Computing Research News

COMPUTING RESEARCH ASSOCIATION, CELEBRATING 40 YEARS OF SERVICE TO THE COMPUTING RESEARCH COMMUNITY

APRIL 2014
Vol. 26 / No. 4

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Announcements

Rabin and Klawe Named 2014 Women of Vision by the Anita Borg Institute

Dr. Tal Rabin

Dr. Maria Klawe

Congratulations to both Tal Rabin and Maria Klawe. Klawe is president of Harvey Mudd College and was a founding co-chair of the highly successful CRA-W Committee. She will be a plenary speaker at the 2014 Conference at Snowbird. Rabin is manager of the Cryptography Research Group at IBM's T.J. Watson Research Center and Computing Community Consortium (CCC) Council Member.

In 2005, The Anita Borg Institute created the Women of Vision ABIE Awards to annually recognize three distinguished women leading technology innovation around the world. These exceptional women are chosen by a panel of their peers for their contributions to technology innovation, industry leadership, and technology-driven social impact.

From the announcement:

Innovation *– Dr. Tal Rabin: Her research has become part of the foundation for the future of cyber-security and protection of individual privacy. Rabin's research focuses on the general area of cryptography and, more specifically, on multiparty computations, threshold and proactive security.*

Leadership *– Dr. Maria Klawe: Dr. Maria M. Klawe is the president of Harvey Mudd College. A renowned computer scientist and scholar, Klawe is the first woman to lead the College since its founding in 1955. She supported the Harvey Mudd Computer Science Department's innovative efforts to attract women to CS, which increased the percentage of female CS majors at the College from 10 percent in 2005 to a current average of 40 percent. Klawe is passionate about making science, engineering and mathematics education more accessible to diverse groups and has emerged as a national thought leader on women in STEM education.*

Read the full announcement here.

Richard Tapia receives 2014 Vannevar Bush Award

Photo credit – Rice University

Richard Tapia

CRA, CRA-W and CDC congratulate Richard Tapia for receiving the 2014 Vannevar Bush Award. National Science Board has announced that mathematician Richard Tapia, a leader in mentoring minorities in science, engineering and mathematics fields, is the 2014 recipient of its Vannevar Bush Award. Tapia is also a previous recipient of CRA's A. Nico Habermann Award, and the Richard Tapia Celebration of Diversity in Computing conference is named in his honor.

From the announcement:

"In addition to his distinguished contributions to mathematics, Richard Tapia has shown extraordinary leadership in increasing opportunities for underrepresented minorities in science and mathematics," said Ruth David, Chair of the NSB's Committee on Honorary Awards. "His long-term commitment and success sharing the excitement and relevance of mathematics and computer science with inner-city high school students and other members of the public is inspirational."

David Bader

Congratulations to CRA Board Member David Bader. David was recently promoted to Chair of the School of Computational Science and Engineering at Georgia Institute of Technology.

2014 CRA Board Election Results

CRA members have elected four new members to its Board of Directors – Nancy Amato, Dan Grossman, Susanne Hambrusch and Barbara Ryder. They will begin three-year terms on July 1, 2014. Five current board members - Mary Czerwinski (Microsoft Research), Susan Davidson (University of Pennsylvania), Brent Hailpern (IBM Research), James Kurose (University of Massachusetts) and Ellen Zegura (Georgia Tech) were re-elected to the CRA Board for the July 1, 2014, through June 30, 2017 term.

Julia Hirschberg and P. Takis Metaxasis are retiring from the board as of June 30, 2014. CRA thanks them for contributions during their service on the board.

Nancy Amato

Nancy M. Amato is Unocal Professor and Interim Department Head of the Department of Computer Science and Engineering at Texas A&M University where she co-directs the Parasol Lab. She received undergraduate degrees in Mathematical Sciences and Economics from Stanford University, and M.S. and Ph.D. degrees in Computer Science from UC Berkeley and the University of Illinois at Urbana-Champaign, respectively. She was an AT&T Bell Laboratories PhD Scholar, received a CAREER Award from the National Science Foundation, is a Distinguished Speaker for the ACM Distinguished Speakers Program, and was a Distinguished Lecturer for the IEEE Robotics and Automation Society. She received the 2013 IEEE Hewlett-Packard/Harriet B. Rigas Award, a University-level teaching award from the Texas A&M Association of Former Students in 2011, and the Betty M. Unterberger Award for Outstanding Service to Honors Education at Texas A&M in 2013. She is a Fellow of the American Association for the Advancement of Science (AAAS), a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a Fellow of the World Technology Network (WTN).

Dan Grossman

Dan Grossman is an Associate Professor in the Department of Computer Science & Engineering at the University of Washington where he has been a faculty member since 2003. He currently holds the J. Ray Bowen Professorship for Innovation in Engineering Education. Dan completed his Ph.D. at Cornell University and his undergraduate studies at Rice University. His research interests lie in the area of programming languages, ranging from theory to design to implementation, with a focus on improving software quality. In recent years, he has focused on better techniques for expressing, analyzing, and executing multithreaded programs. He has collaborated actively with researchers in other disciplines of computer science, particularly computer architecture, software engineering, and databases.

