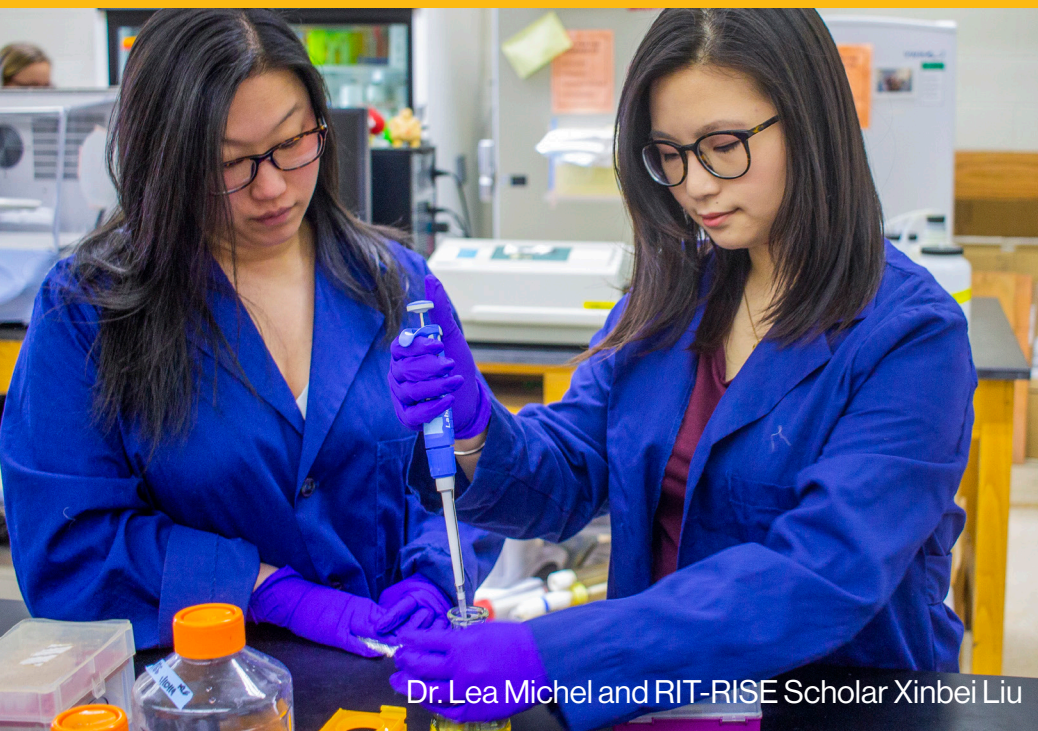


# RIT RISE Newsletter

Spring 2021



Dr. Lea Michel and RIT-RISE Scholar Xinbei Liu

online or were restructured for social distancing, mask use, and enhanced safety. Mentors and scholars adopted digital research methodologies including surveys, secondary data analysis, and Zoom focus groups. Our scholars and other RIT STEM students attended webinar presentations by RIT-RISE sponsored guest scientists, attended virtual summer Research Experiences for Undergraduates (REUs), and presented their research at virtual national conferences.

These efforts succeeded due to the incredible resilience of our RIT-RISE team, scholars, mentors, and supporters. However, working in-person in socially distanced research labs and participating in virtual conferences like the 2020 Annual Biomedical Research Conference for Minority Students (ABRCMS) introduced new access challenges for our deaf and hard-of-hearing (DHH) scholars and colleagues due to unique communication barriers in these novel settings. To overcome these barriers, RIT-RISE scholars and team members, including Dr. Amanda Picioli and Ms. Kat Womack, collaborated closely with RIT-RISE mentors, scholars, Rochester Bridges to the Doctorate designated interpreter Mrs. Nikki Cherry, and ABRCMS organizers to muster advanced technology and professional access services to optimize communication access in labs and conferences in short order.

Four talented colleagues joined the RIT-RISE team this year! Mx. Kit Kenyon



**Program Director's  
Message**  
**Dr. Vince Samar**

If H.G. Wells were writing a pastiche of War of the Worlds today, he might have said of the coronavirus:

"No one would have believed in the last days of 2019 that this world was being watched keenly and closely by intellects vast and cool and unsympathetic, yet just as mortal as our own. With infinite complacency we went to and fro over this globe about our little affairs, serene in our assurance of our empire over matter

.... and early in 2020 came the great disillusionment."

Today we seem to survive in a Wellsian dystopia, where a relentless viral intelligence armed with dispassionate biomolecular weapons and aided by the madness of crowds wages a war-of-the-worlds with our own mortal species. This war has ravaged our physical and mental well-being, and the threat to our social and educational institutions has been rapid and profound.

