Bobick, Zegura Receive Dean's Award

Nearly three dozen students, faculty and staff picked up awards from the College of Computing on April 26 in a ceremony that marked two full decades of Awards Celebrations for the College—and the first for Dean Zvi Galil. Walking away with the day's top honor, the Dean's Award, were professors and school chairs Aaron Bobick (IC) and Ellen Zegura (CS). Each has led his or her area since before the College formally divided into schools in 2006, and each continues to lead while the College conducts nationwide searches for new IC and CS chairs. In all, some 33 students, faculty and staff received awards from the College, and many more were publicly recognized for other achievements during the ceremony. Click here for a full list of present and past award winners, and a photo album of all College award recipients is up on the College's Flickr stream.

Research News

Financial Dashboard for March 2011

<table>
<thead>
<tr>
<th>2011 YTD New Awards</th>
<th>Proposed Contracts for February 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>$24,131,468</td>
<td>Total: 6, $1,449,308</td>
</tr>
<tr>
<td></td>
<td>IC: 25%, CS: 21%, RIM: 54%, CSE: &lt;1%</td>
</tr>
</tbody>
</table>

Event Spotlight

May 2
Ph.D. Defense of Dissertation: Kapil Singh
Klaus 3126

May 4
Ph.D. Defense of Dissertation: Gong Zhang
Klaus 3108

May 4
Ph.D. Defense of Dissertation: Tongqing Qiu
Atlanta, GA

May 6
CoC Dean's Spring Undergraduate Honors Reception
CCB Commons

May 6
Spring 2011 Dean's Honor Reception
Klaus Courtyard

Numbers & Stats

33
College awards handed out at 20th Annual Awards Celebration

98
Computing students graduating with honors this spring

90
Demos presented for visitors at the GVU Spring Research Showcase, held April 15
### Newly Awarded Contracts for March 2011

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Value</th>
<th>PI</th>
<th>Co-PIs</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSF</td>
<td>$6,000</td>
<td>Ashok Goel</td>
<td>None</td>
<td>Collaborative Research: Biologically Inspired Design</td>
</tr>
<tr>
<td>NSF</td>
<td>$384,809</td>
<td>Karen Liu</td>
<td>None</td>
<td>Collaborative Research: Contact-Based Human Motion Acquisition</td>
</tr>
<tr>
<td>Verisign</td>
<td>$50,000</td>
<td>Paul Royal</td>
<td>None</td>
<td>Automating Threat Intelligence Collection</td>
</tr>
<tr>
<td>Oracle</td>
<td>$40,000</td>
<td>Tom Conte</td>
<td>None</td>
<td>Center for Hybrid Multicore Productivity</td>
</tr>
<tr>
<td>iRobot</td>
<td>$84,000</td>
<td>Jim Rehg</td>
<td>None</td>
<td>Visual Tracking for Autonomous Following Behaviors</td>
</tr>
<tr>
<td>Booz, Allen &amp; Hamilton, Inc.</td>
<td>$50,000</td>
<td>Paul Royal</td>
<td>None</td>
<td>Unpacking and Malware Analysis</td>
</tr>
<tr>
<td>NSF</td>
<td>$303,000</td>
<td>Mike Stilman</td>
<td>Irfan Essa; Henrik Christensen; Magnus Egerstedt; Jun Ueda</td>
<td>Motion Grammar Laboratory</td>
</tr>
<tr>
<td>Air Force</td>
<td>$774,933</td>
<td>Calton Pu</td>
<td>None</td>
<td>Fine-Grain Document Access Modeling and Monitoring</td>
</tr>
</tbody>
</table>

### Grants/Gifts Received for March 2011

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Value</th>
<th>PI</th>
<th>Co-PIs</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel</td>
<td>$80,000</td>
<td>Keith Edwards</td>
<td>None</td>
<td>Device Rich Social Environments</td>
</tr>
<tr>
<td>Microsoft</td>
<td>$5,000</td>
<td>Karsten Schwan</td>
<td>None</td>
<td>WIOV 2011 Workshop</td>
</tr>
<tr>
<td>Daniel Walker</td>
<td>$1,120</td>
<td>Henrik Christensen</td>
<td>None</td>
<td>RIM Shop Upgrades &amp; Lab Research</td>
</tr>
<tr>
<td>Subaru</td>
<td>$6,000</td>
<td>Andrea Thomaz</td>
<td>None</td>
<td>General</td>
</tr>
<tr>
<td>Kynamatrix Research Network</td>
<td>$1,500</td>
<td>Gregory Abowd</td>
<td>Lana Yarosh</td>
<td>Remote Parenting for Divorced Families</td>
</tr>
<tr>
<td>Microsoft</td>
<td>$1,000</td>
<td>Cedric Stallworth</td>
<td>None</td>
<td>OEC Glitch Program</td>
</tr>
</tbody>
</table>

