20	18	17	14	5	36%
Total Positions	75	75	68	63	58	49	84%

* Includes ranked administrators.

Degree Levels of Tenured and Tenure-Track Faculty

Faculty members join NTID with a wide variety of backgrounds, including those with substantial experience in the private sector. In FY 2022, 95% of tenure-track faculty members held graduate degrees.

FY 2022 Highest Degree Level Achieved Tenure and Tenure-Track Faculty*		
	Number	Percent
Doctorate	31	53%
Master's	24	42%
Bachelor's	3	5%
Total	58	100%

* Includes ranked administrators.

Age, Length of Service and Retirement Status of NTID Faculty and Staff*

NTID's faculty and staff average 45.0 years of age with 12.0 years of service at NTID.

FY 2022

	Percent Full Time	Average Age	Average Length of Service	Currently in Retirement Transition
Professor	100%	59.0	25.9	2
Associate Professor	97%	55.7	21.9	1
Assistant Professor	100%	46.3	10.7	1
Principal/Senior Lecturer	100%	49.5	17.1	1
Lecturer	100%	44.2	5.1	0
Exempt Staff	100%	45.3	11.9	0
Technical/Clerical	94%	46.5	9.9	0
Interpreter	81%	40.8	12.4	3
Real-Time Captionist	95%	40.8	7.6	0

* Data not available for all faculty and staff.

Faculty and Staff New Hires

The distribution of new hires by category is shown below.

	New Hires				
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Category:					
Faculty	4	9	10	5	13
Exempt Staff	4	5	4	9	22
Non-Exempt Staff*	31	17	21	36	70
Total	39	31	35	50	105



In August 2022, NTID welcomed Fran C. Flaherty as the new director of the Dyer Arts Center. She has exhibited her works and curated exhibits featuring works of Deaf and Disabled artists throughout the U.S., Canada and the Philippines.

* Includes technical and clerical positions, real-time captionists and interpreters.

Faculty and Staff Terminations

The faculty and staff turnover rate, 13.0%, is higher than last year. Retirements of current faculty and staff are expected to rise as the employee base ages.

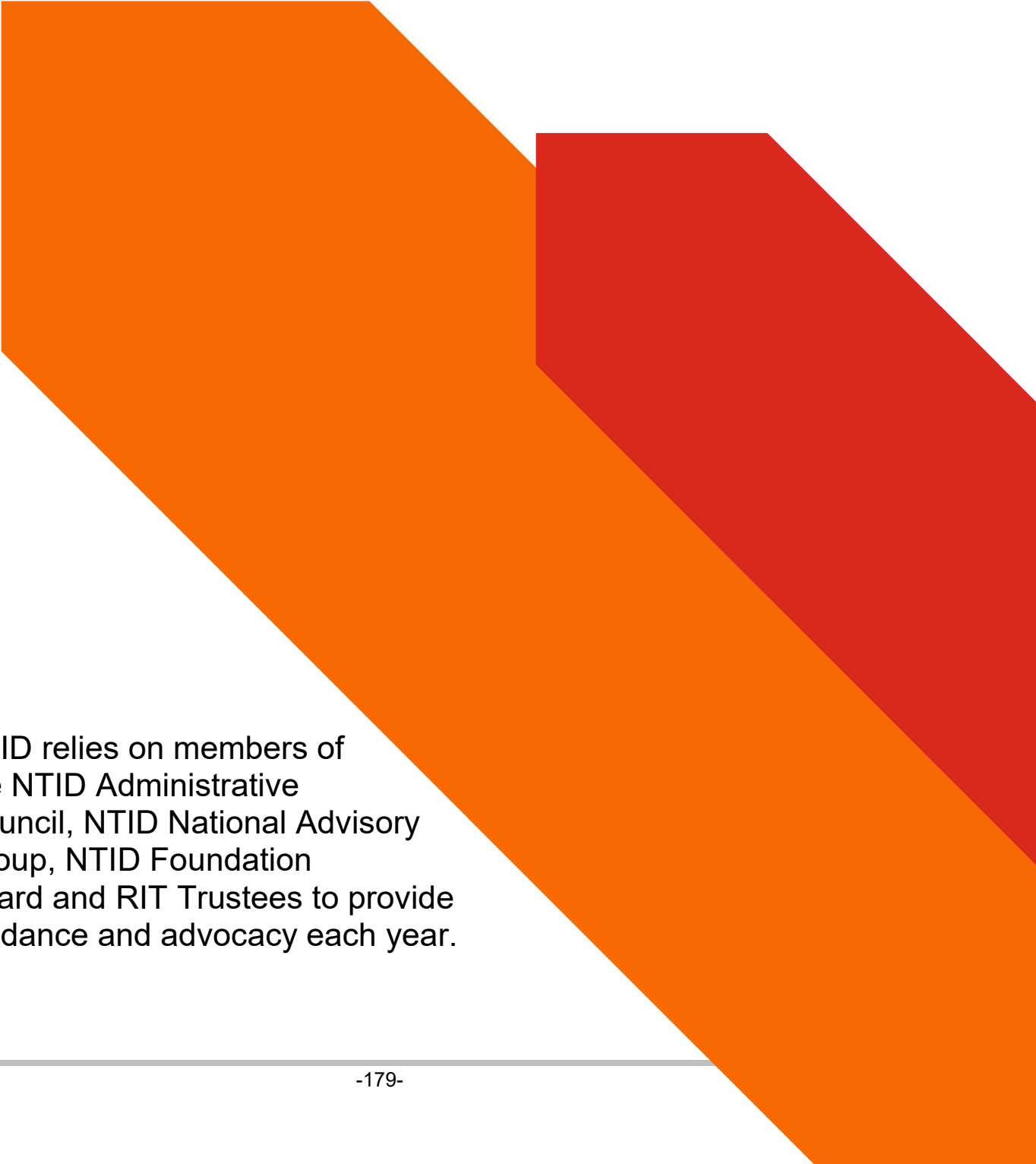
Full-Time/Part-Time	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	
					Percent	Number
Faculty	9.0%	7.1%	8.6%	9.7%	11.8%	17
Exempt Staff	10.4%	10.3%	6.4%	15.1%	10.6%	14
Non-Exempt Staff*	12.6%	14.0%	14.7%	10.9%	14.6%	44
Total	11.1%	11.3%	11.2%	11.5%	13.0%	75



In April 2022, NTID President Gerry Buckley '78, center, gathered with staff and retirees to celebrate and recognize the accomplishments of NTID employees who retired in 2020, 2021 and 2022.

* Includes technical and clerical positions, real-time captionists and interpreters.

RIT/NTID Leadership



NTID relies on members of the NTID Administrative Council, NTID National Advisory Group, NTID Foundation Board and RIT Trustees to provide guidance and advocacy each year.