Notwithstanding, as labs and classrooms suddenly closed in March 2020, RIT-RISE rose to meet the challenge to sustain our scholars' research training. Program and research meetings moved

is our new program coordinator. Mr. TJ Sanger II is our new predoctoral advisor and counselor. Dr. Annemarie Ross and Dr. Deirdre Schlehofer are new members of our mentor training team. These colleagues are richly experienced in training and supporting DHH students, and we're excited to collaborate with them to further grow the RIT-RISE program. We also welcomed two new advisory board members, Dr. Ellen Granberg, RIT provost, and Dr. Laverne McQuiller, interim dean of the College of Liberal Arts, who bring fresh administrative and academic perspectives to the program.

Despite the pandemic's daunting disruption, our RIT-RISE scholars achieved impressive success in 2020 as young scientists. Our first RIT-RISE scholar, Xinbei Liu, graduated last May with a BS in biochemistry, and we're proud that Xinbei now attends the biomedical PhD program at SUNY Upstate Medical University! This year, our co-director, **Dr. Paul Craig**, led the recruiting team to bring three outstanding RIT DHH sophomores to become RIT-RISE Scholars, bringing our scholar enrollment to full capacity. Despite cancellation of in-person summer research programs, all scholars engaged in productive summer research and professional growth online. Our scholars also attended ABRCMS online in November, where three presented scientific posters. During Fall 2020-21, RIT labs began to reopen, and some scholars resumed in-person research training while others worked online.

RIT-RISE continued to sponsor course and workshop development in line with NIGMS diversity training program

priorities. These courses and workshops enhance students' essential scientific competencies, train socially responsible scientific writing skills, improve career awareness, promote understanding of the responsible conduct of research, and stress the value of rigor, reproducibility, diversity and inclusion in science. In addition, this year the NTID Department of American Sign Language and Interpreting Education offered undergraduate and graduate interpreting students separate versions of the Interpreting in Research Settings course originally developed by RIT-RISE team members Dr. Jason Listman and Ms. Kat Womack.

During Spring 2019-20 and Fall 2020-21, RIT-RISE hosted 9 Scientists-in-Training Series (SITS) presentations and workshops, and an online interactive 2-day summer workshop on the responsible conduct of research (RCR). These well-attended events attracted 20-60 participants per event, and provided RIT-RISE Scholars and other RIT STEM students and faculty/staff with professional skill development, RCR training, exposure to cutting edge science, and networking opportunities with biomedical scientist role models. The list of cocurricular events to date is at [www.rit.edu/ntid/rise/events](http://www.rit.edu/ntid/rise/events).

RIT-RISE also made progress on projects to identify best practices for working with DHH scientists and PhD-bound students. Project teams used key informant interviews, surveys, and focus groups to study the lived experiences of DHH and hearing students, faculty, and academic advisors regarding best practices in skill areas such as preparation for graduate school admission applications, scientific

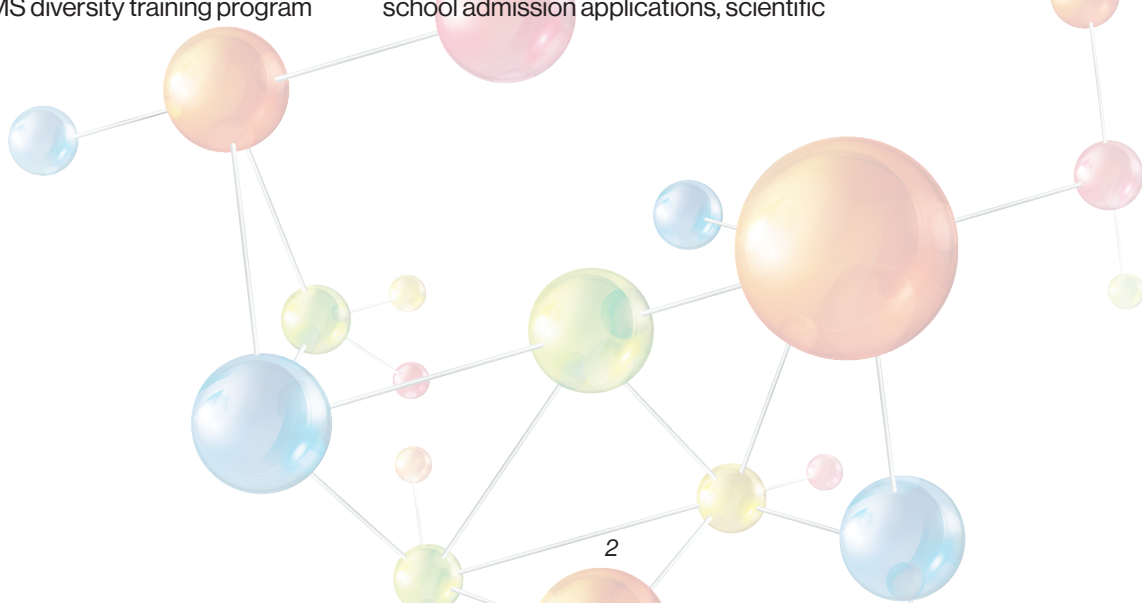
writing instruction, communication access in research environments, mentor training, and peer mentoring. The emerging results are helping us develop evidence-based student and mentor training activities and materials to disseminate to other campuses with mixed teams of DHH and hearing science students, scientists, and mentors.