Susanne Hambrusch

Susanne E. Hambrusch is professor of Computer Sciences at Purdue University. She received the Diplom Ingenieur in Computer Science from the Technical University of Vienna, Austria, in 1977, and a Ph.D. in Computer Science from Penn State in 1982. In 1982, she joined the faculty at Purdue University. She served as the Department Head of the Computer Science department from 2002 to 2007. She has held visiting appointments at the Technical University of Graz, Austria, and the International Computer Science Institute at the University of California, Berkeley. From 2010 to 2013, she served as the Director of the Computing and Communication Foundations (CCF) Division in the CISE Directorate at NSF. She successfully led the development of several new crosscutting programs including Cyber-Enabled Sustainability Science and Engineering (CyberSEES) and eXploiting Parallelism and Scalability (XPS), and the US-Israel Collaboration in Computer Science.

Barbara Ryder

Dr. Barbara G. Ryder is Head of the Department of Computer Science at Virginia Tech, where she holds the J. Byron Maupin Professorship in Engineering. She received her A.B. degree in Applied Mathematics from Brown University (1969), her Masters degree in Computer Science from Stanford University (1971) and her Ph.D degree in Computer Science at Rutgers University (1982). Dr. Ryder served on the faculty of Rutgers from 1982-2008. She also worked in the 1970s at AT&T Bell Laboratories in Murray Hill, NJ. Dr. Ryder's research interests on static and dynamic program analyses for object-oriented systems, focus on usage in practical software tools for ensuring the quality and security of industrial-strength applications.

Visions 2025: Interacting with the Computers All Around Us

By Ann Drobnis, Computing Community Consortium Director

The Visions 2025 initiative is intended to inspire the computing community to envision future trends and opportunities in computing research. Where is the computing field going over the next 10-15 years? What are potential opportunities, disruptive trends, and blind spots? Are there new questions and directions that deserve greater attention by the research community and new investments in computing research?

The first workshop to be held as a part of this series is **Interacting with the Computers All Around Us.**

Computers are increasingly ubiquitous, from smart phones and sensors, to wearable electronics and embedded medical devices, to conventional tablets, laptops, and server racks. In this workshop, we will bring together researchers at the cutting edge of pervasive computing to look beyond the horizon at the technological innovations that could radically change how computers interface with people and the world around them.

In particular, the workshop will cover the growing challenges and promising technological trends in how people will interact with computing around them in efficient, correct and humanly pleasing manners. Many computing devices will be interacting with each other without humans in the loop, thus, the workshop will also explore interactions involving a swarm of machines. Finally, ubiquitous computing will open new frontiers in how people interact and will empower communities to accomplish bigger and more complex tasks.

The workshop will be held May 12-13 in Washington, DC. For more information, please visit: http://cra.org/ccc/visioning/computing-visions-2025/interacting-with-the-computers-all-around-us.

Additional Computing Visions 2025 workshops will be occurring soon, titled **New Renaissance of Indy Manufacturing: Programmable Matter and Things** and **Computing and the Smart World.**

2014 CRA Conference at Snowbird

The event will be held July 20 – 22 in Snowbird, Utah.

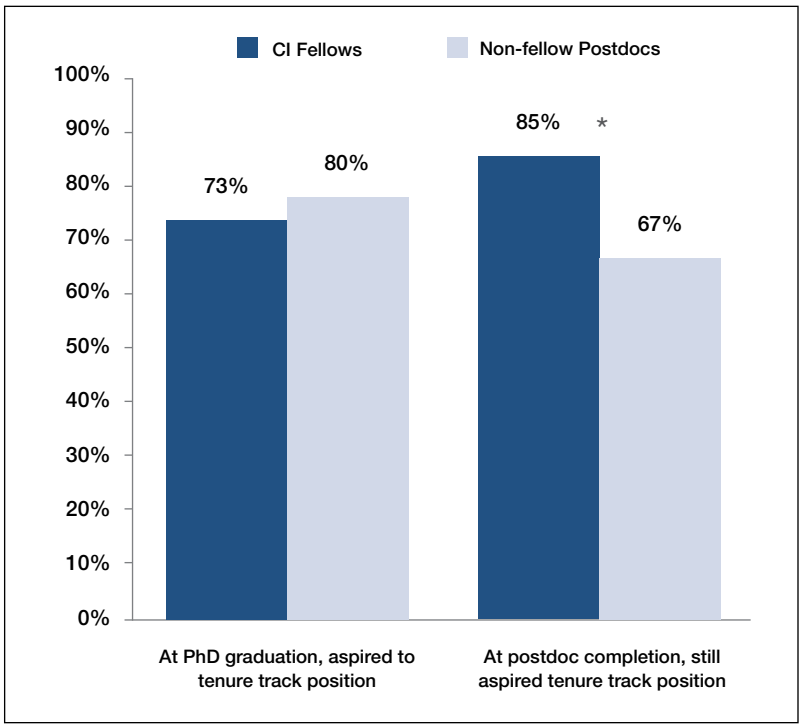
Click here to view the updated program.

