Picture of the Month

Students, Faculty Pull Together @ Picnic

More than 160 students, faculty and staff braved the cold weather on Nov. 6 for the CoC Grad Student Picnic, held in Piedmont Park. Organized by CS Ph.D. student Romain Cledat and the Graduate Student Council Social Committee, the event featured food, fun and camaraderie, including a tug-of-war, miniature pumpkin painting and soccer, to name a few activities. "I knew this picnic was important for the whole CoC community, and I hope it becomes a yearly event," Cledat said. "We have a couple of ideas [for similar events] so hopefully we can do some of those." Cledat extended special thanks to Dean Zvi Galil for driving the event forward, as well as to his fellow GSC social committee members Chaitrali Amrutkar, Hank Carter, Saurabh Chakradeo, Catherine Grevet, Daniel Long and David White (staff liaison to the committee). Pulling above (l to r) are Galil, faculty members Richard Fujimoto (CSE), Jim Xu (CS) and Milos Prvulovic (CS), and Ph.D. students Liam MacDermed and Denise Chew. To view more photos, visit the CoC Flickr stream.

Research News

Financial Dashboard for October 2010

<table>
<thead>
<tr>
<th>2011 YTD New Awards</th>
<th>Proposed Contracts for October 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>$18,610,370</td>
<td>Total $ Amount IC CS CSE</td>
</tr>
</tbody>
</table>

December 2
- Harold W. Gegenheimer Lecture on Innovation: Dr. Robin Murphy
  - Ferst Center

December 2
- GVU Brown Bag: Ken Perlin
  - TSRB 132

December 4
- Girl Scout Workshop - Alice
  - CCB 345

December 7
- Cool Computing
  - College of Computing

December 9
- Women@CC End-of-Semester Winter Party
  - College of Computing

December 10
- Last day of classes

December 10
- C4G Review Day
  - Klaus Atrium

December 13-17
- Final Exams

December 17
- CoC Holiday Party

December 17
- Dean’s Honors Banquet
  - Klaus Atrium

December 17
- CoC Dean’s Fall Undergraduate Honors Reception
  - Klaus Atrium

December 24-30
- Winter Break

December 31
- School Holiday

http://www.cc.gatech.edu/compiler/
Newly Awarded Contracts for October 2010

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Value</th>
<th>PI</th>
<th>Co-PIs</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Department of Energy</td>
<td>$67,000</td>
<td>Karsten Schwan</td>
<td>Greg Eisenhauer; Matthew Wolf</td>
<td>Runtime System for I/O Staging in Support of In-Situ Processing of Extremes</td>
</tr>
<tr>
<td>US Department of Energy</td>
<td>$2,600,000*</td>
<td>Jeffrey Vetter (through ORNL)</td>
<td>Rich Vuduc</td>
<td>Vancouver: Designing a Next Generation Software Infrastructure for Heterogeneity</td>
</tr>
<tr>
<td>US Department of Energy</td>
<td>$500,000</td>
<td>Constantine Dovrolis</td>
<td>None</td>
<td>Detection Localization and Diagnosis of Performance Problems using Persos...</td>
</tr>
<tr>
<td>NSF</td>
<td>$15,000</td>
<td>Milos Prvulovic</td>
<td>None</td>
<td>Support for the 43rd Annual ACM/IEEE International Symposium on Microarchitecture</td>
</tr>
<tr>
<td>NSF</td>
<td>$75,000</td>
<td>Nick Feamster</td>
<td>None</td>
<td>Aster*x: Load-Balancing Web Traffic Over Wide-Area Networks</td>
</tr>
</tbody>
</table>

Grants/Gifts Received for October 2010

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Value</th>
<th>PI</th>
<th>Co-PIs</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td>$75,000</td>
<td>Wenke Lee</td>
<td>None</td>
<td>Dynamic Reputation DNS</td>
</tr>
</tbody>
</table>

* denotes multi-institutional award; ORNL share is $1 million, GT share is $339,000; partners include University of Illinois at Urbana-Champaign and the University of Oregon

People@CoC

CoC Represents at IEEE VisWeek 2010

The College fielded a strong presence at IEEE VisWeek 2010, Oct. 24-29 in Salt Lake City. VisWeek is the premier forum for visualization advances for academia, government and industry, and encompasses the InfoVis and VAST conferences.