RIT-RISE also sharpened its focus on scholar mentoring and mentor cultural competency training this year. We introduced weekly personalized professional communication training for scholars through the NTID Communication Studies and Services Department, a monthly peer mentoring group, and a series of evidence-based cultural-competency mentor training workshops.

Our success in this challenging year depended critically on the steadfast commitment of the RIT-RISE scholars, their RIT mentors, our internal and external program advisors, our advisory board, the staff of the NTID Office of the Associate Dean for Research, and other RIT supporters. The RIT-RISE team looks forward to positive changes in 2021, when biomedical scientists will surely vanquish that "grinning, glowing, globular invader" as Orson Wells might have called it, and we will remain working within the "new normal" to help our scholars follow resolutely in their scientific footsteps.



Dr. Paul Craig  
Program Co-director





## New RIT-RISE Team Members



**Mx. Kit Kenyon**

RIT-RISE Program Coordinator

The RIT-RISE team is thrilled to have

**Mx. Kit Kenyon** join as our new program coordinator. Kenyon replaces Ms. Stefrose Renner-Cosgrove who left RIT in September 2020. Kenyon has been active in the field of deaf education since graduating from the MSSE program at NTID in 2014. Her focus on data-driven instruction led her to leadership roles at Oregon School for the Deaf where she was recognized for work developing, administering, and managing data related to bilingual language growth assessments. In 2019, Kenyon accepted a position with Western Oregon University (WOU) in the Deaf and Hard-of-Hearing Education program preparing future teachers of the deaf to serve unique students in diverse learning environments. She continues to serve as a supervisor for teacher candidates at WOU in their clinical placements, guiding them through their

entry into the current, rapidly evolving field. Through advocacy for teacher preparation responsive to regional needs of students, Kenyon designed parallel tracks of instruction for itinerant and classroom teacher candidates. Kenyon will manage the operational logistics of the RIT-RISE program, provide direct program support to the RIT-RISE leadership and scholars, and coordinate the activity of RIT-RISE best-practice project teams. Kenyon comments that she is “... excited to engage in the work of the RIT-RISE program, contributing to the vision of providing responsive, dynamic, comprehensive support for diverse scholars in the sciences.”



**Mr. TJ Sanger II** joined the RIT-RISE team this year as our predoctoral advisor and student counselor, replacing Professor Mark Rosica, who is retiring from RIT on June 30, 2021. Sanger is assistant director of NTID Counseling and Academic Services. He brings a wealth of experience from over 15 years of

advising DHH students on their academic progress and career goals, organizing peer support groups, and helping students manage personal stress and life demands. During fall 2020-21, Sanger established a monthly peer mentoring group meeting for RIT-RISE scholars. As a deaf professional, with master's degrees in social work and school guidance counseling and certification in bilingual education mentorship from Gallaudet University, Sanger is an essential provider of culturally authentic professional guidance and personal support for our scholars.



**Dr. Annmarie Ross** is an associate professor in the NTID Science and Mathematics Department. Ross is a chemist with recognized expertise in culturally responsive teaching and lab training methods for DHH undergraduates. She received the Stanley C. Israel Award for Advancing Diversity in the Chemical Sciences from the American Chemical Society in 2012, and was named a “diversity champion” and “an ideal role model” for her efforts to promote inclusion of DHH students in the chemical sciences workforce. Ross will serve on the RIT-RISE mentor training team.



**Dr. Deirdre Schlehofer** is an associate professor in the NTID Department of Cultural and Creative Studies. Schlehofer is a recognized expert on the health literacy of deaf community members. She is also a leader in promoting deaf cultural competency and awareness training for university faculty, and effective mentoring and leadership skills training for DHH women faculty in biomedical research fields. Schlehofer will serve on the RIT-RISE mentor training team.





**Xinbei Liu ('20)**, from New York City, New York, entered the RIT-RISE program in its inaugural year in 2017 and graduated from RIT in May 2020 with a BS in biochemistry. In Fall 2020-21, Liu entered the PhD program in biomedical sciences at the SUNY Upstate Medical University!

As an RIT-RISE scholar, Liu conducted original research under the direction of her mentor, **Dr. Lea Michel** (School of Chemistry and Materials Science, RIT College of Science). Liu's research focused on understanding the structure-function relationship of peptidoglycan-associated lipoprotein (Pal) and its role in sepsis, the cause of one in five deaths world-wide.

In Summer 2019, Liu completed the University of Rochester Medical Center Summer Scholars Program working in Dr. Michelle Dziejman's microbiology lab studying strains of *V. cholerae* and learning lab techniques such as gateway cloning technology to recombine genetic sequences into a plasmid.

In her senior year, Liu earned a position in Dr. Michel's lab as a project team leader. Liu was very productive as an RIT-RISE scholar, with two local undergraduate research symposium presentations and six poster presentations at national conventions of the American Chemical Society, the American Society for Biochemistry and Molecular Biology, and ABRCMS. Liu has an extracurricular passion for golf and has participated in several tournaments.



