Center orchestrates a collaborative music research environment

Matt Nagel
Communications & Marketing

Last Friday, Georgia Tech launched the new Center for Music Technology with more than 20 researchers from the arts, sciences and engineering. Several interdisciplinary projects already in progress were demonstrated at an exclusive event for potential collaborators.

"Our goal is to build an international center for creative and technological research in music that will redefine the way we create, perform, listen to and consume music," says Gil Weinberg, co-founder and director of the Center. "To that end, we brought together top researchers from across campus who together can address current challenges in the field and develop new solutions that cannot be achieved in the framework of a single discipline."

Unlike much current research in music, the Georgia Tech Center for Music Technology is committed to bringing new ideas to the market, with applied solutions for businesses and consumers.

Music continued, page 3

Foley announces associate dean appointments for Computing

Robert Nesmith
Communications & Marketing

College of Computing Interim Dean James A. Foley has announced an administrative reorganiza-
tion at the associate dean level. While the College previously had three associate dean positions, Foley has expanded this to four: Research, Faculty Affairs, Undergraduate Affairs, and Strategic Planning and Initiatives.

As the Institute undertakes the search for a new dean, Foley said this is the right time for these changes. "It's always good to bring new people into administrative positions because they bring new insights," he said. "Since we’re at the start of a transition, my philosophy is ‘change is good.’ I wanted to have broader leadership so the incoming dean will have a broader pool from which to form a management team. Each has made the commitment to work with the new dean, should he or she request it."

Regents’ Professor Ronald Arkin was named associate dean for Research, Professor Mary Jean Harrold is associate dean for Faculty Affairs and Associate Professor Charles Isbell Jr. was named associate dean for Undergraduate Affairs. GVU Director and Associate Professor Elizabeth Mynatt was named to the new Strategic Planning and Initiatives position. "I wanted to focus on a strategic planning process with our faculty," Foley said. "When we interview dean candidates, we want to make sure they understand the Institute’s future. Dene Sheheane, director of Government Relations, who discussed the Institute’s priorities for 2009, which included more than 100 alumni, staff and government officials to gear up for the future, but also recount the past."

Georgia Planning and Budget director and alumnus Trey Childress “came home” to share some of the challenges in the coming year’s tightened budget proceedings, but also some of the opportunities for higher education. The group also heard from Tom Daniel, senior vice chancellor of the University System of Georgia, on the status of the system, and from Interim President Gary Schuster, who discussed the Institute’s future.

For more information... www.gtalumni.org/pages/legislativenetwork

Teaching continued, page 2

Program creates career path for future teachers

While Georgia has a shortage of K-12 math and science teachers, Georgia Tech is a top destination for students pursuing degrees in science, technology, engineering and math (STEM). Now Tech students interested in teaching at either the collegiate or K-12 level will be able to enhance their pedagogical skills, learn about pathways to teaching and participate in teaching internships through a new program funded by the National Science Foundation (NSF).

Known as “Tech to Teaching,” the program integrates existing NSF-funded projects that provide instruction and support for faculty and students who are interested in teaching. The goal of the program is not only to support Tech students who choose teaching careers at any level, but also to help supply qualified K-12 teachers, with an emphasis on STEM fields, to Georgia classrooms.

“Georgia Tech is in a unique position to interpret aquariums and other exhibit-driven facilities for the visually impaired. Psychology Associate Professor Bruce Walker’s sonification research, which attempts to interpret aquariums and other exhibit-driven facilities for the visually impaired...”

Annual Tech legislative briefing looks forward, honors the past

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nn Nov. 1, the Office of Government Relations and the Georgia Tech Legislative Network hosted their annual Fall Briefing prior to the football game against Florida State University. The event drew more than 100 alumni, staff and government officials to gear up for the future, but also recount the past. Georgia Planning and Budget director and alumnus Trey Childress “came home” to share some of the challenges in the coming year’s tightened budget proceedings, but also some of the opportunities for higher education. The group also heard from Tom Daniel, senior vice chancellor of the University System of Georgia, on the status of the system, and from Interim President Gary Schuster, who discussed the Institute’s future.