NTID Administrative Council*



Dr. Gerard J. Buckley '78
President, NTID;
Vice President and
Dean, RIT



Dr. Alesia Allen '04
Assistant Vice President for
NTID Diversity and Inclusion



Gary Behm '78, '81
Associate Vice President for
Academic Affairs



Dr. Pamela Carmichael '04
Assistant Vice President of
Communications, Marketing
and Multimedia Services



Dr. Jess Cuculick
Associate Dean for Academic
Administration



Dr. Peter Hauser
Interim Associate Dean of
Research



Dr. Joseph Hill
Assistant Dean for ALANA
Faculty Recruitment and
Retention



Bernard Hurwitz, J.D.
Associate Vice President for
NTID Administration



Dr. Denise Kavlin
Assistant Dean and Executive
Director of NTID Outreach,
Placement and Special Projects



Dr. Matthew Lynn
Associate Dean for
Curricular Affairs

* The following individuals also served on the NTID Administrative Council in FY 2022: Dr. Robert Pollard, Associate Dean of Research, and Dr. Kathryn Schmitz '95, Senior Associate Dean for Academic Administration.

NTID Administrative Council (continued)



Dr. Mary Karol Matchett '88
Assistant Vice President
for Student and
Academic Services



Dr. Rico Peterson
Assistant Dean and Director of
NTID Access Services



Nancy Popolizio
Executive Assistant to the NTID
President



**Dr. Thomastine Sarchet-
Maher '03, '09**
Assistant Dean of ALANA
Outreach, Access and Success



Erwin Smith
Assistant Vice President for
Information Technology and
College Operations



Kate Sweeney
Interim Assistant Vice
President for Finance and
Budget

NTID National Advisory Group

The National Advisory Group advises the NTID president/RIT vice president and dean in developing and carrying out policies governing the operation and direction of the institute. The National Advisory Group comprises professionals

concerned with the education of deaf and hard-of-hearing students, professionals concerned with postsecondary education and individuals familiar with the need for the services provided by NTID.

Active Members

Bedarius Bell, Jr.

State Coordinator of Deaf and Hard of Hearing Services, Alabama Department of Rehabilitation Services

Tina Childress

Educational Audiologist, Urbana School District

History Estill-Varner '14

Co-Executive Director, Discovering Deaf Worlds, Inc.

Ernest E. Garrett III

Superintendent, Louisiana's Special School District; Chairman, Louisiana Commission for the Deaf

Cham Leang '03

Sr. Project Manager, U.S. Federal Government

Pamela Lloyd-Ogoke '81

Chief of Community Integration Services and Supports, North Carolina Division of Vocational Rehabilitation Services; *Chair*

Marlene Mata

Rehabilitation Counselor, Massachusetts Rehabilitation Commission

Mary Beth (Barber) Mothersell '85

Senior Customer Relations Manager, Sprint Relay

Annette Reichman

Superintendent, Arizona State Schools for the Deaf and the Blind

Robert Sidansky '77

Retired Administrator of Student Services, National Center on Deafness, California State University, Northridge

Scott Van Nice '01

Senior Manager, Proctor & Gamble

NTID National Advisory Group (continued)

U.S. Department of Education

Brianne Burger

Director/Liaison, Office of Special Institutions, Office of Special Education and Rehabilitative Services

U.S. Government Representatives

The Honorable Charles E. Schumer

Member, U.S. Senate, New York State



Robert Sidansky '77, right, a member of NTID's National Advisory Group, received the RIT Distinguished Alumni Award from NTID, the highest award an RIT college can bestow on its alumni. Before retirement, Sidansky served as an administrator at the National Center on Deafness, California State University. In that role, he supervised the student services division with more than 200 employees, overseeing interpreting, captioning, notetaking, counseling, academic advisement, student development, orientation and tutoring services for more than 200 deaf and hard-of-hearing students annually.

NTID Foundation Board

The NTID Foundation is an organization of volunteers committed to the advancement of career development and personal growth opportunities for deaf and hard-of-hearing students at NTID.

Foundation Board members foster involvement and private investment to enrich the quality and vitality of the learning environment at NTID.

Active Members:

Gary Behm '78, '81

Associate Vice President, NTID Academic Affairs

Dr. Gerard J. Buckley '78

President, NTID; Vice President and Dean, RIT

Jinnie C. DeTrani

Psychologist, Former School Counselor

Joseph DeTrani

Ambassador, retired
Board of Managers, Sandia National Laboratories
Professor, Missouri State University
Department of Defense and Strategic Studies

Scott Ellender

General Manager and Chief Operating Officer
Monroe Golf Club

Karen Engel

Founding Board Member
Hands & Voices, New York

Steven Engel

Founding Board Member
Hands & Voices, New York

Sean P. Flanagan

Sr. Customer Business Manager, Bayer Consumer Care

Sue Flanagan

Volunteer Event Coordinator

Sarah Gordon '07

Dean of Students, Rochester School for the Deaf

Gordon Hewitt '73, '75

Retired Chief for Strategic Enterprise Initiative Branch, U.S. Dept. of Homeland Security

Daniel Kaiser

Partner, Kaiser Saurborn & Mair, P.C.

Jill Kaiser, LCSW

Psychotherapist

Mark Keffer

Delivery Experience Team
Capital One

NTID Foundation Board (continued)

Patricia Keffer

James Kinsley

Management Consultant
Adjunct Professor, St. John's University

Sharon Kinsley

Deputy Chief of Staff & Deputy Director, Office of the Administrator, United Nations
Development Programme

Kathleen Martin

Retired Director of Policy Review and Development, RIT Human Resources

Jeff McCaw '89

Chief Financial Officer, SourceAmerica

Jay McHarg

CEO, AeroSafe Global

Barbara Montan

Matthew S. Moore '83

President, MSM Productions, Ltd.
Chairperson, NTID Performing Arts Advisory Committee

Jean-Guy Naud '68, '75 MS

Retired, NTID Faculty

Chris Soukup

Chief Executive Officer, Communication Services for the Deaf

James Stefano

Retired President, Synergy Global Solutions, Inc.

Rosa Lee Timm, '00

Chief Marketing Officer, Communication Services for the Deaf

James Tourangeau

District Manager, Sorenson Communications, Inc.

Sherri Turpin

Chief Executive Officer, ZVRS

Christopher D. Wagner '94

Chief Operating Officer, Customer Experience, ZVRS; *Chair*

George D. Webb

Retired Senior VP of Operations, Great West Life Insurance Company

Jon Weintraub

Senior Strategic Planning Associate
Callon Petroleum Company

Sandra Weintraub

RIT Administrative Council

Dr. David C. Munson, Jr.
University President

Karen Barrows '04
Chief of Staff

Dr. Gerard J. Buckley '78
President, NTID; Vice President and Dean, RIT

Enid Cardinal
Senior Advisor to the President for Strategic Planning and Sustainability

Phil Castleberry
Vice President for University Advancement

Dr. Lisa Chase
Vice President and Secretary

Bobby Colon
Vice President and General Counsel

Robert Finnerty
Associate Vice President of University Communications

Dr. Ellen Granberg
Provost and Senior Vice President for Academic Affairs

Vanessa J. Herman
Vice President for Government and Community Relations

Dr. Keith Jenkins
Vice President and Associate Provost for Diversity and Inclusion

Dr. Sandra S. Johnson
Senior Vice President for Student Affairs

Joe Johnston
Ombudsperson

Ian Mortimer
Vice President of Enrollment Management and Associate Provost for RIT Certified

Jo Ellen Pinkham
Associate Vice President and Chief Human Resources Officer

Dr. Ryne Raffaele
Vice President for Research

John Trierweiler
Vice President and Chief Marketing Officer

Dr. James H. Watters
Senior Vice President for Finance and Administration

RIT Board of Trustees Active Trustees

Robert W. August

Managing Partner, Laser Wash Group LLC

Mark G. Barberio

BS '85; Principal, Markapital, LLC

Brooks H. Bower

BS '74; Chairman and Chief Executive Officer, Papercone Corp. East

Andrew N. Brenneman

BS '88; Senior Client Director, T-Mobile USA

David J. Burns

Principal and Founder, Global Business Advisory Services LLC

Carol B. Cala

BS '97; MS '00; Vice President of Corporate Environment, Safety & Health, Lockheed Martin Corporation

Dale J. Davis, Esq.