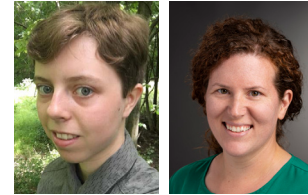
**Stephen Dahlstrom ('21)** is a senior from Southborough, Massachusetts, majoring in criminal justice with an immersion in psychology, working with two research co-mentors, **Dr. Irshad Altheimer** (Criminal Justice Department, RIT College of Liberal Arts) and **Dr. Rebecca Houston**, Department of Psychology, RIT College of Liberal Arts). This year, Dahlstrom worked in the RIT Center for Public Safety Initiative with Dr. Altheimer's research group, reviewing the literature on criminal behavior and mental health. He also conducted psychometric research with Dr. Houston on the relationship of self-control to delinquent behavior.

Dahlstrom presented posters at three conferences this year, including 1) an RIT Undergraduate Research Symposium poster in July 2020 entitled *Intersections between Mental Health, Crime and the Criminal Justice System*, 2) a 2020 Association for Psychological Science Virtual Poster Spotlight poster entitled *Mentored Undergraduate Research on Impulsivity, Self-control, and Delinquency: Sponsored by the RIT-RISE Program for Deaf and Hard-of-Hearing Undergraduates*, and 3) an ABRCMS 2020 poster entitled *Factor Analysis of Self Control and Associations with At-Risk Behavior*.

Dahlstrom is currently collaborating with Drs. Houston, Altheimer, and Samar on a manuscript for publication regarding the construct validity of two popular psychometric measures of self-control

and their predictive validity for delinquent behavior in young adults.

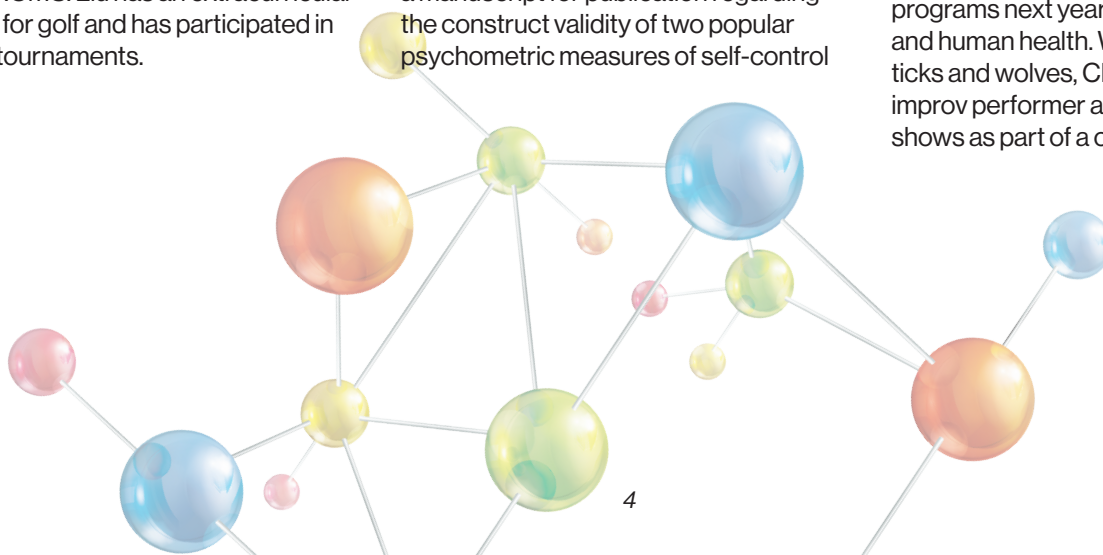
Dahlstrom will graduate from RIT this year and is currently applying to graduate programs. Aside from academics, Dahlstrom loves strategy games like chess, backgammon, and Risk.



**Rowan Christie ('21)** is a senior from Eugene, Oregon, majoring in bioinformatics and computational biology. This year they continued to work with their mentor **Dr. Kaitlin Stack Whitney** (Department of Science, Technology, and Society, RIT College of Liberal Arts), conducting research on environmental factors that affect human health. Christie's research focused on environmental drivers of insect populations and communities responsible for Lyme disease across large temporal and spatial gradients.

In Summer 2020, Christie completed an REU on wolf conservation genetics in the UCLA B.I.G. Summer Undergraduate Research Program. Christie presented their research at the virtual Ecological Society of America meeting in August 2020, entitled *Long term data required to establish trajectories of populations in Lyme disease transmitting deer ticks (Ixodes scapularis)* (<https://doi.org/10.6084/m9.figshare.12653009.v1>).

Christie plans to apply to bioinformatics programs next year related to ecology and human health. When not pursuing ticks and wolves, Christie is an avid improv performer and has done several shows as part of a comedy club.







**Holly Elder ('22)**, from Pittsburgh, Pennsylvania, is a junior majoring in biomedical sciences. When she joined RIT-RISE in 2019, Elder pursued research on biofilms and learned basic microbiology lab techniques from her mentor Dr. Robert Osgood (Biomedical Sciences Program, RIT College of Health Sciences and Technology).