Center for Evaluating the Research Pipeline Info graphic

By CRA Staff

CI Fellows postdoc helps sustain interest in tenure track academic career

Applicants who applied to the Computing Innovation (CI) Fellowship Program in 2009, 2010, or 2011 were recruited during the fall of 2013 to complete CERP's survey of postdoc experiences. We asked a sample of CI Fellows (n = 66) and non-fellows who had other postdoc experiences (i.e., Non-fellow Postdocs; n = 117) to reflect on their career aspirations upon completing their PhD and their career aspirations upon completing their postdoc. Both groups reported the same level of interest in pursuing a tenure track academic career upon PhD completion. Among those who had aspired to a tenure track position at upon completing their PhD, CI Fellows reported greater aspirations for being a tenure track academic after completing their postdoc relative to Non-fellow Postdocs, $p < .05$. These findings suggest that the CI Fellows postdoc program helped individuals maintain interest in a tenure track academic career.



Note: * $p < .05$

Center for Evaluating the Research Pipeline

This analysis is brought to you by the CRA's Center for Evaluating the Research Pipeline (CERP). Want CERP to do comparative evaluation for your program or intervention? Contact cerp@cra.org to learn more. Be sure to also visit our website at http://cra.org/cerp/.

Postdoc Best Practices Award Recipients Announced

By Ann Drobnis, CCC Director

The Computing Community Consortium and the National Science Foundation are very excited to announce the recipients of awards for the Postdoc Best Practices program. In September, an RFP was released by the CCC to create programs to develop, implement, and institutionalize the implementation of best practices for supporting postdocs in the computer science and engineering field.

The recipients of the awards are:

- A Foundational Model for Postdoctoral Programs in Computer Science & Engineering at Large Universities; Arizona State University; Chitta Baral, Lead PI
- Taking Collective Responsibility for the Postdoc Experience at the University of Washington; Gaetano Borriello, Lead PI
- ASCENT: Advancing Computer Science Careers through Enhanced Networking and Training; Columbia University, City University of New York, Cornell University, New York University, Shih-Fu Cheng, Lead PI

Summaries of each program will be available on the Postdoc Best Practices website (www.postdocbp.org) and in next month's *Computing Research News.*

University-Industry Partnership to Advance Machine Learning:

Yahoo Labs and Carnegie Mellon University announce five-year, $10 million partnership

By Shar Steed, CRA Communications Specialist

Through an innovative new partnership, Yahoo Labs and Carnegie Mellon University (CMU) are working together to break new ground in the area of machine learning. This transformational research will bring academic and industry researchers together, with the goal of developing new technologies that meet common goals. The exciting new collaboration is called Project InMind. Academic researchers at CMU will be able to iterate on work directly with Yahoo software, testing on opt-in users from the CMU community and making use of Yahoo's infrastructure, with the goals of increasing the pace of mobile and personalization research and creating a better user experience. The project will be overseen at Yahoo by Ron Brachman, chief scientist and head of Yahoo Labs, and at CMU by Tom Mitchell, head of the CMU Machine Learning Department and Justine Cassell, associate vice provost of technology strategy and impact.

From left to right: Tom Mitchell, Ronald Brachman, and Randal Bryant and the announcement event.

Initiating a university-industry partnership

While this specific partnership is with CMU, Yahoo Labs welcomes working with other universities as well. When universities and industry start to prepare a collaboration, the first step is to identify common goals, and then the institutions hold a series of meetings over time to nail down specifics. Yahoo partnered with CMU on this project because of mutual interest in advancing machine learning. Yahoo's efforts in mobile technology and personalization and CMU's leading academic department in machine learning proved to be a natural fit, and it is a mutually beneficial undertaking. Researchers will get unprecedented access to data and Yahoo will be able to better serve its users with a customized experience.

Yahoo frequently collaborates with university researchers on joint research interests in a number of faculty engagement programs, and they often result in papers at conferences and research that can be used to improve user experience. Part of the InMind project is the establishment of a Yahoo Fellowship program. Students and faculty at CMU working on this project will be funded by Yahoo over an extended period of time and will collaborate with Yahoo researchers.

Real data in real time

At the media announcement, Tom Mitchell described what makes the project groundbreaking. "This is really an unprecedented gift in the history of the Machine Learning Department and also in the HCI Institute...It's also a game changer in terms of the style of research."

Most university research studies are restricted by privacy issues, and don't have access to large data sets. While Yahoo Labs has a data-sharing program, they anonymize the data sets to protect privacy. Unique to this particular partnership, Yahoo is providing a mobile toolkit to create a "living laboratory" on campus, where students and faculty can opt-in to test apps that researchers will create. This will allow the research team to quickly iterate in real time with the data from its opt-in users.

Click here to watch a video of the announcement.

Click here to read the announcement on the Yahoo Labs blog.

Expanding the Pipeline:

1st CRA-W/CDC Broadening Participation in Visualization (BPViz) Workshop

By Dr. Vetria L. Byrd, Clemson University

On February 10-11, 2014 Clemson University catapulted to the forefront of efforts to broaden participation in discipline specific domains. Clemson Computing and Information Technology Department hosted the 1st CRA-W/CDC Broadening Participation in Visualization Workshop (citi.clemson.edu/bpviz2014). The workshop was held at Clemson University in Clemson, South Carolina. This herculean effort of organizing and planning was met with lofty goals, and logistical intricacies that culminated in success, despite the rare hiccup by Mother Nature affectionately known as the polar vortex.