BS '96; Chief IP Counsel & Deputy General Counsel, Cummins INC

Richard "Chip" Davis, Ph.D.

CEO, Rochester Regional Health

Hyacinth V. Drummond

BS '91; Founder, Dreamseeds Children's Program

Arthur A. Gosnell

Chairman and CEO, Stonehurst Capital LLC

Victoria D. Griffith

BS '93; Retired Vice President, Quality Assurance & Purchasing, Farmer Restaurant Group; also serves as Women's Council Representative, RIT

Jeffrey K. Harris

BS '75; Chair, Board of Trustees, Rochester Institute of Technology; Retired Corporate Vice President, Situational Awareness, Lockheed Martin Corporation

Darshan N. Hiranandani

BS '02, MBA '03; Managing Director, Hiranandani Group of Companies

Susan R. Holliday

MBA '85; Vice Chair, Board of Trustees, Rochester Institute of Technology; Former President and Publisher, *Rochester Business Journal*

Andrew R. Jacobson

BS '90, MS '96; Enrolled Agent, AJ Tiger Tax Services

Rick A. Kittles, Ph.D.

BS '89; Senior Vice President of Research, Morehouse School of Medicine

Christopher W. Lehfeltdt, D.D.S.

Dentist, Elmwood Dental Group, PC

RIT Board of Trustees Active Trustees (continued)

Pamela Lloyd-Ogoke

BS '81; Chief of Community Integration Services and Supports, North Carolina Division of Vocational Rehabilitation Services; also serves as NTID NAG Representative

Britta I. MacIntosh

BS '89; Senior Vice President of Western Region & London Operations, Ameresco, Inc.

Austin W. McChord

BS '09; CEO, Casana Care, Inc.

Dana A. Mehnert

President, L3Harris Technologies, Communication Systems Sector

Roosevelt Mercer, Jr.

Chief Executive Officer and Executive Director, Virginia Commercial Space Flight Authority

David C. Munson, Jr.

President, Rochester Institute of Technology

Sharon D. Napier

MS '04; Executive Chair and Founder, Partners + Napier

Brian P. O'Shaughnessy, Esq.

BS '81, MS '84; Partner, Dinsmore & Shohl LLP

Gerard Q. Pierce

MBA '77; CEO, HR Works Inc.

Susan M. Puglia

Vice Chair, Board of Trustees, Rochester Institute of Technology; Retired Vice President, University Programs and Vice Chair, IBM Academy of Technology, IBM Corporation

Ronald S. Ricotta

BA '79; CEO and President, Century Mold Company, Inc.

Jorge M. Rodriguez

EMBA '15; CEO, Sorenson Communications, Inc.

Nicholas M. Schneider, Ph.D.

BS '10, MS '10; Principal, Boston Consulting Group; also Alumni Association President, RIT

Frank S. Sklarsky

BS '78; Retired Executive Vice President and Chief Financial Officer, PPG Industries, Inc.

Kevin J. Surace

BT '85; Chairman and CTO, Appvance Inc.

James P. Swift

BS '88; Senior Advisor, PSG

Sharon Ting

President, Ting & Associates, Inc.

Donald J. Truesdale

BS '87; Chair Emeritus, Board of Trustees, Rochester Institute of Technology; Chief Executive Officer, Ardea Partners

RIT Board of Trustees Active Trustees (continued)

Clayton P. Turner

BS '90; Director, NASA Langley Research Center

Kim E. VanGelder

BS '86; Chief Information Officer and Senior Vice President, Eastman Kodak Company

Chester N. Watson

BS '74; Retired General Auditor, General Motors Corporation

Dinah G. Weisberg

MS '97, EMBA '03; President & CEO, REDCOM Laboratories, Inc.

Christine B. Whitman

Chair Emeritus, Board of Trustees, Rochester Institute of Technology; Chairman and CEO, Complemar Partners, Inc.