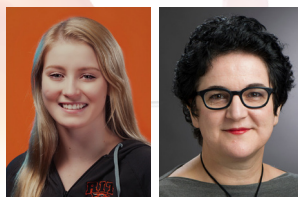
Elder subsequently changed her interests to neuroscience, with a long-term goal of studying neurodegenerative diseases using brain imaging methods. She studied EEG data acquisition and imaging techniques in **Dr. Matt Dye's** lab at NTID in Spring 2019-20.

In Summer 2020, after RIT labs closed due to the pandemic, Elder turned to online survey techniques under the direction of Dr. Paul Craig to study the possible association of neurodegenerative diseases with hearing loss, based on DHH and hearing young adults' self-reports of their first- and second-degree relatives' health histories. Elder presented a poster on her findings entitled *Neurodegenerative Diseases and Hearing Loss* at the online November 2020 ABRCMS conference.

Elder has moved back into a neuroscience lab with her new mentor, **Dr. Elena Fedorovskaya** (Integrated Science Academy, RIT College of Science) in Spring 2020-21 to begin a study related to EEG markers of familial susceptibility to neurodegenerative disease. Elder is applying for REUs in neuroscience for Summer 2021. In her spare time, Elder enjoys playing several musical instruments, especially cello and viola.



**Daniel DiMartino ('23)**, a sophomore from Centerport, New York, majoring in biomedical technology, joined the RIT-RISE program this year. His research interests lie in cellular chemistry, neuroscience, and neurotechnology. During Summer 2020 and Fall 2020-21, DiMartino worked with his mentor **Dr. Hans Schmittner** (School of Chemistry and Materials Science, RIT College of Science) to learn basic chemistry lab techniques by participating in a project on targeted molecular imaging of breast and prostate cancer cells. DiMartino reported the project results in a presentation entitled *A Modular Approach to High Relaxivity MRI Contrast Agents* at the online RIT Undergraduate Research Symposium in July 2020 (<https://youtu.be/Z9mNhwA1VQ>). In Spring 2020-21, DiMartino will work with his new mentor, **Dr. Tom Gaborski** (College of Engineering), focusing on the development of an in-vitro blood-brain barrier tissue-on-a-chip. Apart from academic life, DiMartino is an avid runner and holds a personal record of 5 minutes 23 seconds for a mile!



**Mikayla Fors ('23)**, a sophomore from Gales Ferry, Connecticut, majoring in biomedical sciences, joined RIT-RISE in Summer 2020. Fors' research interests lie in cognitive neuroscience. She completed a summer REU at the University of Houston (UH) entitled *Neurotechnologies to Help the Body Move, Heal, and Feel Again*, where she had team leadership roles in state-of-the-art data-science technologies sections.

She presented a poster about her research results entitled *The Neural Basis of Neuroaesthetics (Your Brain on Art)* at the UH REU's final poster session.

During Fall 2020-21, Fors worked with her former mentor **Dr. Iris Asllani**, learning basic neural imaging principles and techniques. Starting Spring 2020-21, Fors will conduct research with her new mentor Dr. Rebecca Houston (Psychology Department, RIT College of Liberal Arts), focusing on the neurobiological basis of mental health in the DHH community, using psychometric and neuroelectric imaging techniques.

Fors is passionate about increasing the number of women in STEM fields and is an active member of the Society of Women Engineers and WE@RIT. She also competes on the RIT swim team as a diver in 1-meter and 3-meter springboard events.



**Anna Kasper ('23)**, a sophomore from St. Louis Park, Minnesota, majoring in biochemistry, joined RIT-RISE in Summer 2020. Kasper worked with her mentor Dr. Lea Michel (School of Chemistry and Materials Science, RIT College of Science), focusing on antibody suppression by protein D. Kasper reported research results at the RIT Undergraduate Research Symposium in July and at the 2020 ABRCMS conference in November in a presentation titled *Antigenic competition in Protein D antibody suppression by OMP26*.

Kasper will continue to conduct research with Dr. Michel in Spring 2020-21 and will do a neuroscience research rotation with Dr. Tom Gaborski (Department of Biomedical Engineering, RIT Kate Gleason College of Engineering), in Summer 2021. Kasper enjoys creative writing and Chinese dancing.

## RIT-RISE Sponsored Courses and Workshops

The RIT-RISE program sponsors faculty to develop courses and workshops that reinforce essential skills and career awareness for DHH and hearing students on biomedical-related career paths, and to train interpreting students to work in research settings involving DHH and hearing people. These courses and workshops are one way the RIT-RISE program promotes educational and cultural change within the broader RIT community.