- **John Stasko** (IC) served on the VisWeek Executive Committee and was one of seven on the InfoVis Steering Committee.
- **Edward Clarkson**, **Carsten Görg** (IC) and Stasko served on the InfoVis Program Committee.
- Ph.D. students **Zhicheng Liu** and **Youn-ah Kang** were accepted into the IEEE VisWeek Doctoral Colloquium, a single-day, invitation-only event.
- **Guy Lebanon** (CSE) and **Fei Sha** organized the tutorial, "Machine Learning for Information Visualization."
- Park, **Hanspeter Pfister**, **Patrick McCormick**, **David Ebert** and **Lee Wilkinson** lead their workshop, "Extreme Scale Visual Analytics."
- **Nils Gehlenborg**, Görg, **Miriah Meyer**, and **Cydney Nielsen** headed the panel discussion, "Challenges in Visualizing Biological Data."
- **Rahul Basole**, **Mengdie Hu**, **Pritesh Patel** and Stasko presented their poster, "Visualizing Converging Business Ecosystems for Competitive Intelligence."
- **Jaegul Choo**, **Hanseung Lee**, **Jaeyeon Kihm** and Park presented their paper, "VisClassifier: An Interactive Visual Analytics System for Classification Based on Supervised Dimension Reduction."

Lastly, the CoC took home the following awards:
- **Liu**, Görg, **Jaeyeon Kihm**, Lee, **Jaegul Choo**, Park and Stasko took home the award for Good Support for "Data Ingest: Data Ingestion and Evidence Marshaling in Jigsaw."

Numbers & Stats

91.5%
Retention rate of CoC freshmen (CS & CM) from 2004-2008

260M
Deformable blood cells simulated by George Biros-led team in application that won 2010 Gordon Bell Prize

2.507
Speed (in petaflops) of Tianhe-1A, currently the world's fastest supercomputer, as measured by the Graph500 benchmark system co-designed by David Bader & Jason Riedy (CSE)

Industry Outreach

This month various groups at CoC are pursuing partnerships with the following companies:

- U.S. Army Corps of Engineers
- Google
- Microsoft
- NSA
- Yahoo!

http://www.cc.gatech.edu/compiler/
• Lee, Choo, Göerg, Jaeun Shim, Kihm, Liu, Park and Stasko won the award for Excellent Process Explanation for "GeneTracer: Gene Sequence Analysis of Disease Mutations."

Stasko Delivers Keynote at ISVC10 in Vegas

John Stasko (IC) delivered a keynote presentation at the 6th International Symposium on Visual Computing (ISVC10), held Nov. 29-Dec. 1 in Las Vegas. The conference provides a common forum for researchers, scientists, engineers and practitioners throughout the world to present their latest research findings, ideas, developments and applications in the broader area of visual computing. Stasko’s keynote was titled, "Visual Analytics for Investigative Analysis and Exploration of Documents and Data."

Rehg Invited to Speak at National Academies Conference

Jim Rehg (IC) was an invited participant in the 8th Annual National Academies Keck Future Initiative (NAKFI) Conference, "Seeing the Future with Imaging Science," held Nov. 17-19 in Irvine, Calif. NAKFI is a 15-year effort of the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine to catalyze interdisciplinary inquiry and enhance communication among researchers, funding organizations, universities and the general public. The objective is to support the climate for conducting interdisciplinary research, and to break down related institutional and systemic barriers.

Atlanta, GT Play Host to MICRO Conference, Dec. 4-8

Georgia Tech will host MICRO-43, the premier forum for microarchitecture ideas for advanced computing systems, Dec. 4-8 at the GT Hotel & Conference Center. The conference highlights the discussion of compilers, processor architecture, traditional MICRO topics and new research in the area. Tom Conte and Sudhakar Yalamanchili (both CS) are serving as co-chairs of the conference, and other College faculty members on the planning team include Hsien-Hsin Lee (CS, Workshops & Tutorials Chair), Milos Prvulovic (CS, Finance Chair) and Hyesoon Kim (CS, Publicity Chair). A series of MICRO-related workshops and tutorials will be held in the Klaus Building on Dec. 4 and 5. The following papers by members of the college will be presented at the conference:

• "Many-Thread Aware Prefetching Mechanisms for GPGPU Applications," Jaekyu Lee, Nagesh B. Lakshminarayana, Kim, Richard Vuduc (CSE)
• "SD3: A Scalable Approach to Dynamic Data-Dependence Profiling," Minjang Kim, Hyesoon Kim, Chi-Keung Luk