### People@CoC

**Prvulovic, Oh Land Rare Double Whammy in Arch, SW Conferences**

Milos Prvulovic and Ph.D. student Jungju Oh (both CS) have accepted papers at this summer’s 38th International Symposium on Computer Architecture (ICSAC 2011), considered the world’s top architecture conference, and the 33rd International Conference on Software Engineering, the world’s top software engineering conference. According to Prvulovic’s research, Oh is just the second individual ever (and the first in more than 30 years) to be first author on papers at the two conferences in the same year. The ICSAC paper is titled "TLSync:"
Support for Multiple Fast Barriers Using On-Chip Transmission Lines," while the ICSE paper is "LIME: A Framework for Debugging Load Imbalance in Multi-threaded Execution." ICSA will be held June 4-8 in San Jose, Calif., while ICSE will take place May 21-28 in Honolulu.

Bader Talks Graph Analysis at Hamburg Climate Workshop
David Bader (CSE) gave an invited talk on "Graph-Based Approaches for Scientific Data" at the Climate Knowledge Discovery Workshop, March 30 in Hamburg, Germany. The workshop was part of the Deutsches Klimarechenzentrum (DKRZ) and was co-sponsored by the Max Planck Institute for Meteorology and Cray, Inc. The meeting brought together experts from various domains to investigate the use and application of large-scale graph analytics, semantic technologies and knowledge discovery algorithms in climate science.

Vempala Gives Invited Talks at IPAM, MSR New England Events
Santosh Vempala (CS) gave an invited lecture at an Institute for Pure and Applied Mathematics (IPAM) workshop, Jan. 21 at the University of California, Los Angeles. The lecture was titled "An Affine-Invariant Algorithm for Linear Program." Vempala also spoke at a March 23 theory colloquium sponsored by Microsoft Research New England on "Higher Order Principal Components: Complexity and Applications." Video of Vempala's MSR lecture is available here. On May 16, he will deliver the same talk at a colloquium at University of California, San Diego.

Raghavendra, Tetali Invited to Speak at Isaac Newton Institute
Prasad Raghavendra and Prasad Tetali (both CS) were invited speakers at a workshop on "Discrete Harmonic Analysis," held March 28 to April 1 at the Isaac Newton Mathematical Institute in Cambridge, U.K. The workshop's goal was to bring together researchers interested in harmonic analysis--in particular, properties of Fourier-Walsh expansions, influences of variables, Sobolev-type inequalities and isoperimetry or concentration estimates--in a discrete setting. Video of both presentations is posted online. Tetali delivered his address, "Transportation and Related Inequalities in Discrete Spaces," on March 28; Raghavendra spoke on "Expansion of Small Sets in Graphs" on April 1.

Vazirani Takes Digital Equilibrium Tour to Univ. of Chicago
Vijay Vazirani (CS) delivered his talk, "Extending General Equilibrium Theory to the Digital Economy," at the University of Chicago on April 5. The talk discussed how a new pricing model needs to be developed for digital goods. General equilibrium theory, which Vazirani called the "undisputed crown jewel of mathematical economics" over the past century, does not apply to digital goods; once produced, a digital good can be reproduced at (essentially) zero cost, thus making its supply infinite. Vazirani's talk was based on a joint paper with Kamal Jain of Microsoft Research.

Ram to Speak at Obama Science & Technology Advisory Group Panel
Ashwin Ram (IC) has been invited to speak at a lunchtime panel hosted by the President's Council of Advisors on Science and Technology (PCAST), May 19 in Washington. The group is conducting a study that will make recommendations to President Barack Obama on how to enhance science, technology, engineering and mathematics (STEM) education from a student's transition from high school through the first two years of undergraduate education, including community and technical colleges and four-year institutions. PCAST is an advisory group of the nation's leading scientists and engineers, appointed by the president to augment the science and technology advice available to him from inside the White House and from cabinet departments and other federal agencies. The group's policy is to webcast all meetings live; to view the webcast, visit the PCAST website on the day of the event.