**Dr. Robert Osgood** (College of Health Science and Technology) normally teaches Introduction to Biomedical, Biobehavioral, and Clinical Research (MEDS 101) in-person in fall semester, but postponed this course in the wake of the pandemic and is currently converting it to a blended synchronous course format. This course presents a broad introduction to scientific, ethical, safety, and career topics in biomedical, biobehavioral, and clinical research fields. Students gain insight into the scientific focus and career opportunities in many foundational disciplines within biomedical, biobehavioral, and clinical research. Besides being a required course for RIT-RISE scholars, this introductory course functions as a recruiting tool for future RIT-RISE scholars.



RIT-RISE sponsored **Dr. David Martins** (RIT English Department) and **Professor Pam Conley** (NTID) to revise Science Writing (ENGL 381) this year to incorporate new materials and assignments that promote incidental exposure to anti-racist values, respect for diversity, and principles of the responsible conduct of research, while

simultaneously training principles of good scientific writing for diverse audiences.

Science Writing was offered for the first time as an online asynchronous course in Fall 2020-21. The curriculum includes assignments such as 1) reading and analyzing artifacts by or about culturally diverse scientists [e.g., African American, Native American, hard-of-hearing women, etc.], 2) analyzing how public health officials establish or fail to establish public trust by analyzing writings and interviews by Dr. Anthony Fauci, and 3) completing training on research ethics and creating and presenting a visually and textually effective hand-out or poster on the responsible conduct of research. Based on the new curriculum's emphasis on scientific ethics and the scientist's responsibility to society, the RIT General Education Committee newly classified Science Writing as satisfying RIT's general education graduation requirement for coursework having an ethical perspective. As a result, this course became highly popular and achieved maximum enrollment in both the Fall and Spring 2020-21. This new Science Writing curriculum represents one way the RIT-RISE program is helping to instill respect for diversity, equity, and inclusion at RIT among students across all majors and colleges as part of our goal to promote institutional cultural change.



**Dr. Beth Van Winkle** (NTID) converted the RIT-RISE two-day Responsible Conduct of Research (RCR) Summer Workshop to a live interactive virtual format and presented it on June 23 and 24, 2020. Van Winkle engaged participants in 16 hours of instruction, demonstrations, group discussion and

interactive lab simulation experiences related to research conduct and misconduct, rigor and reproducibility, and diversity and inclusion in research. This workshop included the four June guest presentations listed under Co-curricular Events below related to human subjects research ethics and protection, by **Drs. Kirsten Condry, Alan Smerbeck**, Rebecca Houston (RIT Psychology Department) and **Dr. Gary Skuse** (Biomedical Sciences Program, RIT College of Health Sciences and Technology). This workshop was attended by 57 faculty/staff and students from RIT-RISE and other RIT STEM programs, a nearly 3-fold increase over the in-person attendance at the same workshop the previous summer. During Spring 2020, Van Winkle will create another 2-day summer workshop on rigor and reproducibility (R&R) in science to be offered starting Summer 2020. Van Winkle has also created two sequences of online certification modules, one sequence titled Responsible Conduct of Research (RCR) and the other Rigor and Reproducibility (R&R). These modules provide in-depth training in a broad range of topics related to research ethics, the responsibility of scientists to society, the value of diversity in the scientific workforce, lab safety, principles of rigorous methodology to obtain reproducible experimental results and other related topics. Each sequence provides students with a performance-based certificate of successful completion and opportunities to earn RCR and R&R badges along the way to display on professional sites. RIT-RISE scholars, other RIT STEM students, and RIT faculty will be able to complete these modules asynchronously.



**Dr. Jason Listman** taught the Interpreting Research Settings (INTP 510) undergraduate course again this year in Spring 2020-21 with an enrollment of six undergraduate interpreting students. The INTP 510 curriculum was developed

based on interviews and narratives from DHH scientists, interpreters, and faculty mentors, and focuses on unique situational and vocabulary challenges found in scientific research settings. Listman also taught HCIA-610, a master's-level version, for the first time in Summer 2020 online with an enrollment of seven graduate interpreting students. The ASLIE department will offer the undergraduate course biennially in spring and the graduate course annually in summer going forward.

## Co-curricular Events

During Spring 2019-20 and Fall 2020-21, RIT-RISE sponsored 11 presentations open to the RIT campus in our Scientists-in-Training Series (SITS) and Responsible Conduct of Research Summer Workshop. These events covered topics in professional development, cutting-edge science, the lived experiences of deaf biomedical scientist role models, and RCR. Events after March 2020 were hosted online. Attendance typically included 15-30 students and faculty members per event. A complete list of past and upcoming Spring 2020-21 SITS presentations is at [www.rit.edu/ntid/rise/events](http://www.rit.edu/ntid/rise/events).