The group also took time to look back, recognizing retiring State Representative and Tech alumnus Richard Royal and his family for 25 years of service to the state and advocacy for the Institute.

For more information... www.gtalumni.org/pages/legislativenetwork

WWW.WHISTLE.GATECH.EDU
Ronald Arkin
Associate Dean for Research

Regents’ Professor Ronald Arkin specializes in robotics and intelligent systems. As the director of the Mobile Robot Laboratory, his research includes behavior-based reactive control and action-oriented perception for mobile robots and unmanned aerial vehicles, biodynamics, human-robot interaction and learning in autonomous systems.

“He has a long and distinguished record of research, not only with NSF funding but also with DARPA [Defense Advanced Research Projects Agency],” Foley said. “We want to broaden our portfolio and Ron has experience in doing that.”

Arkin will closely work with Tech’s senior vice provost of Research and Innovation Mark Allen to stay informed of campus research initiatives, assist with intellectual property issues, innovation and commercialization of Computing research, and coordinate with research activities in other colleges.

Charles Isbell Jr.
Associate Dean for Undergraduate Affairs

Associate Professor Charles Isbell Jr. focuses on intelligent systems and artificial intelligence, in particular the application of statistical machine learning. On the administrative side, he was a driving force behind the College’s undergraduate Threads curriculum in computer science.

“He has wonderful ideas and a commitment to teach students carefully, thoughtfully and right,” Foley said. “He’s a good communicator and has a good rapport with those in the College.”

Isbell will work with the College’s Undergraduate Curriculum Committee to establish academic policy for undergraduate degrees in computing; manage and facilitate programs within Computing and with other colleges; encourage and facilitate nomination of Computing undergraduates for scholarships, fellowships and external awards; and manage all aspects of undergraduate recruiting, orientation, advising, retention, mentoring and community building.

Mary Jean Harrold
Associate Dean for Faculty Affairs

Mary Jean Harrold is a National Science Foundation ADVANCE Professor of Computing. Her research areas include software methodology and engineering, and information security and cryptography, where she works to develop efficient techniques and tools that will at least partially automate development, testing and maintenance tasks.

“She already has experience in dealing with faculty through her work with the [National Science Foundation] ADVANCE program,” Foley said. “She’s very highly respected by her peers, both locally and internationally.”

Harrold will work with the dean’s office to facilitate faculty nominations and applications for College and Institute awards, external fellowships and awards in professional societies and the National Academies, proactively support faculty diversity goals, and lead a comprehensive program of career development for all faculty.

Elizabeth Mynatt
Associate Dean for Strategic Planning and Initiatives

Associate Professor Elizabeth Mynatt is a Sloan Research Fellow and director of the GVU Center, a cross-campus research center for interdisciplinary work in human computing, where she directs the Everyday Computing research program.

She is one of the principal researchers in the Awaro Home Research Initiative and is internationally recognized for her research in human-computer interaction, ubiquitous computing and assistive technologies.

“She’s very highly respected through her work with the [National Science Foundation] ADVANCE program,” Foley said. “She’s a very strategic thinker.”

Mynatt will work with the dean’s office, school chairs, center directors and faculty to craft the College’s strategic plan, and lead selected strategic initiatives as identified by the dean.

Teaching, cont’d from page 1

...and coordinate with research activities in other colleges.
Researchers are already working on ways to improve existing acoustical instruments, as well as defining new approaches for music making. Research areas include composition, machine listening, materials science, music information retrieval, digital signal processing, design and manufacturing, networked music, music perception, music theory, multimedia development and acoustics.

“It is important to note that the students who work with our faculty members bring with them a wide range of skills and experiences, from the technical to the artistic,” stresses Weinberg. “More than half of our students are pursuing a Master of Science in Music Technology, which will allow our students to deepen their education in these areas and help develop a strong intellectual backbone for our students to explore their creativity both technically and musically.