Ammar Discusses Networks Large and Small at Innovations 2011
Mostafa Ammar (CS) delivered a pair of invited talks, including a keynote address, at the 7th International Conference on Technical Innovation in Information Technology (Innovations '11), held April 25-27 in Abu Dhabi, United Arab Emirates. Ammar's keynote talk, "The Internet: Past, Present and Future," gave an overview of mileposts in the Internet's development and concluded with a discussion of opportunities and directions for the future. The second address, "Living in the WAM Continuum: Unified Design and Operation for Wireless and Mobile Networks," dealt with intermittently connected networks (ICNs), in which stable end-to-end paths are the exception and intermediate nodes may store data while waiting for transfer opportunities toward the destination. The WAM (wireless and mobile) Continuum project is based on the observation that mobile ad hoc networks (MANETs) and ICNs fit into a continuum that generalizes these two previously distinct categories.

Vazirani, Balcan Speak at Game Theory Conference in Jerusalem
Vijay Vazirani and Nina Balcan (both CS) will speak at the Innovations in Algorithmic Game Theory Conference (IGAT 2011), to be held May 25-27 in Jerusalem. IGAT focuses on research that carries strong conceptual messages and broadens the scope of the interface between economics, game theory and computer science, including proposing new concepts and techniques, introducing novel applications and drawing attention to interesting connections between algorithmic game theory's parent disciplines. Balcan's address is titled "Learning Valuation Functions," while Vazirani will deliver his talk on "Extending General Equilibrium Theory to the Digital Economy."

Bader Talks Massive Data at IBM Strategy Meeting
David Bader (CSE) gave an invited keynote talk, "Opportunities and Challenges in Massive Data-Intensive Computing," during a research strategy meeting at IBM's T.J. Watson Research Center in Yorktown Heights, N.Y., on April 28. Bader discussed the emerging applications of massive, streaming data-intensive problems of national importance in computational science, biology, social network analysis and security, and opportunities using high performance computing.

Vetter's Keeneland Project Holds Tutorial on GPUs
On April 14-15, the NSF Keeneland project, led by Jeffrey Vetter (CSE), held a tutorial for graphics processing units (GPUs) and the Keeneland system. The tutorial, sponsored by the NSF Keeneland Project and by the NVIDIA CUDA Center of Excellence at Georgia Tech, drew 62 attendees (about a dozen were turned away due to lack of space) in addition to 10 instructors and staff; 29 attendees were from Georgia Tech. To make the tutorial interactive, the Keeneland system was available to students on Thursday and dedicated to the tutorial on Friday. Temporary accounts and tokens were provided to students who are not currently Keeneland users. All tutorial presentations are available online.

Feamster Delivers PAM Keynote, Gives GENI Conference Demo
Nick Feamster (CS) delivered the keynote address at the 2011 Passive and Active Measurement Conference (PAM 2011), held March 20-22 in Atlanta. PAM focuses on research and practical applications of network measurement and analysis techniques. The conference's goal is to provide a forum for current work in its early stages. Feamster's address was titled, "Passive and Active Measurements at the Network Frontier (The Home)." Feamster, along with Ph.D. student Vytautas Valancius (CS), also gave a demonstration at the 10th GENI Engineering Conference (GEC10), held March 15-17 in San Juan, Puerto Rico. The pair demonstrated new technology to give network traffic control to services running on cloud platforms like Amazon EC2.

Goodman Serves as Site Host for I3P Cyber Security Workshop
Sy Goodman (CS) was the host institution co-chair and lead-off speaker for the cyber security-related "Workforce Development Workshop: Understanding the Demand," held April 27-28 at the Georgia Tech Conference Center and sponsored by the Institute for Information Infrastructure (I3P). Georgia Tech is one of the original members of the I3P consortium. Speakers included Roberta Stempfley, acting deputy assistant secretary for Cyber Security and Communications and director of the National Cyber Security Division of the Department of Homeland Security; William Horne, research manager for the Cloud and Security Lab, HP Labs; and Stephen Lukasik, former director of ARPA (now DARPA) when the ARPANET was developed and launched, and chief scientist for the FCC and RAND. About 40 invited guests participated in the workshop.