For most, the word "Visualization" conjures up images of pie charts, bar and line graphs and pretty pictures. There is more to visualization than pretty pictures. Visualization is the process of transforming raw data into a visual representation that allows for keen insight to the relationships and complexity that exist in the data; this process, with the aide of tools and techniques commonly utilized in computer science, graphics and imaging, gives birth to what is so often casually categorized as "pretty pictures." Data in its rawest form are large in size, complex in nature, and unstructured in organization. It is the production and generation of enormous amounts of data that drives the need for visualization.

Figure 1 BPViz2014 Workshop Participants, Speakers and Organizers

Details of the visualization process are beyond the scope of this article; however, visualization allows researchers to view the data at various levels of detail, reveals complex relationships difficult to detect by human visual inspection alone and allows visual representation of expected results and sometimes unexpected discoveries. Visualization leads to "insight" which fosters discoveries while providing explanations to complex problems. The need to diversify a field with such far-reaching influence is imperative.

The goals of the workshop were to broaden participation of women and underrepresented groups in visualization, to foster a community of current and future scholars with interests in visualization and to encourage participants to consider visualization as a career path. These goals were achieved by meeting the following objectives:

- recruiting women and underrepresented groups
- providing networking and mentoring opportunities
- enabling communication and collaboration
- providing a platform to showcase participant research

The workshop opened with "First Impressions." Participants were asked questions to gauge their knowledge and understanding of visualization; this provided feedback and insight on their expectations for the workshop, i.e., what they hoped to learn or gain from the workshop experience. Knowledge of visualization among participants ranged from beginner to advanced. Similarly, a "Last Impressions" session was scheduled for the end of the workshop where the same participants were asked the same questions to measure whether the workshop had met their expectations.

Participant Participation

Visualization is multidisciplinary in nature and as such, planning for the workshop took a multidisciplinary approach to recruitment. Special effort was made to reach out to participants at historically black colleges and universities. Participants were recruited via a number of different venues including, but not limited to, submitting requests to post announcements about the workshop on online resources that target women and underrepresented groups: The Anita Borg Institute/Grace Hopper listserv, association listservs, Broadening Participation Communities and discipline-specific mailing lists. To ensure widespread interest in participation considerable effort was made to reach all fields of scholarship where visualization techniques provide insight. Leveraging Clemson University's leadership in cyberinfrastructure initiatives and commitment to education outreach a nation-

wide call for participation was made to cyberinfrastructure stakeholders. The workshop was well received by the visualization community, and its lofty goal of widespread participation was achieved beyond expectations. After a highly competitive selection process, 20% of applicants were selected for funded participation. Over 100 participants were expected to attend. Due to inclement weather conditions, the 2-day workshop was shortened to one full day. A total of 77 participants (45% female; 55% male) were in attendance despite the unexpected snow storm in South Carolina. Participation was well represented all levels of scholarship (Figure 2, below), interests and ethnic backgrounds.

If we are serious about broadening participation in the fields of science, technology, engineering and mathematics (STEM), we must broaden participation at all levels of academia. This workshop included undergraduates, graduate students, post-docs, faculty members, research scientists, members from education outreach community, K-16 instructors, and self-funded participation from K-12 participants (high school juniors, seniors and instructors), and visualization artists.

Networking and Mentoring

Attention was made to ensure academic and industry participation represented a variety of speakers from underrepresented groups and from across disciplines. Respected and leading members of the visualization community from academia and industry with mentoring experience and/or from an underrepresented group were invited to participate in the workshop as speakers and/or panelist. The workshop featured events for networking and mentoring on-site; however, mentoring started before the workshop. A rapport was established with participants via email and heavily utilized to keep participants informed and up-to-date regarding planned workshop events, provide suggestions on how to prepare for workshop sessions, and answer questions for first time workshop attendees. Dr. Nancy Amato, Distinguished ACM Lecturer and one of the keynote speakers for the workshop, graciously gave her time and expertise and provided additional mentoring on-site during the workshop.

Enabling Communication and Collaboration

A variety of speakers and visualization experts from across disciplines where visualization plays an important role were invited to participate in a panel discussion. The panel was representative of workshop participant demographics and consisted of representation from academia, industry, and underrepresented groups. The purpose of the panel was to convey and encourage participants considering career paths to consider visualization while highlighting different paths to visualization and opportunities encountered along the way. The panel consisted of:

- Maxine Brown, Associate Director of the Electronic Visualization Laboratory (EVL) at the University of Illinois at Chicago
- Michael Smith, Visual Media Architect and Academic Program Director with Intel where he leads education program in visualization, high performance computing, parallel programming and mobile computing
- Sophie Jörg and Joshua Levine, Assistant Professors in the Visual Computing Division of the School of Computing at Clemson University