Six CoC Staffers Earn Professional Certificates

Congratulations to six CoC staff members who completed Georgia Tech professional certificate programs through the Office of Organizational Development (OOD). The six, who received their certificates at an OOD luncheon on Nov. 11, included:

• Joi Adams (RIM) – GT Financial Fundamentals Certificate
• Brian Boddy (Finance) – GT Financial Fundamentals Certificate & GT Financial Specialist Certificate
• Eden Chandler (TSO) – Information Security Certificate
• LerVerne Davis (Finance) – Defining Customer Service Certificate
• James Kriigel (TSO) – Information Security Certificate
• David Mercer (TSO) – Information Security Certificate

Vempala Speaks at Kyoto Prize Workshop in Tokyo

Santosh Vempala (CS) was an invited speaker at the 2010 Kyoto Prize Satellite Workshop in Tokyo, Nov. 16-18. The Kyoto Prize is an international award to honor those who have contributed significantly to the scientific, cultural and spiritual betterment of mankind. The prize is awarded annually in each of the following three categories: Advanced Technology, Basic Sciences, and Arts and Philosophy. This year the Kyoto Prize in Basic Science went to Laszlo Lovasz of Eötvös Loránd University. Vempala's address was titled, "Effective Principal Component Analysis."

Chandramowlishwaran Wins HPC Fellowship at SC10

George Biros (CSE) and team's Gordon Bell Prize wasn't the only award the CoC picked up at SC10 in New Orleans. Aparna Chandramowlishwaran, a third-year Ph.D. student in CSE, was one of two recipients of the 2010 George A. Michael Memorial High-Performance Computing Fellowship. The award recognizes Chandramowlishwaran's work, which aims to simplify the development of highly efficient parallel programs by elucidating new principles and mechanisms for automatically tuning (autotuning) software. Winners receive a $5,000 stipend plus additional funds to attend SC11, where they are invited to give a special lecture on their research.

Goodman Gives Invited Talks on Cybersecurity in Washington
Sy Goodman (CS) has had another busy semester of invited talks, starting with the "Meeting on the Future of the Internet," sponsored by the American Academy of Arts and Sciences and held in Washington, Sept. 30. Goodman also spoke at the National Intelligence Council workshop, "Geopolitical Implications of Global Advances in Information and Communication Technologies through 2020," Sept. 30. Finally, he spoke and participated in the Conference Board of Canada's Nov. 3 "Cyberspace and National Security" event on current approaches and shortcomings to cybersecurity, Nov. 3. All three of Goodman's events were held in Washington, D.C.

Professional Woman of the Year Mynatt Delivers TEDx Talk
Beth Mynatt (IC) delivered a talk, "Melding Human Potential and Technology Design," at TEDxPeachtree on Nov. 5. TEDx is a program of local, self-organized events that bring people together to share new ideas; the theme of the Nov. 5 event was "Shift," and it explored how shifts in the cultural, socioeconomic, technological and scientific arenas have challenged the way people live, think and even perceive themselves and others. In her talk, Mynatt discussed the evolution of new technologies using "human convergence" and how the interplay of new technologies with the human creative spirit creates new and unanticipated outcomes. Video of the talk is available here.

Mynatt's TEDx lecture came on the heels of being named Professional Woman of the Year by the National Association of Professional Women (NAPW). NAPW is one of the most exclusive and rapidly growing associations of female executives, professionals and entrepreneurs in the United States. The association spans almost every industry including health and medicine, education, advertising and public relations, manufacturing, publishing, communications, entertainment, law and more.

Grevet Receives ARCS Imlay Award
Ph.D. student Catherine Grevet (advisor Beth Mynatt) was awarded the Imlay Award at the ARCS Scholars Award Luncheon on Nov. 18 at the Ritz-Carlton, Atlanta. Each year the Atlanta ARCS Chapter provides awards to academically outstanding U.S. scholars pursuing degrees in science, engineering and medical research from Emory, Georgia Tech, Morehouse College and UGA. The award includes a financial gift of $7,500. Grevet is a second-year CS student with a focus in human-computer interaction. Her research interests include health, wellness and personal informatics related to sustainability.

Vazirani Searches for Pricing Model for Digital Goods in USC Seminar
Vijay Vazirani (CS) delivered a seminar at the University of Southern California on Nov. 30 titled "Extending General Equilibrium Theory to the Digital Economy." Part of USC's "Game Theory & Human Behavior" seminar series, the talk advanced a first step toward designing a pricing model 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.

