Center on Access Technology:
For Students Who Are Deaf or Hard of Hearing

Rochester Institute of Technology
National Technical Institute for the Deaf

http://www.ntid.rit.edu/cat

The Challenge

Despite recent improvements in the ability of deaf and hard-of-hearing individuals to access information through the use or adaptation of technologies—the Internet, instant messaging, cellular phones, text messaging, video phones—these individuals still do not yet enjoy full 'access to information' in postsecondary education that is equal to that of their hearing peers.

Many existing and developing technologies have significant potential to serve as effective "access technologies" for the deaf. Access technologies refer to technologies or devices that can be utilized by deaf or hard-of-hearing individuals to assist them in acquiring or sharing information, communicating, or otherwise participating in educational opportunities including classroom, online learning, laboratory experiences, as well as educational experiences taking place outside of the classroom.
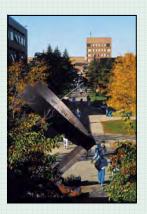
To address the unique challenges of utilizing or adapting new technologies for use in postsecondary educational settings is needed, Rochester Institute of Technology (RIT) through its National Technical Institute for the Deaf (NTID) established the *Center on Access Technology for Students who are Deaf or Hard of Hearing.*
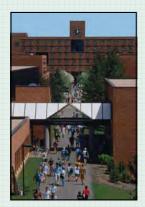

Students Using a Sidekick

RIT/NTID

NTID is an internationally recognized leader in providing postsecondary education to individuals who are deaf or hard of hearing. Located in Rochester NY, NTID is one of the eight colleges of Rochester Institute of Technology. Its mission is to provide students with outstanding state-of-the-art technical and professional education programs, complemented by a strong liberal arts and sciences curriculum, to prepare them to live and work in the mainstream of a rapidly changing global community and enhance their lifelong learning.

At RIT, more than 1,100 deaf and hard-of-hearing students study, live, work, and socialize daily with 14,000 hearing peers. Students have the opportunity to participate in over 30 accredited degree programs at RIT and earn bachelor's or master's degrees in more than 200 programs offered in RIT's colleges.

The RIT campus was the logical location for the *Center on Access Technology.* Here, the Center is in close proximity to more than 1,100 mainstreamed deaf students, and 100 deaf faculty and staff. This places the Center in a unique position to study first-hand the access technology uses, challenges, and needs of deaf students, both in and out of the classroom.

RIT/NTID Campus

About the Center

The Center is charged to investigate, evaluate, and report on the most effective and efficient use of access technologies and train individuals in their use in order to accelerate the widespread implementation of best practices within deaf education at the postsecondary level.

The Center is focusing its efforts on technologies that have a high likelihood of improving access to postsecondary educational opportunities for deaf students within the next several years. The time frame for the Center's projects–from launch to completion–will be 18-36 months. Upon project completion, the Center will report and disseminate project findings, developments, and any resulting instruction and training issues to appropriate organizations and individuals.

Voice Recognition Technology

Center Activities

During 2005, five focus groups were conducted at NTID, involving instructional technology specialists, technology and deafness specialists, corporate partners, and deaf students. The groups identified four strands of work where there exists a need and opportunity to improve access technology. Accordingly, the Center will focus its efforts on the following strands of work:

High technology classroom

Classroom Support

Strands of Activities

Classroom Access Technologies	Training and Evaluation Services
Notetaking, captioning, text display systems, online and distance access technologies, establishment of flexible state-of-the-art classroom laboratories" for experimentation, user interface and options for services	Adaptation/adoption/assessment of access and assistive technologies in development, product evaluations on existing technologies, assessment tools/success measurement, assessment of teaching and learning with technologies, processes for moving access technology to marketplace
Mobile Technologies	**Audio and Sound Technologies of Interest to Hard-of-Hearing Persons**
Wireless, cellular, messaging, personal digital assistants	Advanced audio technologies that can be incorporated into academic, employment and social environments

So that projects may be completed in the 18-36 month time frame, the Center seeks projects that fall into one of three categories:

■ Adapt/Adopt Existing Technologies
The Center will seek projects to adapt/adopt existing technologies that have strong potential for improving access to postsecondary educational experiences for deaf students. For example, hypersonic sound systems have the potential of creating 'hot zones' of sound that can be focused upon deaf participants in a lecture, while leaving normally hearing persons unaffected. Basic, formative research and development of such solutions will be left to others.

■ Utilize Network
The Center will also seek projects that use its network of experts in deaf education, and in the access technology needs of the deaf, to advise corporate partners on how to refine developing technologies so that they may best serve the access technologies needs of deaf individuals. Corporate partners will benefit by broadening the potential market for their technology. For example, NTID already partners with Sprint Corporation, IBM, Xerox and other large multinational corporations regarding employment. The Center is expanding those partnerships to include working with each of these corporations to utilize various technologies developed (or being developed) by them to use with deaf students.

■ Education and Training
The Center will seek projects that accelerate the widespread use of new access technologies by educating the deaf population of the benefits of the technology, and by providing training and education to teachers of the deaf regarding best practices in using the technology. For example, students in postsecondary education with cochlear implants receive very little training in how the technology can be utilized to optimize 'access to information' in postsecondary education.

SideKick

D-Link

Cochlear Speech Training

The Center's objectives in the initial phase of operation include:

- Hire one full-time Senior Research Associate

- Attend 1-2 national conferences per year on access technology in order to remain current in the field and to disseminate the operating expectations of the Center

- Prepare a Web page and related explanatory documentation of the Center for dissemination to all appropriate individuals and organizations

- Execute 4-5 funded projects per year that relate to the identified strands of work and execute those funded

- Begin dissemination of results of projects executed to appropriate organizations

- Support all on-going projects that received funding through the Center

- Expand number of ongoing projects and the dissemination and reporting process.

It is anticipated that after the third year, the *Center on Access Technology for Students who are Deaf or Hard of Hearing* will be self-sufficient. Operating and specific project funds will be obtained through grants and contributions from various industry and foundation partners.

C-Print

VideoConference

Leadership

The Center is being led by James J. DeCaro (director) and E. William Clymer (associate director). James J. DeCaro is currently the director of the Postsecondary Education Network-International (PEN-International) at the National Technical Institute for the Deaf (NTID) at Rochester Institute of Technology (RIT). PEN-International is a multinational collaborative network of colleges and universities serving deaf students that is funded by The Nippon Foundation of Japan.

E. William Clymer is an Associate Professor at the National Technical Institute for the Deaf at Rochester Institute of Technology, serving as the Coordinator of the Postsecondary Educational Network–International.

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