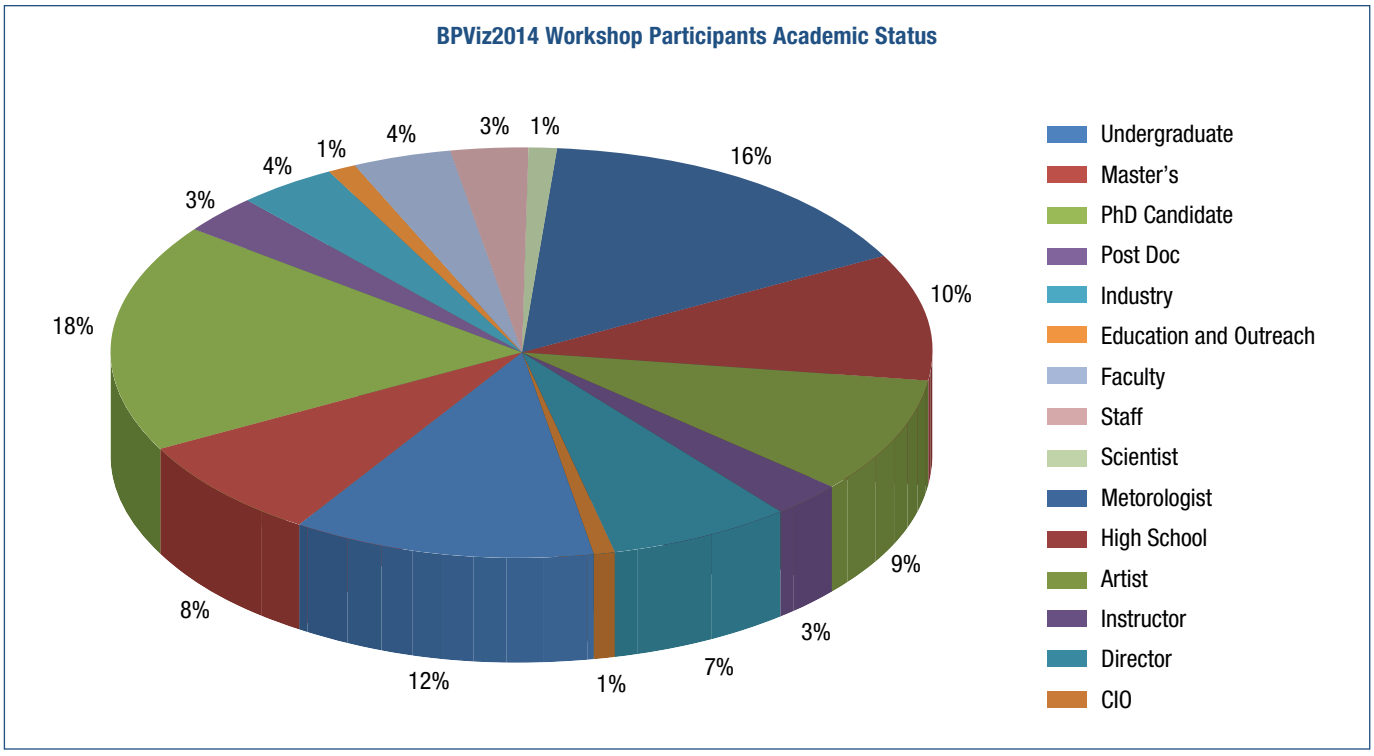


Figure 2 Academic statuses of workshop participants

- Alberto Roca, Executive Director of DiverseScholar.org
- Vetria Byrd, Director of Advanced Visualization at Clemson, Workshop Organizer
- Sussan Einakian, a graduate student at University of Alabama at Huntsville and workshop participant, was invited to participate as a panelist to represent the student perspective.

The panel discussion was followed by a "Meet the Panelist" session. Participants were given the opportunity to meet and talk with panel speakers one-on-one. This proved to be appreciated by all participants but even more so by participants who described themselves as beginners or novices to visualization.

Industry and academic speakers included

- Dr. Nancy Amato, Distinguished ACM Lecturer, Texas A&M University (Day 1 Keynote Address)
- Dr. Donna Cox, Director of Advanced Visualization Laboratory (AVL) at the National Center for Supercomputing Applications (NCSA) (Day 2, Keynote Address)
- Christopher Senesac (Sr. Process and System Architect at Boeing)
- Michael Smith (Visual Media Artist, Intel)
- Casey Goodlett (R&D Engineer at Kitware, Inc.)
- Benjamin Rennison and Michael Scafuri (Archaeologist and Metrologist, Clemson University Restoration Institute)

Poster/Visualization Showcase

The highly anticipated poster/visualization showcase was well attended. The session further engaged participants and speakers alike by allowing participants with intermediate/advanced knowledge of visualization to showcase their work while giving beginners an opportunity to converse with others and experts in the field about their visualization interests. Participants new to visualization were advised to treat the poster session as a conversational piece and embrace the moment for the invaluable experience that it was: a mechanism for initiating conversation with leading experts in the field. How often does this happen for someone new to the field? Poster topics were a wonderful mix of research not only in expected fields like computer science, engineering and biology, but also represented research interests from digital humanities and social media, to wire fraud and air quality. Posters from the showcase can be viewed at http://citi.clemson.edu/viz/BPViz2014/Showcase/Poster.html.

Figure 3 Workshop participant, Krystal Jackson, during Poster/Visualization Showcase

Broadening Participation in STEM through Visualization

The workshop provided diversity in participants, representation of research, and workshop content. Despite inclement weather conditions, the workshop was a success. Visualization incorporates techniques and methods applied and refined in science, technology and engineering fields, and as such the field of visualization is subject to the same diversity deficiencies found in all STEM fields. Feedback from survey responses are still pending, however verbal feedback from participants during the workshop was encouraging. Clemson University is committed to continuing efforts to broaden participation of women and members of underrepresented groups in visualization. Plans are underway for BPViz2015.