- **Orientation to Professional Communication Services** (January 22 and September 2, 2020). Dr. Amanda Picioli, Dr. Jason Listman, Dr. Kim Kurz (NTID) discussed communication assessment and personalized professional communication training for RIT-RISE scholars.
- **Radioactive Oatmeal: Scientific Ethics and the Abuse of Human Subjects in Research** (February 5, and June 23, 2020). Dr. Kirsten Condry (RIT Department of Psychology) covered the ethically problematic history of scientific research on humans and described regulations that ensure responsible conduct and oversight of scientific experiments.
- **My Journey as a Medical Scientist** (February 19, 2020). Dr. Sara Blick-Nitko (University of Rochester) is a deaf scientist who described her personal and scientific experiences on her journey toward earning a PhD in the cell biology of disease at the University of Rochester.
- **Person-Environment Interplay in Alcohol Use and Misuse** (March 4, 2020). Dr. Aesoon Park (Syracuse University Psychology Department) described her research program on how risky behavior, particularly alcohol and substance use and abuse, is formed, maintained, and resolved throughout development.
- **Looming Clouds: Scientific and Data Integrity** (June 23, 2020). Dr. Gary Skuse (RIT Biomedical Sciences Program) discussed principles of data interpretation, management, and security.
- **RIT Psychophysiology Lab Virtual Tour** (June 23, 2020). Dr. Rebecca Houston (RIT Department of Psychology) provided a tour of a typical psychophysiology lab and discussed protection of human subjects in psychophysiological research.
- **Resolving Ethical Dilemmas in Human Subjects Research** (June 24, 2020). Dr. Alan Smerbeck (RIT Department of Psychology) discussed the fundamental ethical principles underlying government regulation of the protection of human subjects.
- **Giving Effective Scientific Presentations: Winning Tips and Strategies** (September 16, 2020). Dr. John Edlund (RIT Department of Psychology) described guidelines for doing platform, poster, and keynote presentations.
- **Ace your PhD Application Interview: Do's and Don'ts** (September 30, 2020). Prof. Mark Rosica (RIT Counseling and Academic Advising Department) presented advice from biomedical faculty regarding how PhD-bound DHH students can best prepare for a PhD application interview, with an emphasis on what to do before, during, and after the interview.
- **My Journey as a Deaf Infectious Disease Scientist** (October 14, 2020). Dr. Lorne Farovitch (NYC Department of Health and Mental Hygiene) is a deaf scientist who described his lived personal and scientific experiences on his journey toward earning a PhD in the Translational Biomedical Science program at the University of Rochester.
- **Understanding Sepsis: Dueling Roles of Dual Oriented PAL** (October 28, 2020). Dr. Lea Michel (RIT Chemistry and Materials Science) described her research on a bacterial protein mediator of sepsis, a leading cause of death worldwide.



RIT-RISE undertakes projects to understand the educational, professional, and sociocultural factors that affect the successful journeys of PhD-bound DHH students toward becoming biomedical scientists. These projects typically rely on empirical data from key informants, focus groups, and survey participants. Our goal is to determine and disseminate evidence-based recommendations for training and professional best practices to increase the representation of DHH scientists in the biomedical workforce.



### PhD Admission Interview Preparation:

**Professor Mark Rosica** developed an evidence-based workshop for DHH students on what to expect and how to prepare for PhD interviews in their specific field, with an emphasis on specific activities and things to do prior to, during, and after the PhD interview. Rosica videorecorded interviews with key faculty informants from several disciplines regarding best PhD-program application interview practices and incorporated video vignettes into an online SITS workshop he presented on September 30, 2020. Rosica's workshop was videorecorded and will be posted on the RIT-RISE website best-practices page.

### Evidence-based Scientific Writing

**Instruction:** Dr. Kirsten Condry and Prof. Pamela Conley completed key informant interviews of DHH and hearing PhD students and faculty to identify barriers and facilitators for professional science writing skill development of PhD-bound undergraduate DHH biomedical science students. Interview participants represented biochemistry, cell biology, molecular biology, plant pathology, computer science, chemistry, and psychology. Themes that emerged

included the steep learning curve for graduate-level science writing required of new graduate students, the importance of reading for writing instruction, the importance of mentoring for recursive academic writing training, training in adjusting discursive register for different genres and audiences, awareness of discipline-specific style formats, and the sparse availability of formal science writing instruction at the graduate level. Language and culture differences between DHH and hearing students and their impact on writing style and mechanics were also frequent themes. The team will use these themes to create focused items for an online national survey next year of targeted audiences of DHH PhD-bound students and faculty who work with them.

### Research Environment Communication Access



### The Research Environment Communication Access Assessment

(RECAA) team (**Dr. Kim Kurz**, **Dr. Amanda Picioli**, **Dr. Jason Listman**) conducted observations and interviews of scholars, their mentors, and other members of their labs or research groups throughout the year to assess the environmental and interpersonal factors that affect quality of communication in their specific research environments (e.g., lab meetings, meetings with their mentors, conference settings, etc.). Based on these assessments, they made recommendations for optimizing

communication access for individual scholars. This year the team expanded their assessment efforts to include three mentor and scholar focus groups on communication access in May 2020. They also collect survey-based scholar self-reports of communication accommodations they use in different research environments and their expectations regarding their mentors' and peers' cultural competency.