Kathy M. Yu

BS '91; Retired Director/Advisor, Microsoft, Intel

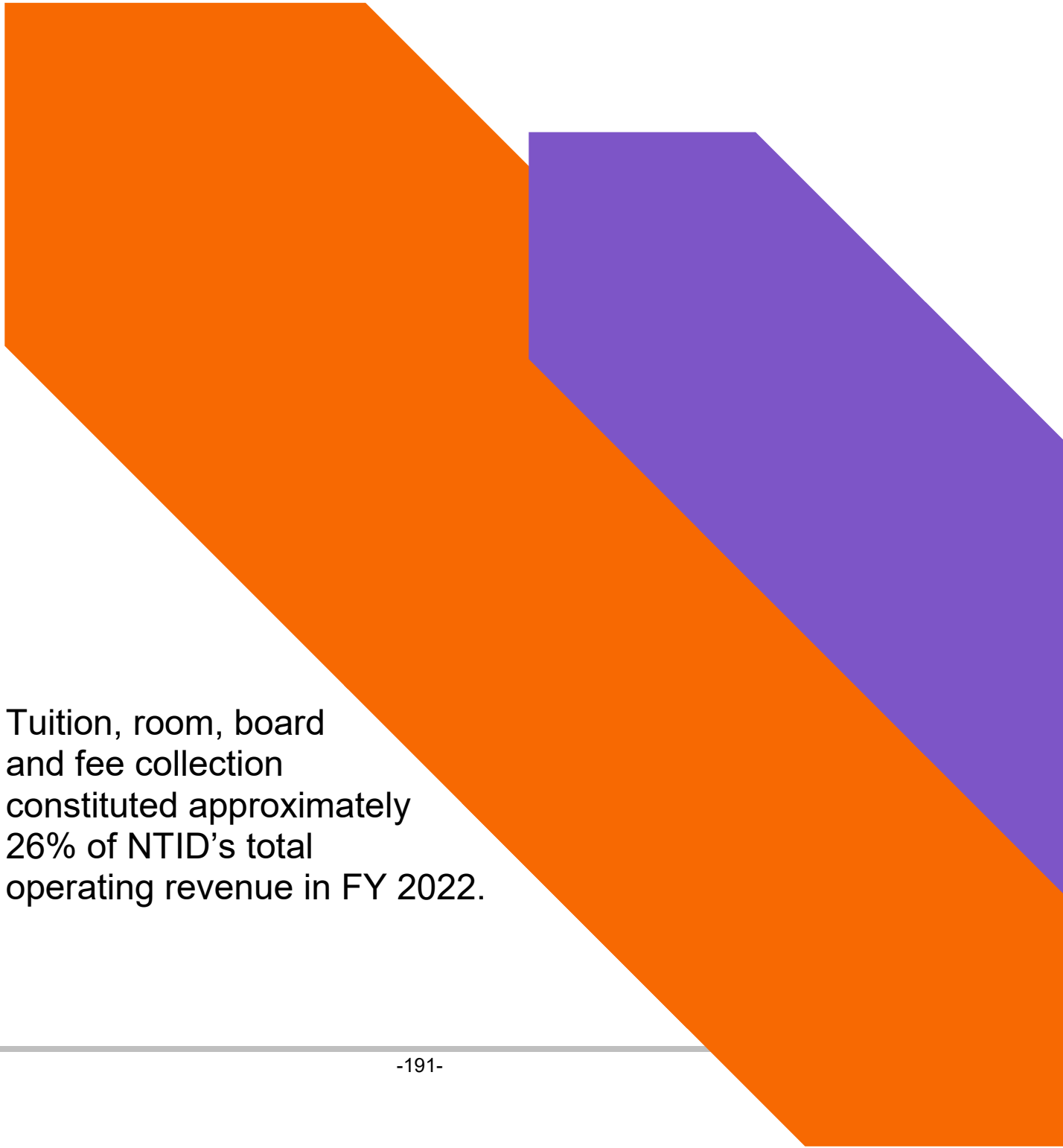
Ronald L. Zarrella

Chairman Emeritus, Bausch & Lomb, Inc.



NTID's professional traveling theater troupe, Sunshine 2.0., performs at Frontier Field, home to the Rochester Red Wings minor league baseball team, on Deaf Culture Night in September 2022.

Results of Financial Operations



Tuition, room, board
and fee collection
constituted approximately
26% of NTID's total
operating revenue in FY 2022.

Financial Operations Highlights

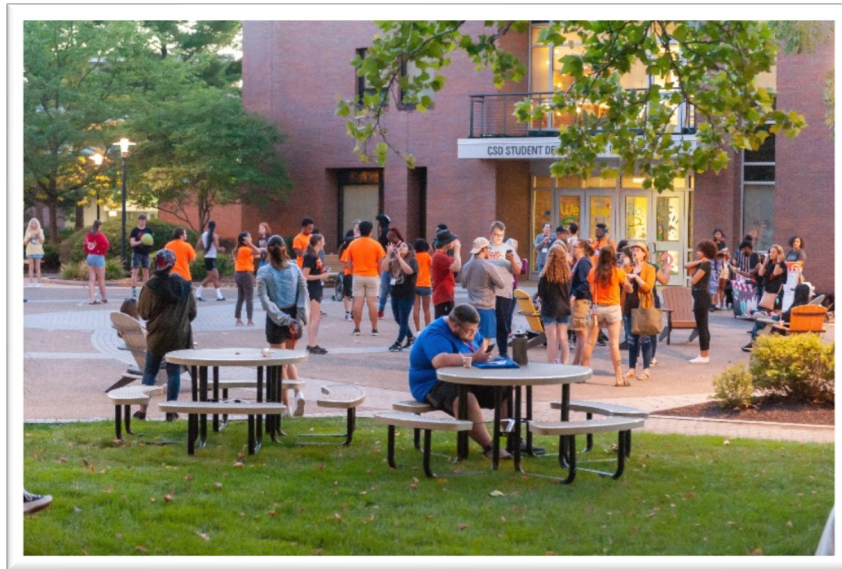
NTID is committed to excellent stewardship of resources while growing programming and supporting infrastructure, to fulfill our founding institutional mission. Strategic growth initiatives and inflationary pressures resulted in a 6.0% increase in total expenses from FY 2021 levels. NTID's FY 2022 increase in expenditures and year-over-year comparisons are also reflective of the normalization of operations following the COVID-19 pandemic.

Total Personnel Compensation increased approximately \$1.9 million (4.2%) from FY 2021 levels. This increase in expense was primarily due to filling open exempt and non-exempt positions, offset in part by retirements and retirement transition plans.

Total RIT Services expense increased approximately \$0.6 million (2.0%) from FY 2021, primarily as a result of an increase in overhead costs.

Total Other Expenditures increased by \$3.5 million (13.9%) in FY 2022, primarily as a result of an \$8.7 million year-over-year increase in Capital expenditures (NTID funded construction and investments in technology and equipment), coupled with a \$2.9 million (63.0%) increase in Financial Aid, offset in part by a \$9.0 million (67.0%) decrease in Plant Fund transfers. Many of the construction projects planned for FY 2020 and FY 2021, and later put on hold due to the COVID-19 pandemic, resumed in FY 2022, driving many of the year-over-year changes in this category.

NTID's FY 2022 Federal appropriation for operations increased \$4.0 million (5.3%) over FY 2021 funding levels. As footnoted on the next page, the full fiscal 2022 Federal appropriation for NTID was \$88.5 million. The \$9.5 million not included in the statement of financial operating results was specifically designated for regional outreach efforts. In February 2017, NTID and the Alabama Institute for Deaf and Blind (AIDB) formalized a partnership and began executing planned outreach activities. As of September 30, 2022, approximately \$1.1 million in expenses were charged against FY 2022 appropriated outreach funds.



NTID students celebrate the start of the academic year and beautiful weather at an ice cream social hosted by NTID's Student Life Team.

Financial Operating Results

	FY 2021	FY 2022	Variance \$	Variance %
EXPENSES				
Personnel Compensation Expenditures				
Salaries and Wages	\$33,369,913	\$35,064,401	\$1,694,488	5.1%
Benefits	12,697,748	12,936,878	239,130	1.9%
Total Personnel Compensation	\$46,067,661	\$48,001,279	\$1,933,618	4.2%
RIT Services Expenditures				
Direct:				
Residence Halls/Food Service, Student Services	\$7,254,689	\$7,015,470	\$-239,219	-3.3%
Cross-Registered Tuition	8,755,482	8,800,096	44,614	0.5%
Physical Plant Services	2,453,255	2,706,450	253,195	10.3%
Indirect:				
Overhead	10,885,730	11,401,467	515,737	4.7%
Total RIT Services	\$29,349,156	\$29,923,483	\$574,327	2.0%
Other Expenditures				
Support Expenditures	\$5,723,107	\$6,511,737	\$788,630	13.8%
Grant Cost Shares	0	0	0	0.0%
Financial Aid	4,655,052	7,589,893	2,934,841	63.0%
Capital	804,669	9,483,700	8,679,031	1,078.6%
Matching Endowment	285,201	354,669	69,468	24.4%
Plant Fund	13,438,707	4,433,929	-9,004,778	-67.0%
Total Other	\$24,906,736	\$28,373,928	\$3,467,192	13.9%
Total Expenses	\$100,323,553	\$106,298,690	\$5,975,137	6.0%
REVENUE				
Federal Appropriation*	\$75,000,000	\$79,000,000	\$4,000,000	5.3%
Non-Federal Funds	25,323,553	27,298,690	1,975,137	7.8%
Total Revenue	\$100,323,553	\$106,298,690	\$5,975,137	6.0%

* The FY 2021 and FY 2022 Federal Appropriations were \$81,500,000 and \$88,500,000 respectively. The \$6,500,000 and \$9,500,000 not included in the FY 2021 and FY 2022 totals were specifically designated for regional outreach efforts.