About the Author

Dr. Vetria L. Byrd is a Visualization Scientist and Director of Advanced Visualization in Clemson's Computing and Information Technology, Center for Excellence in Next Generation Computing at Clemson University. As a member of the African American PhDs in Computer Science (AAPHDCS) group, Dr. Byrd has benefited from invaluable mentorship from members of underrepresented groups and shares her positive experiences with undergraduate data visualization interns she mentors at Clemson University. Dr. Byrd will extend her knowledge and expertise to undergraduates who participate in the newly funded NSF REU Site: Research Experiences for Undergraduates in Collaborative Data Visualization Applications June 2, 2014 – July 25, 2014 at Clemson University.

Acknowledgements

This workshop was partially funded by CRA-W/CDC and NSF Grant ACI-1419415. Thank you to everyone who helped with the planning and organization specifically: Jim Bottum, CIO of Clemson Computing and Information Technology; co-organizers: Jill Gemmill, Edward Duffy and Galen Collier, participants and speakers. Special thank you to Simon Appleford and Lori Tanner, they were instrumental in the workshop's success.

CCC Workshop Report: Multidisciplinary Research for Online Education

From the CCC Blog

The following is a special contribution to this blog from Douglas H. Fisher, Director of the Vanderbilt Institute for Digital Learning, and Associate Professor of Computer Science and Computer Engineering at Vanderbilt University. Doug and Armando Fox of U.C. Berkeley co-chaired the Workshop on Multidisciplinary Research for Online Education last year, and recently completed the report of that workshop.

In February 2013 the Computing Community Consortium (CCC) sponsored the Workshop on Multidisciplinary Research for Online Education (MROE). This visioning activity explored the research opportunities at the intersection of the learning sciences, and the many areas of computing, to include human-computer interactions, social computing, artificial intelligence, machine learning, and modeling and simulation.

The workshop was motivated and informed by high profile activities in massive, open, online education (MOOE). Point values of *"massive"* and *"open"* are extreme values that make explicit, in ways not fully appreciated previously, variability along multiple dimensions of scale and openness.

The report for MROE has been recently completed and is online. It summarizes the workshop activities and format, and synthesizes across these activities, elaborating on 4 recurring themes:

1. Next Generation MOOCs and Beyond MOOCs
2. Evolving Roles and Support for Instructors
3. Characteristics of Online and Physical Modalities
4. Physical and Virtual Community

From the report:

Some of the particularly novel insights growing out of the workshop were attention to instructor support, instructor modeling, and instructional communities, particularly those that crossed institutional boundaries. Training and supporting teachers in new tools, skills, and domain knowledge further amplifies the effects of online education. To adapt another, like-minded expression—if you teach a teacher, you teach a village—at least this is a hypothesis that should be expanded and evaluated. Attention to issues of community generally, such as changing roles and managing discourse at large scale, were foci of the workshop.

While workshop participants were keenly interested in and discussed STEM higher education, other relatively unique discussions at MROE were on technological and social concerns regarding (a) possibly underserved populations (e.g., K-12, retired, disabled), (b) underserved disciplines (e.g., humanities, arts), and (c) long-term cultural influences of, and (d) other broader impacts of massive open online education.

While the report itself, which is in both print and online forms, is not subject to change, an online addendum is also available that will change and grow. The rapidly changing character of MOOE motivates this online addendum, and it will be updated periodically, ideally with input from the computing-research community.

Additions to the addendum will include new venues for reporting scholarship on MOOE. One example, albeit a resource that we were able to capture in the MROE report itself, is the First Annual ACM Conference on Learning at Scale, which kicked off, March 4, 2014 in Atlanta, GA, USA. *"This conference … was created by ACM as a new scholarly venue and key focal point for the review and presentation of the highest quality research on how learning and teaching can change and improve when done at scale."* The ACM conference is co-located with the Annual Technical Symposium of the ACM Special Interest Group on Computer Science Education (SIGCSE 2014).

Highlights of the CISE Fiscal Year 2015 Budget Request

By Farnam Jahanian
Farnam Jahanian is Assistant Director of the National Science Foundation for Computer and Information Science and Engineering.

On March 4, President Obama delivered his Fiscal Year (FY) 2015 Budget Request to Congress, and the President's FY 2015 Budget Request for NSF was presented on March 11. At $7.3 billion, this Request supports investments in fundamental research across all scientific disciplines, engineering, and education that continue to enhance our national economy, security, and quality of life. This represents an increase of $83 million, or about 1.2 percent, over the FY 2014 NSF Estimate. For more information, see: http://www.nsf.gov/about/budget/fy2015/index.jsp.

I am pleased to let you know that the FY 2015 Budget Request for NSF includes $893.35 million for the CISE directorate, which is level with the FY 2014 Estimate and above the FY 2013 Actual investment by about $35 million. The CISE FY 2015 Request is shaped by investments in core research, education, and infrastructure programs, as well as investments in a crosscutting portfolio that aligns closely with national priorities and societal challenges.

In addition to the FY 2015 Budget Request, the President has put forward the Opportunity, Growth, and Security Initiative (OGSI), which provides an additional $552 million for NSF to spur economic progress, promote opportunity, and strengthen national security. This Initiative will accelerate progress in broad areas of science and engineering that address clearly defined national priorities, such as cybersecurity, neuroscience, clean energy, advanced manufacturing, and STEM workforce development.