Team members also responded to novel access problems caused by the pandemic this year for our scholars. For example, research labs that reopened in the fall semester were required to maintain social distancing during routine activities and research meetings. As a result, scholars who use assistive listening devices, such as cochlear implants, experienced substantially reduced access to spoken interactions among socially distanced lab members. To overcome this novel limitation, the RECAA team placed multiple advanced microphone technology at strategic locations around the lab and linked them together to wirelessly transmit other lab members' voices directly to a scholar's cochlear implant.

The conversion from an on-site to online format for ABRCMS 2020 also resulted in novel technical challenges for making virtual poster presentations, exhibits, and other events fully accessible to DHH presenters and attendees. **Ms. Kat Womack**, RIT-RISE designated interpreter, and **Mrs. Nikki Cherry**, Rochester Bridges to the Doctorate designated interpreter, collaborated closely with ABRCMS conference organizers to ensure that live captioning, text transcripts, and interpreting services were provided as efficiently as possible.



# Scholar Mentoring and Mentor Cultural Training



Drs. Ross, Listman, and Picioli; RIT-RISE graduate student assistant **Ms. Leah Norris**; and student assistant **Ms. Alex Rose Hayes-Rossiter** developed a 90-minute Zoom mentor training workshop presented on October 30, 2020, titled *A Guide to Becoming an Effective Mentor to Deaf and Hard-of-Hearing Students*. This workshop was designed to help maximize the effectiveness of mentoring relationships between hearing mentors and DHH students. It provides faculty participants with interactive instruction and activities for effective strategies in communicating with students, using access services, and developing skills for culturally appropriate mentoring. The workshop was partly informed by key informant interviews with deaf faculty members regarding their lived experiences in research settings, and included training scenarios based

on an online survey of DHH student and faculty scientists and hearing mentors and interpreters who work closely with DHH scientists. Additional monthly workshops for both mentors and scholars that focus on cultural competency and proactive mentoring strategies are planned to begin in Spring 2020-21.

Predocutorial advisor Sanger convened the first scholar peer mentoring group on November 16, 2020, and the group elected Holly Elder as their representative to the RIT-RISE team. The group will convene monthly in Spring 2020-21 to share ideas, concerns, and common interests.

In Fall 2020-21, the Communication Studies and Services Department began to provide RIT-RISE scholars with regularly scheduled one-on-one professional communication skills training sessions tailored to their individual needs. A speech and language instructor from CSS mentored each scholar weekly to practice communication skills needed

to support that scholar's long-term development as a professional science communicator. Available training includes using general and technical vocabulary, practicing presentation skills, improving grammar, practicing conversational skills/pragmatics, using communication strategies, preparing for application interviews and learning interview techniques, accessing current mobile applications on tablet devices to learn independent practice strategies, producing sounds that will help improve spoken communication, improving vocal quality, improving pronunciation, listening practice, self-advocacy skills, and more. CSS instructor **Nicole Chow** also organized an RIT-RISE Scholar Mini-conference to allow scholars to prepare for ABRCMS by presenting their research to their CSS communication mentors (Instructors Nicole Chow, Jayme Kaplan-Krutz, Jennifer Verbakel, Bonnie Bastian, Kristen Starin, Sofia Alvarez). Each scholar practiced giving a 15-minute presentation and received in-person and written feedback on their performance from their individual CSS instructor.

**At RIT, we blend technology, the arts, and design. Together, our kaleidoscope of engaged, socially conscious, and intellectually curious minds uncovers meaningful ways to move the world forward.**

**RIT** | National Technical Institute for the Deaf  
**Research Initiative for Scientific Enhancement**

The RIT-RISE Program is supported by the National Institute of General Medical Sciences of the National Institutes of Health under Award Number R25GM122672.

# RIT-RISE Organizational Chart

## RISE Team

<b>Director:</b>	Dr. Vincent Samar
<b>Co-Director:</b>	Dr. Paul Craig
<b>Coordinator:</b>	Mx. Kit Kenyon
<b>Pre-Doctoral Advising:</b>	Mr. TJ Sanger II
<b>Mentor Training:</b>	Dr. Jason Listman • Dr. Annemarie Ross Dr. Deirdre Schlehofer • Dr. Richard Doolittle
<b>Communication Access:</b>	Dr. Kim Kurz • Dr. Jason Listman • Dr. Amanda Picioli
<b>Interpreter:</b>	Ms. Kat Womack

## Scholars & Mentors

<b>Rowan Christie</b>	Major: Bioinformatics & Computational Biology Mentor: Dr. Kaitlin Stack Whitney
<b>Stephen Dahlstrom</b>	Major: Criminal Justice & Psychology Mentors: Dr. Irshad Altheimer & Dr. Rebecca Houston
<b>Holly Elder</b>	Major: Biomedical Sciences Mentor: Dr. Elena Fedorovskaya
<b>Daniel DiMartino</b>	Major: Biotechnology Mentor: Dr. Tom Gaborski
<b>Mikayla Fors</b>	Major: Biomedical Sciences Mentor: Dr. Rebecca Houston
<b>Anna Kasper</b>	Major: Biochemistry Mentors: Dr. Lea Michel & Dr. Tom Gaborski

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