Vuduc an Invited Speaker at DOE Salishan Conference on HPC
Rich Vuduc (CSE) was an invited speaker at the U.S. Department of Energy's annual Salishan Conference on High-Speed Computing, held April 26-28 in Gleneden Beach, Ore. Salishan is an invite-only meeting organized since 1981 by the DOE national laboratories to discuss problems at the intersection of high-performance parallel algorithms, software and architectures for applications in national security. This year's theme was on the "Challenges of Exascale Programming through Co-design among Hardware, Middleware and Applications."

Personnel Announcements
Nazanin Magharei has joined CoC as a Post-Doc in CS effective 4/4/11. Her email address is nmagharei3@mail.gatech.edu and she is located in KACB 3337. Welcome Nazanin!

Emily Ivey has joined CoC as a Research Scientist I in CS (C21U Center) effective 4/21/11. Her email address is eivey3@cc and she is located in the Tennenbaum Institute. Welcome Emily!

General News
Women@CC Wrap Up Year With Banquet
This month, Women@CC helped host both corporate representatives and accepted freshmen at the Corporate Affiliates Program (CAP) reception, April 18, in which current CoC students were able to show off their student organizations and network with corporate sponsors while introducing accepted students to Georgia Tech. With the semester winding down, Women@CC held an end-of-semester banquet on April 28 to celebrate its achievements. For more information, contact co-chairs Linda Hyunh or Alissa Hartenbaum.

GVU to Hold Reception at CHI 2011 in Vancouver
The GVU Center will hold a reception at CHI 2011 for GVU researchers, alumni, industry partners, and friends attending the conference. The reception will take place on Tuesday, May 10, from 6 p.m. to 9 p.m. at Prestons Restaurant, Coast Coal Harbour Hotel in Vancouver, B.C. For more information, contact Don Schoner.

Compiler Set to Begin Summer Vacation
This edition of Compiler will be the last until Sept. 1. All newsbytes and suggestions should be mailed to the Office of Communications or to Mike Terrazas.

Correction
In the emailed version of the April 2011 Compiler, an article about CoC recipients of Institute awards failed to mention Ashwin Ram (IC), who won the Class of 1934 Outstanding Innovative Use of Education Technology, and Barbara Ericson (CoC) and Mark Guzdial (IC), who jointly received the 2011 Faculty Outstanding Service Award. The web version of Compiler was quickly corrected, and we regret the error.

CoC In the News
To help Compiler readers stay informed of the latest College of Computing media coverage, we share the month’s headlines from the CoC website. Below are links to all headlines from April 2011 (most recent headlines at the top).

- College Honors Its Own at 20th Annual Awards Celebration
- Simon The Robot Requests Your Attention
- TeraGrid: Paying it Forward in the Wake of Disaster
- Level Up With OER: OpenStudy Adds Gamification Features
- Scan Your Face In 3D With Your iPhone
- Georgia Tech Creates 3D Scanner iPhone App
- iPhone 4 3D Scanner
- The Slow Collapse of the Ivory Tower
- Keeping Digital Data Safe
- iPhone App Takes a 3D Scan of Your Face, Prints a 3D Model
- Trimimensional iPhone App Takes 3-D Scan of Your Face, Sends to 3-D Printer to Produce Face Tchotchkes
- Wave I Grant Recipients: OpenStudy
- Tech Scientist Develops 3-D Scanner iPhone App
- Scientist Creates 3-D Scanner iPhone App
- Vazirani Chosen as 2011 Guggenheim Fellow
- Is Now the Right Time for Engineers to Become Entrepreneurs?
- Gates Foundation Distributes $10M to Build Tech Tools to Boost College Graduation
- New Hack Lets Xbox Kinect Read Sign Language
- Georgia Tech Expert Gives Tips on Safeguarding Against Data Theft
- Retailers, Banks Warn of Stolen Email Addresses
- Tetali Takes Over for Vempala as ARC Director
- April is Autism Awareness Month
- Data Breach Impacts Millions
- Tech Professors Win Teaching Award
- Guzdial, Ericson Share Prestigious Computing Education Award
- Banks, Retailers Warn Customers of Data Breach
- Robots Deployed in Japan Plant