I wish to emphasize four specific investment areas: expansions of CISE foundational research; crosscutting investments led by CISE; advanced cyberinfrastructure; and education and workforce development. To view a presentation on the CISE FY 2015 Priorities and Budget Request, see: http://www.nsf.gov/events/event_summ.jsp?cntn_id=130742&org=CISE.

Expansions of CISE Foundational Research: CISE remains strongly committed to its core programs in all areas of computer and information science and engineering. CISE will continue to cast a wide net and let the best ideas surface across its core programs in all four divisions and across investment levels, from single-investigator research to center-scale activities. For example, CISE continues its support for early-career researchers through increased investments in the CAREER program and maintains its investments in Expeditions in Computing, a center-scale program that promises to accelerate discovery at the frontiers of computing, communication, and information science and engineering. CISE is expanding its investments in foundational research, infrastructure, and education for Big Data science and engineering programs (e.g., see the Critical Techniques and Technologies for Advancing Big Data Science & Engineering solicitation posted on March 12). CISE is also maintaining its investments in Exploiting Parallelism and Scalability (XPS), which supports the development of new foundational principles and cross-layer approaches.

Crosscutting Investments led by CISE: CISE leads a number of cross-cutting programs, which catalyze foundational research and, in many cases, cross over multiple directorates and agencies. In partnership with the Directorates for Engineering (ENG); Education and Human Resources (EHR); Mathematical and Physical Sciences (MPS); and Social, Behavioral and Economic Sciences (SBE), CISE continues to lead the Secure and Trustworthy Cyberspace (SaTC) program. SaTC will invest in game-changing research, develop scientific foundations, maximize research impact, and accelerate transitions to practice, and will address education and workforce issues. SaTC will fund a diverse set of collaborative projects in areas of current critical importance, such as mobile and cloud security, cybereconomics, science of security, and privacy in today's networked world.

CISE leads the National Robotics Initiative (NRI) in partnership with ENG, EHR, and SBE, and with several other agencies, including the National Aeronautics and Space Administration (NASA), National Institutes of Health (NIH), and U.S. Department of Agriculture (USDA). The goal is to develop the next generation of collaborative robots that promise to enhance personal safety, health, and productivity. In partnership with NIH, Smart and Connected Health brings together six NIH institutes with three NSF directorates (CISE, ENG, and SBE) in an effort to accelerate the development and use of innovative approaches that would support the much-needed transformation of healthcare from reactive and hospital-centered to preventive, proactive, evidence-based, person-centered and focused on well-being. Furthermore, CISE is an active participant in the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) initiative, a joint effort among the NSF, NIH, Defense Advanced Research Projects Agency (DARPA), and private partners with the goal of accelerating the understanding of brain structure and function.

The Cyber-Physical Systems (CPS) program, funded jointly with ENG, aims to continue our long-term investment in the foundational research enabling smart systems that sense, respond, and adapt to the environment. In a new partnership with the Department of Homeland Security (DHS) and Department of Transportation (DoT), CPS will support interdisciplinary research and education to further the understanding of fundamentals arising from grand challenge applications, such as advanced manufacturing, smart grid technologies, medical devices, and transportation networks. As smart systems become ubiquitous in our everyday lives and grow increasingly interdependent and complex every year, CISE, ENG and SBE have started a new program, Resilient Interdependent Infrastructure Processes and Systems (RIPS), to ensure the reliability, resiliency, safety, and security of critical infrastructures.

Through agency-wide programs, such as Innovation Corps (I-Corps), CISE will continue to foster public-private partnerships to accelerate and improve the transfer of results of NSF-funded research to the commercial marketplace.

Advanced Cyberinfrastructure: Cyberinfrastructure has increasingly become a critical component of the R&D ecosystem. Realizing the enormous potential of cyberinfrastructure requires a long-term, bold, sustainable, and comprehensive approach. The NSF FY 2015 Budget Request includes significant support for advanced computational infrastructure, including Blue Waters, Stampede, and XSEDE. These are complemented by investments in several programs – Data Infrastructure Building Blocks (DIBBs), Software Infrastructure for Sustained Innovation (SI^2), and Computational and Data-Intensive Science and Engineering (CDS&E) – that together aim to catalyze new thinking, paradigms, and practices in developing and using data, software, and computational infrastructure to accelerate scientific discovery and engineering innovation.

NSF continues to make significant investments in experimental and prototype research and education networks that extend from the campus to international connections, including Campus Cyberinfrastructure – Infrastructure, Innovation and Engineering (CC*IIE), International Research Network Connections (IRNC), and CISE Research Infrastructure: Mid-Scale Infrastructure – NSFCloud.

Education and Workforce Development: In FY 2015, CISE reaffirms its commitment to education and workforce programs, including Graduate Research Fellowships and the NSF Research Traineeship (NRT) program, which promotes innovative, effective, and scalable models for STEM graduate student training, preparing scientists and engineers of the future. Related to these efforts, CISE and EHR will lead the foundation in its goal of increasing the Nation's capacity in data science by investing in the development of human capital and infrastructure.

In collaboration with EHR, ENG, and SBE, CISE is continuing its research program, Cyberlearning and Future Learning Technologies, which promises to integrate advances in technology with advances in what is known about how people learn with a particular focus on cyberlearning and online education. This is an important area of inter-disciplinary exploration with enormous potential to transform formal and informal education.