“We are currently in the process of proposing a doctoral degree in Music Technology, which will allow our students to deepen their education in these areas and help develop a strong intellectual backbone for research activities in the Center.’

The Center is jointly funded by the Office of the Provost and the Colleges of Architecture, Computing and Engineering.

Dennis Folds, new chief scientist

Abby Vogel
Research News

Dennis Folds, new chief scientist at the Georgia Tech Research Institute (GTRI), has an unusual technical background—engineering psychology.

“I have spent my career studying how people interact with and use technology, whether it’s simple technology, like a telephone, or complicated technology, like a ship, aircraft or automobile,” Folds said. “Since GTRI researchers frequently develop new technologies, I realize the importance of thinking about how people will use the technology from the beginning of the design process.”

As chief scientist, Folds will meet with current and prospective customers and oversee GTRI’s independent research and development (IRAD) program, which fosters exploration and accelerates entry into new research areas. Folds has several ideas for improving the program, including making it easier for researchers in different laboratories to collaborate on projects.

“The IRAD program allows us to expand into hot areas like energy, the environment, biotechnology and sustainable development,” explained Folds. who recently succeeded Jeffrey Sitterle as chief scientist.

He hopes also to expand cross-disciplinary collaboration by creating “communities of interest” around technical areas such as high-performance computing or information security.

As chief scientist, Folds plans also to encourage collaboration with Georgia Tech’s academic faculty and increase the number of scholarly publications authored by GTRI researchers.

“While our sponsored projects don’t typically require publishing papers, I want to encourage researchers—especially the younger ones—to develop the skills required to write scholarly papers, such as journal articles and conference proceedings, and present their research at conferences,” he said.

In addition to his new position as chief scientist, Folds will remain chief of GTRI’s Human Systems Integration Division in the Electronic Systems Laboratory. In this position, he leads a variety of research efforts. The goal of one major research program is to develop training and technical assistance related to the accessibility of electronic and information technology for individuals with disabilities.

Folds’ research team has examined the ability of persons with disabilities to use items such as photocopiers, ATMs, cell phones, televisions, printers and scanners.

The Division is also the sole independent laboratory authorized to test products for the Ease of Use programs of the U.S. Arthritis Foundation, the Arthritis Society of Canada and Arthritis Australia. The researchers evaluate products based on an arthritis-specific set of accessibility guidelines, as well as user testing by people with arthritis. If a product passes rigorous testing and its manufacturer chooses to participate in the program, the company can use the Arthritis organization’s logo in its advertisements and on its packaging.

For more information...

Center for Music Technology
www.gtri.gatech.edu

IN BRIEF:

ChBE professors recognized

School of Chemical and Biomolecular Engineering Assistant Professor Sankar Nair and Professor Mark Prausnitz each have been recognized for their research.

Nair has been selected to receive a National Science Foundation (NSF) CAREER Award for his work, “Engineered Nanoscale Objects via Controlled Creation and Rearrangement of Amorphous Nanoparticles.” Nair directs the Nano-materials and Nanoeengineering research group.

Prausnitz was elected a member of the College of Fellows by the American Institute for Medical and Biological Engineering (AIMBE). He joins the ranks of more than 900 other engineers and scientists at a formal induction ceremony Feb. 11-13, 2009, at the National Academy of Sciences in Washington, D.C. Prausnitz is also the Emerson Lewis Faculty Fellow in the School of Chemical and Biomolecular Engineering. For more information, visit www.chbe.gatech.edu.

5SyE professor awarded

School of Industrial and Systems Engineering Associate Professor Bert Zwart received the Erlang Prize during the Institute for Operations Research and the Management Sciences (INFORMS) annual meeting in October. The prize is awarded every two years by the Applied Probability Society of INFORMS honoring a research scholar younger than 36 who has made contributions to the field of applied probability. For more information, visit www.isye.gatech.edu.