Personnel Announcements
Henning Meyerhenke has joined CoC as a Post-Doc in CSE effective 10/1/10. His email address is henningm@cc and he is located in KACB 1333. Welcome Henning!
Eric Gilbert has joined CoC as an Assistant Professor in IC effective 11/1/10. His email address is egilbert@cc, phone number is 4-4454 and he is located in TSRB 345. Welcome Eric!
Della Phinisee has been re-hired as an Administrative Assistant II assisting David Bader in CSE effective 11/17/10. Her email address is della@cc, phone number is 4-5756 and she is located in KACB 1320. Welcome back Della!
Stefany Sanders' last day at CoC was 11/26/10. Best wishes, Stefany!
Stephanie Chaillat's last day at CoC was 11/30/10. Best wishes, Stephanie!

General News
CoC Office of Communications Wins Gold Tower Awards
The College's Office of Communications took home more honors from the 2010 Gold Tower Awards, sponsored by Georgia Tech Communications & Marketing. At the Nov. 11 ceremony, the group picked up a Gold Tower for a Twitter campaign promoting the College's participation in the 2009 Grace Hopper Celebration of Women in Computing. They also won an Award of Excellence for the College's new websites (CoC, CS, IC and CSE), launched in the spring, and Director Stefany Sanders was named the 2010 GT Communicator of the Year. Overall, the
communications group competed against more than 90 entries across six main categories.

**Women@CC End-of-Semester Party Set for Dec. 9**
Women@CC will host an End-of-Semester Winter Party on Thursday, Dec. 9, from 6 p.m. to 7:30 p.m. in CCB 354. Participants are encouraged to bring food for the potluck. There will also be a Secret Santa activity, in which each person will bring in a gift (suggested value of $10) for another person. RSVP is required by Dec. 2. Contact Candis Pham or Linda Huynh for more information.

**Recruiting Under Way for Barcelona, GTL 2011 summer programs**
Applications are being accepted now by the Office of International Education (OIE) for the summer Barcelona and Georgia Tech-Lorraine (GTL) programs. In order to reserve a seat on the group flight for the Barcelona program, students must submit a completed application to OIE no later than Jan. 15, 2011. Admissions are processed on a rolling basis until programs meet capacity; early application is highly recommended as these programs will likely be full prior to OIE's summer study abroad application deadline of Feb. 15. For more information on how to apply, please see OIE's website. For more information on the Barcelona or GTL program and upcoming information sessions, please email Program Coordinator Dawn Rutherford.

**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 Nov. 1 to Nov. 30, 2010 (most recent headlines at the top).

- [New Social Software Tries to Make Studying Feel Like Facebook](#)
- [War Machines: Recruiting Robots for Combat](#)
- [New Supercomputer Criteria](#)
- [Study Groups Move Online, Attract Students Worldwide](#)
- [Blood Simulation on Jaguar Takes Gordon Bell Prize](#)
- [OpenStudy Aims to Create Worldwide Study Group](#)
- [Georgia Tech-Led Team Wins Gordon Bell Prize for Supercomputing](#)
- [Candace Mitchell Named GT Undergraduate Woman of Distinction](#)
- [Search Engine Bridges Language Barrier](#)
- [University Researchers Develop New Technology To Trace Fraudulent Voice Calls](#)
- [Georgia Tech Researchers Design Machine Learning Technique to Improve Consumer Medical Searches](#)
- [The Deceitful Robot](#)
- [Robot Musician Jams with Humans](#)
- [Nick Feamster, Recipient of the 2010 SIGCOMM Rising Star Award](#)
- [Georgia Tech Keeps High Performance Computing Sights Set on Exascale at SC10](#)
- [DARPA Begins Funding Plans That Are To Lead To An Exaflop Supercomputer In 2018](#)
- [Georgia Tech Security Summit Determines Primary Threats](#)
- [Phone Apps Aim to Fight Harassment](#)
- [Georgia Tech Engaged in $100 Million Next-Generation Computing Initiative](#)
- [Showtime for OpenFlow at GENI advanced networking project event](#)
- [Andrea Thomaz: College of Computing Professor of Excellence for 2010](#)
- [Can Twitter Predict the Market?](#)
- [Super Accurate Video Games](#)
- [OpenStudy, The Match.com of Student Study Help](#)
- [ Lose Weight and Stay Healthy with Usable Health](#)