Tuition, Room, Board and Other Fees

The combined rate increase for tuition, room, board and fees was 3.6%. These non-federal resource collections constituted approximately 26% of NTID's total operating revenue.

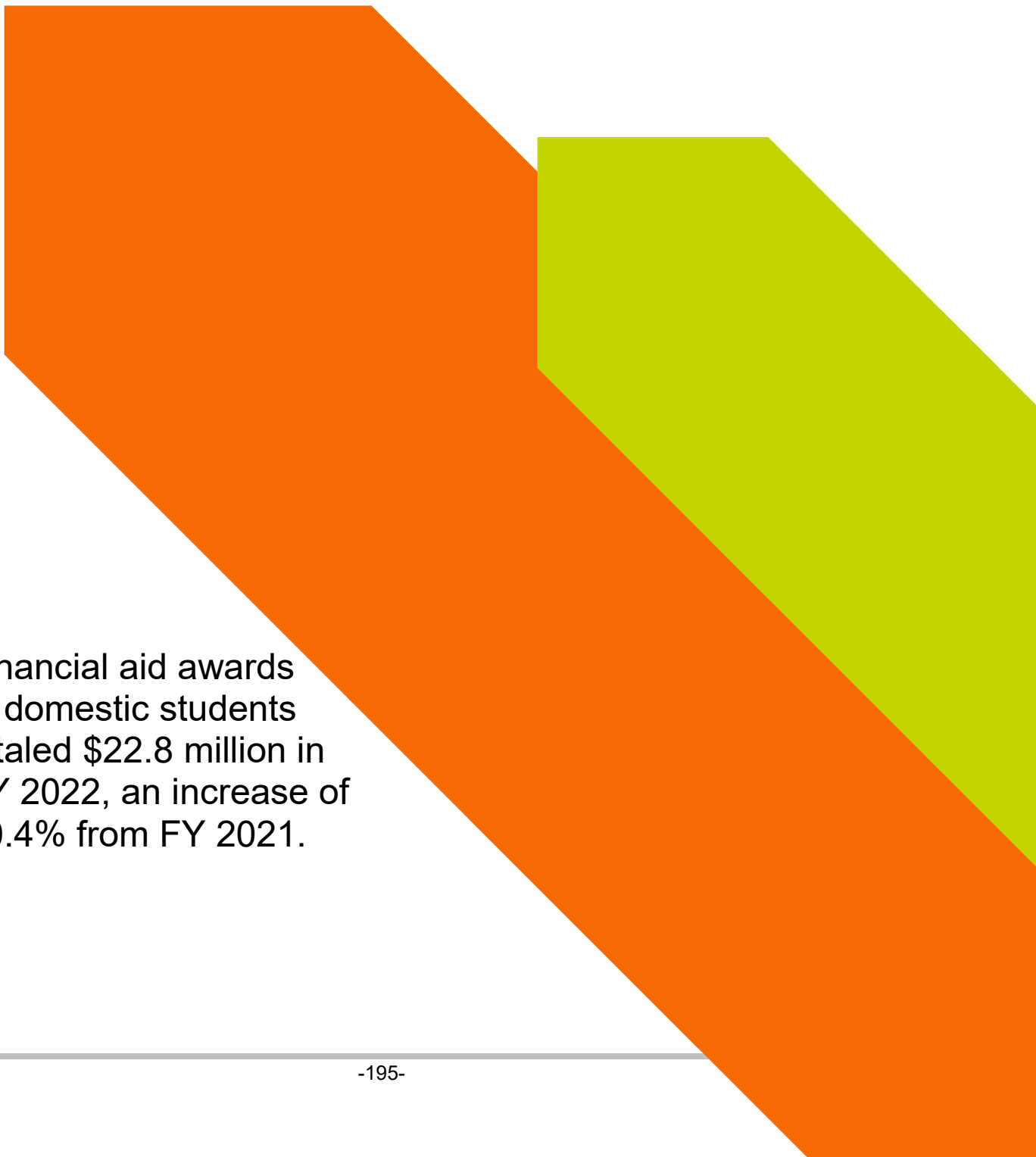
Rates Charged Students					
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Tuition	\$16,518	\$17,162	\$17,814	\$18,330	\$18,926
Room	7,596	7,902	8,140	8,392	8,728
Board	5,662	5,800	5,836	6,040	6,250
Fees	584	646	676	726	798
Total	\$30,360	\$31,510	\$32,466	\$33,488	\$34,702
Collections	\$25,342,080	\$23,060,334	\$25,323,553	\$27,298,690	*
Enrollment (Fall)	1,182	1,129	1,101	1,166	1,135
Collections Per Student	\$21,440	\$20,425	\$23,001	\$23,412	*



Ana Joyce, an Applied Arts & Science BS student, presents her research at the Undergraduate Research Symposium in July 2022.

* As of the writing of this report, the collection information for FY 2023 is incomplete.

Financial Aid



Financial aid awards to domestic students totaled \$22.8 million in FY 2022, an increase of 10.4% from FY 2021.

Financial Aid (Domestic Students)

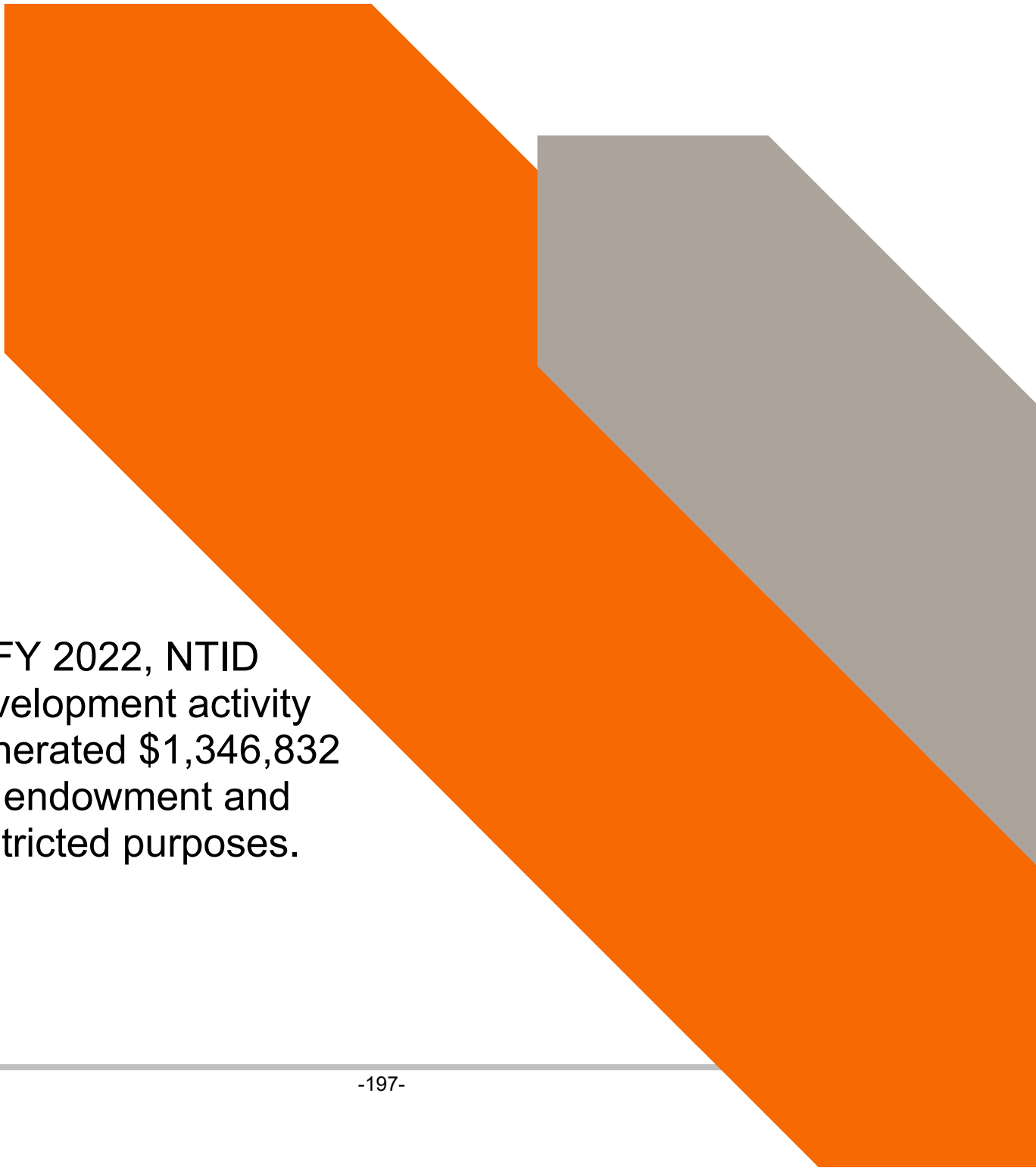
Financial aid awards to domestic students totaled \$22.8 million in FY 2022, an increase of 10.4% from FY 2021 levels. Institutionally sponsored aid increased in FY 2022 by 23.1%, while state and federal support decreased slightly.

Loans taken out by domestic students increased by 16.4% to \$2.8 million. Overall, the average financial aid (excluding loans) per domestic student increased by 3.7% in FY 2022.

SOURCE OF AID	2021		2022		Amount Diff %
	Awards*	Amount	Awards*	Amount	
INSTITUTIONALLY SPONSORED SUPPORT					
Grant-in-Aid:					
NTID Grant-in-Aid	363	\$1,977,232	295	\$2,098,964	6.2%
RIT Grant-in-Aid	22	98,850	27	100,650	1.8%
Subtotal Grant-in-Aid	385	\$2,076,082	322	\$2,199,614	6.0%
Scholarships:					
NTID	565	\$2,770,339	681	\$3,925,414	41.7%
RIT	160	413,550	204	509,163	23.1%
NTID Endowments	657	\$2,215,168	797	\$2,605,100	17.6%
External Groups	78	283,896	86	313,624	10.5%
Subtotal Scholarships	1,460	\$5,682,953	1,768	\$7,353,301	29.4%
Subtotal Institutionally Sponsored Support	1,845	\$7,759,035	2,090	\$9,552,915	23.1%
STATE AND FEDERAL SUPPORT					
Grants:					
Pell Grants	446	\$2,215,865	473	\$2,479,200	11.9%
State Grants	201	522,350	177	517,474	-0.9%
Subtotal Grants	647	\$2,738,215	650	\$2,996,674	9.4%
Other Federal Support:					
Vocational Rehabilitation	611	\$7,679,659	571	\$7,375,278	-4.0%
Federal Work Study	27	62,956	25	74,210	17.9%
Subtotal Other Support	638	\$7,742,615	596	\$7,449,488	-3.8%
Subtotal State and Federal Support	1,285	\$10,480,830	1,246	\$10,446,162	-0.3%
LOANS					
Subsidized Federal Student Loan	283	\$980,408	297	\$1,023,073	4.4%
Unsubsidized Federal Student Loan	291	1,138,451	386	1,408,160	23.7%
Parent PLUS Loans	29	\$298,808	30	\$383,203	28.2%
Subtotal Loans	603	\$2,417,667	713	\$2,814,436	16.4%
TOTAL ALL FINANCIAL AID	3,733	\$20,657,532	4,049	\$22,813,513	10.4%
Domestic Student Enrollment		1,071		1,132	5.7%
Average Financial Aid per Student		\$19,288		\$20,153	4.5%
Average Financial Aid per Student Excluding Loans		\$17,031		\$17,667	3.7%

* Students receive more than one form of aid; therefore, the numbers of awards (grants, loans, scholarship, etc.) outnumber the student body.

External Funding Sources



In FY 2022, NTID development activity generated \$1,346,832 for endowment and restricted purposes.

The NTID Foundation

NTID received \$1,055,198 in new commitments of support including outright gifts of cash and equivalents, gifts-in-kind, deferred gifts and pledges. These dollars were designated to support NTID endowed funds, facilities upgrades and a variety of research and pre-college outreach programs.

Contributions of \$10,000 and above received during FY 2022 include:

American Online Giving Foundation
Jane D. Bolduc '82
CADimensions
Loraine DiPietro
Ford Foundation
Google Inc.
Andrew R. Jacobson '90, '96
Jephson Educational Trust
Maguire Foundation
Motorola Solutions Foundation
Jean-Guy E. Naud
Albert T. Pimentel
Jorge M. Rodriguez
Solange C. Skyer
ZP Better Together, LLC

NTID Annual Fundraising Results

Through the ongoing support of the NTID Foundation, the college's development program continues to be successful. The substantial sums that NTID raises demonstrate NTID's commitment to seeking alternative sources of public and private

support. In FY 2022, NTID development activity generated \$1,346,832 for endowment and restricted purposes. Of that amount, \$354,669 was matched with federal dollars and directed toward NTID's endowed scholarship funds.

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Endowment and Restricted Funds	\$872,054	\$1,337,139	\$907,640	\$1,165,293	\$1,346,832
Equipment and Software	\$40,717	\$100,728	\$29,243	\$65,599	\$140,990
Total	\$912,771	\$1,437,867	\$936,883	\$1,230,892	\$1,487,822



The Skyer Family Foundation Endowed Scholarship was established in honor of NTID faculty member and alumna Melissa Skyer '04, '06, who passed away in March 2022. In addition to being a scientist, she was an artist and author. Here, brother and former NTID faculty member, Michael Skyer '07, '09, left, and mother and retired NTID academic advisor, Solange (Sally) Skyer, right, show off some of her works. The new scholarship will be awarded to students who mirror Melissa's academic achievement and passion for science at the junior, senior or graduate levels.

NTID Endowment Programs

A total of \$1,346,832, including matching federal funds* of \$354,669, was added to the Federal Matching Endowment Fund corpus in 2022. The market value of NTID's Federal Matching Endowment portfolio stands at \$80,387,684.

The market value of NTID's total endowments, which include privately raised funds prior to the establishment of the Federal Matching Endowment program, is \$119,630,311.

Value as of September 30, 2022

	Contributed Value	Market Value
Funds Subject to Federal Investment and Spending Guidelines		
Private	\$3,043,339	\$4,213,700
Federal	\$2,328,514	\$3,330,184
Subtotal	\$5,371,853	\$7,543,884
Funds No Longer Subject to Federal Investment and Spending Guidelines	\$27,042,551	\$72,843,800
Total Federal Endowment	\$32,414,404	\$80,387,684
Other Endowments	Contributed Value	Market Value
Private	\$31,931,365	\$39,242,627
Total Endowments	\$64,345,769	\$119,630,311

* Any monies matched must be funded through operating funds efficiencies.

Scholarships, Endowed Funds and Estate Commitments

The generosity of a large number of friends of NTID has resulted in the following scholarships, endowed funds and estate commitments benefiting NTID students.

Stephanie S. Albert Memorial Endowed Scholarship Fund
Kathleen M. Anderson Endowed Scholarship
Dorothy E. Ann Fund (D.E.A.F.) Endowed Scholarship Fund
Anonymous Endowed Scholarship for Undergraduate Students in Science and Mathematics
Anonymous Endowment for NTID Faculty Research in Science and Mathematics
Barlow Endowed Scholarship Fund
Alice Beardsley Memorial Endowed Scholarship Fund for Interpreting Students at NTID
Behm Family Endowed Support Fund in Student Innovation, Technology, and Research
Ned Behnke Memorial Endowed Scholarship Fund
Frank P. Benz Jr. Memorial Scholarship
Doris W. Blanchard Endowed Scholarship Fund
Jane D. Bolduc Endowed Scholarship
Farid Bozorgi Memorial Endowed Scholarship Fund
Andrew and Mary Brenneman Annual Scholarship
Gladys Brooks Endowed Fund for the Laboratory Science Technology Program
Johnnie Brown (JB) Black History Month Celebration Endowment
Dr. Gerard Buckley Student Leadership Endowment
Citicorp/Citibank Endowed Scholarship Fund at NTID
Dr. Karen K. Conner Annual Scholarship Fund
Continental Corporation Endowed Scholarship Fund at NTID
Lillian M. Cowin Memorial Endowed Scholarship Fund
Robert R. and Donna E. Davila Endowed Scholarship Fund
James J. DeCaro Endowed Scholarship Fund
James and Patricia DeCaro Endowed Scholarship
Delta Sigma Phi Fraternity Endowed Scholarship Fund
Ronald Dodge Faculty/Staff Grants Endowed Fund
Ronald Dodge Memorial Endowed Scholarship Fund
Dreyfus Foundation Laboratory Science Technology Endowed Student Support Fund
DSK Endowed Scholarship Fund
Mr. and Mrs. Joseph F. Dyer Endowed Scholarship Fund
Joseph F. and Helen C. Dyer Arts Center Endowed Fund
Max Factor Family Foundation Endowed Scholarship Fund
Barbara M. Fallon KPMG Memorial Endowed Scholarship Fund
Rose and George Feigenbaum Endowed Scholarship Fund

Scholarships, Endowed Funds and Estate Commitments (continued)

Ruth H. Fenyvessy Memorial Endowed Scholarship Fund
Curt and Jean Feuer Scholarship at NTID
Maurice and Maxine Forman Endowed Scholarship Fund
Ann Wadsworth Frisina Memorial Endowed Scholarship Fund
Dr. Robert Frisina Award
Max and Helene Frumkes Memorial Endowed Scholarship Fund
Garlinghouse Endowed Scholarship Fund
Warren Goldmann Endowed Scholarship Fund
Allen and Gloria Gopen Endowed Scholarship Fund
Debbe A. Hagner Endowed Lecture at NTID
Mildred F. Hall Endowed Scholarship Fund
Hamilton Relay Scholarship
Jennifer Van Atta Hayes Memorial Endowed Scholarship
William Randolph Hearst Endowed Scholarship Fund for Financially Disadvantaged Students
Dr. Mary Jane Hellyar Endowed Scholarship Fund
Frank Horton Endowed Scholarship Fund
William "Dummy" Hoy OTB Endowed Scholarship
T. Alan and Vicki T. Hurwitz Family Endowed Scholarship Fund
Ralph Hymes Endowed Scholarship Fund
Linda A. Iacelli Endowed Student Support Fund
Interpretek Endowed Scholarship Fund
Andrew Jacobson Endowed Scholarship Fund
Lucille Ritter Jennings Endowed Scholarship Fund
Jephson Educational Trust Endowed Scholarship Fund for the Performing Arts
JHB Anonymous Scholarship Fund
Johnson Scholarship Foundation Endowed Scholarship for Innovation and Entrepreneurship
Kaiser Family Endowed Scholarship
David T. Kearns Endowed Scholarship Fund for Technical Excellence
Ron and Lyn Kelly Endowed Scholarship for Deaf and Hard-of-Hearing Students
Drew and Frances King Endowment Fund
Sara L. Kuhnert Endowed Scholarship Fund
La Sala Foundation Doctoral Fellowship Fund
Johanna Larson Endowed Fund for Health Care Education
Johanna Larson Endowed Scholarship in the Allied Health Disciplines
Michael E. Lawson Endowed Scholarship
Edward H. Lichtenstein Memorial Endowed Scholarship Fund
Dr. Frank W. Lovejoy Jr. Endowment for Deafness Research

Scholarships, Endowed Funds and Estate Commitments (continued)

Edmund Lyon Memorial Lectureship Fund
Maguire Scholars Program at NTID
Dr. James C. Marsters Endowed Scholarship Fund
Martin Family Endowed Scholarship
Dr. Robert S. and Carol D. Menchel Endowed Scholarship Fund
Chris and Lisa Morgan Endowed Scholarship
Kevin Mowl Memorial Endowed Scholarship Fund
Mageeda Murad Endowed Scholarship Fund
Dr. Genji Murai Endowed Scholarship Fund
Mutterer Family Endowed Scholarship Fund
Alvina Narkin Endowment
M. L. Navrat Endowed Scholarship Fund for NTID
Ruth G. Norton Endowed Scholarship Fund
NTID Alumni Association Endowed Scholarship Fund
NTID Anonymous #12 Endowed Scholarship Fund
NTID Anonymous #21 Endowed Scholarship Fund
NTID Architectural Technology Award Endowed Scholarship Fund
NTID Business Careers Endowed Scholarship Fund
NTID Emergency EYF Student Scholarship Fund
NTID Endowed Scholarship in the Visual Arts Disciplines
NTID Foundation Endowed Scholarship Fund
NTID Performing Arts Endowed Scholarship Fund
NTID President and Dean's Scholarship for Academic Excellence
NTID Scholarship Fund
NTID Science and Engineering Careers Endowed Scholarship Fund
NTID Student Leadership Endowed Fund
NTID Visual Communications Endowed Scholarship Fund
NYS Federation of Home Bureaus, Inc. Endowed Scholarship Fund in Honor of Martha Perry
Milton H. and Ray B. Ohringer Endowed Scholarship Fund
Robert F. Panara Endowed Scholarship Fund
Shirley M. Panara Memorial Endowed Fund
Lori Love Peters Endowed Scholarship
Albert T. Pimentel Endowed Scholarship
Sally J. Pimentel Endowed Scholarship
Pulver Family Endowed Scholarship Fund
Marie L. Raman Endowed Award for Deaf and Hard of Hearing Students
Randleman Endowment for Interpreter Certification

Scholarships, Endowed Funds and Estate Commitments (continued)

Robert W. Rice Endowed Scholarship Fund
RIT Celebration of Community Endowed Fund
Mary Hope Robinson Endowment for the Performing Arts
Rodriguez-Sorenson Communications Endowed Scholarship
Dr. Ellie Rosenfield Endowed Scholarship Fund
Rothman Family Endowment Fund
Elizabeth Dunlap Sargent Memorial Endowed Scholarship Fund
Ryoichi Sasakawa / James J. DeCaro Endowed Scholarship Fund
Edward L. Scouten Endowed Fund for English Literacy
Wilfrid and Isabel Searjeant Endowed Scholarship Fund
Shelby Center for Excellence Scholarship Fund
Mu Zeta Chapter of Sigma Nu Endowed Scholarship Fund
S. Richard Silverman Endowed Scholarship Fund for International Deaf Students
Carolie R. Simone Endowed Scholarship Fund
Edythe and Edward Sklar Endowed Scholarship Fund
Skyer Family Foundation Endowed Scholarship
David Smith Memorial Endowed Scholarship Fund
Benjamin J. Soukup Endowed Scholarship Fund
Sprint Endowed Scholarship Fund
Dr. Frank B. Sullivan Endowed Scholarship Fund
Frank B. Sullivan Exemplary Business Student Award
Frank B. Sullivan Outstanding Graduate Business Student Award
Frank B. Sullivan Outstanding Student in Business Award
Solon E. Summerfield Foundation Endowed Scholarship Fund
Michael A. Swartzman Memorial Endowed Scholarship Fund
Paul L. and Sally A. Taylor Endowed Scholarship Fund
Michael Thomas Endowed Scholarship Fund in the Performing Arts
Eloise Thornberry Endowed Scholarship Fund
W. Paul Urich Memorial Endowed Scholarship Fund
Al Van Nevel Memorial Foundation Scholarship for Excellence in Business Studies at NTID
James Ventimiglia Memorial Printing Award Endowed Fund
Elizabeth W. Williams Endowed Fund for the Performing Arts
Joseph C. and Loretta F. Wolf Endowed Scholarship Fund
Louis S. and Molly B. Wolk Foundation Endowed Scholarship Fund for Deaf Students at RIT
The Woman's Club of Rochester Endowed Scholarship Fund for Deaf Students at RIT
Women's Council Endowed Scholarship Fund for Deaf and Hard-of-Hearing Students at RIT
WSK Endowed Scholarship Fund
Wu/Liu Family Endowed Scholarship

Grants and Contracts

During FY 2022 NTID submitted 20 new grant proposals requesting a total of \$3,042,900 in funding. Seven proposals were funded for a total of \$1,325,853; 12 proposals are still pending; one proposal was not funded.

As of September 30, 2022, the annual reimbursed expenditures of all grants and contracts at NTID totaled \$3,480,323 with a total value of \$13,110,971 over the lives of the projects.

Project Title	Grant Provider	Year	Amount FY 2022	Total Value
Rochester Prevention Research Center	Centers for Disease Control / University of Rochester	3/5	\$8,922	\$27,022
Mechanism of Health Literacy and Information Accessibility	National Institutes of Health	6/6	\$112,803	\$764,022
FCC Telecommunications Relay Services (TRS) Tasks 1-5	Federal Communication Commission / MITRE Corporation	1/2	\$152,106	\$725,104
Rochester Institute of Technology U-RISE Scientists-in-Training Program for Deaf and Hard-of-Hearing Undergraduates (RIT U-RISE)	National Institutes of Health	1/6	\$81,010	\$238,810
IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing	National Science Foundation	2/3	\$213,731	\$401,828
Big Read: NTID-RIT	National Endowment for the Arts	1/2	\$9,314	\$238,810
Brief but Spectacular: New Windows into the Physics of Common Envelope Evolution	National Science Foundation	2/3	\$44,480	\$341,225
RIT-RISE Scientists-in-Training Program for Deaf and Hard-of-Hearing Undergraduates	National Institutes of Health	5/6	\$93,981	\$971,109
REU SITE: Summer Undergraduate Research for Students who are Deaf or Hard-of-Hearing in Applying Mathematical and Statistical Methods to Problems from the Sciences	National Science Foundation	6/6	\$264	\$303,000
Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Exposure	National Institutes of Health	5/6	\$389,235	\$2,604,026
DeafTEC Ready Project	National Science Foundation	2/3	\$299,476	\$470,069
World Around You: Project	United States Agency for International Development / World Vision	2/2	\$180,138	\$228,814
Pregnancy Outcomes and Experiences Among Deaf and Hard of Hearing Women- Year 1	National Institutes of Health / Brandeis University	5/5	\$11,251	\$90,256
Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution	National Science Foundation	5/6	\$56,513	\$349,882
Reproductive Health Experiences of Deaf Women: A Mixed-Methods Study	Society of Family Planning Research Fund	2/3	\$19,887	\$72,549

Grants and Contracts (continued)

Project Title	Grant Provider	Year	Amount FY 2022	Total Value
Core support for the Morpheyes Studio Project	Ford Foundation	1/1	\$112,778	\$115,000
ML2 Storybook App and Educational Curriculum	NYS Council on the Arts	1/2	\$2,097	\$25,000
Shaped by the American Dream, Deaf History through Deaf Art	Terra Foundation for American Art	1/2	\$23,966	\$50,000
World Around You: International Collaborative Multilingual Sign Language Books	United States Agency for International Development / World Vision	3/3	\$67,089	\$236,956
Establishment of Centers of Employment for the Deaf in the Philippines and Vietnam	The Nippon Foundation	2/3	\$182,567	\$464,814
Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars	National Institutes of Health / University of Rochester	1/4	\$45,113	\$62,030
DCL: NSF INCLUDES EAGER: A Study of Online Scientific and Scholarly Communities for Broadening Participation in STEM	National Science Foundation	4/4	\$31,225	\$299,347
AccessATE: Making Community College Technical Education More Accessible for Everyone	National Science Foundation	4/4	\$27,148	\$139,475
DeafTEC Resource Center	National Science Foundation	5/5	\$423,212	\$1,649,928
Rochester Bridges to the Doctorate for Deaf and Hard-of-Hearing Students	National Institutes of Health / University of Rochester	4/5	\$278,579	\$948,244
MITRE FCC Telecommunications Relay Services (TRS) - Tasks 1-6	Center for Medicare & Medicaid Services / MITRE Corporation	2/2	\$534,453	\$749,432
Do Tactile Exploratory Behaviors in the Classroom Predict Language Development in Deaf Signing Children?	J S McDonnell Foundation	1/4	\$22,550	\$250,000
Lost in Translation: Removing barriers for deaf participation in STEM fields	Gordon and Betty Moore Foundation	4/4	\$56,435	\$294,219
Total			\$3,480,323	\$13,110,971