CISE continues its focus on STEM-C Partnerships (building on important results from the *Computing Education for the 21st Century, CE21,* program) in order to increase the pool of students and teachers who develop and practice computational and data competencies in a variety of contexts and to increase the number and diversity of students who pursue degrees in computing, computation, and data-intensive fields.

As a field of inquiry, computer and information science and engineering has a rich intellectual agenda. Foundational research seeds new programs that keep our community at the frontiers of knowledge and discovery. I invite you to work with us to ensure that our Nation remains at the forefront of advances in science and engineering research, education, and cyberinfrastructure.

Time to Degree in Computing

By Betsy Bizot, CRA Director of Statistics and Evaluation

How long does it take to finish a Ph.D. in computing? This is important information for departmental planning and for students considering the commitment involved in a Ph.D. program, but it is not readily available. This article addresses five questions:

1. What is the median time to degree in computing?
2. How does computing compare with other fields in this?
3. What is the distribution of time to degree, beyond the median?
4. Are there differences in time to degree for subgroups by gender, citizenship status, underrepresented minority status, or Carnegie class of granting institution?
5. How does attrition in Ph.D. computing programs compare to other fields?

All data reported here, except for attrition, come from the Survey of Earned Doctorates (SED, http://www.nsf.gov/statistics/srvydoctorates/). The SED is administered in the fall of each year to everyone who completed a doctoral degree at a U.S. institution in the previous academic year. It includes the information needed to compute time to degree in two ways: as time since completion of the bachelor's degree, and as time since first enrolling in a graduate program (enrolling in *any* graduate program, not necessarily in the institution and program from which the student earned the Ph.D.).

Median Time to Degree in Computing Compared to Other Fields

Table 1 compares the median time to Ph.D. for degrees in Computer Sciences[1] completed between 2004 - 2012, with time to degree calculated both ways, against the time to degree for other broad fields. Overall, a PhD in computing takes about 7.6 years from first beginning a graduate program, close to a year longer than a Ph.D. in engineering or in physical sciences (which includes computer sciences). There is some fluctuation in length of time over the years, but no observable trend in computer sciences.

Because there is little change in the median for computer sciences over time, for additional analyses the students were grouped into two cohorts: those who completed their degree in 2004-2008, and those who completed their degree in 2009-2012. This gives a larger sample size for investigating small subgroups of students. Additional analyses also use only the time since first graduate enrollment.

Distribution of Time to Degree

Table 2 provides more distribution information on time to degree since first entering a graduate program for the 2004-2008 and 2009-2012 cohorts. The short tail is not terribly short; not surprisingly, fewer than 10% of PhD recipients took less than 5 years after entering graduate school to complete their degree. The long tail, on the other hand, stretches out. Seventy-five percent of degree completers finished within 10 years of beginning graduate school and 90% within 14 years.

Table 1. Median Time to Degree in Computer Sciences and Related Broad Fields.

	Since completion of bachelor's			Since first graduate enrollment		
	Computer Sciences	Physical Sciences	Engineering	Computer Sciences	Physical Sciences	Engineering
2004	9.3	7.8	8.4	7.8	6.7	7.2
2005	8.9	7.8	8.3	7.7	6.7	7.2
2006	8.9	7.7	8.1	7.8	6.7	6.9
2007	8.8	7.8	7.9	7.4	6.7	6.7
2008	8.8	7.7	7.9	7.3	6.7	6.7
2009	8.8	7.5	7.9	7.6	6.7	6.9
2010	8.9	7.6	7.8	7.6	6.7	6.9
2011	8.9	7.6	7.8	7.7	6.7	6.8
2012	8.8	7.5	7.5	7.4	6.7	6.7

Subgroup Differences in Time to Degree in Computer Sciences

Table 3 and Figure 1 show the median time to complete a Ph.D. since first beginning a graduate program, for each subgroup, for each cohort.

Gender. Women take longer than men. This is true in both cohorts; there is a larger difference (almost a year) in the second cohort.

Citizenship status. In the earlier cohort, students on temporary visas take less time than citizen or permanent resident students. In the later cohort, the median times of the two groups are exactly the same.

Minority status. Students from underrepresented minorities (URM) – that is, racial and ethnic groups underrepresented in computing[2] – take longer than majority students to complete a Ph.D.. In the first cohort, the difference is almost two years; in the second cohort it is close to one year.

Carnegie Class. Eighty percent of doctorates in computing are granted by "Very high research activity" institutions; students at those institutions take noticeably less time to complete their degrees than those at the less-research-intensive institutions.

Table 2. Distribution of Time to Degree in Computer Sciences Since First Graduate Enrollment (Values of Percentiles)

Percentile	2004-2008	2009-2012
10th	5.00	5.00
25th	6.00	6.00
50th	7.66	7.58
75th	10.17	9.92
90th	14.17	13.92

Discussion

These numbers raise additional questions. For example, it seems unlikely that students on the high end of the time to degree distribution spent 14 years full time in a graduate program; probably the long-completers took time off during graduate school (between master's and Ph.D., or as a leave of absence during the Ph.D. program) or went part time for some or all of the program. More importantly, why do women and URM students take longer to complete a degree? Are they more likely to have taken a leave of absence or to go part time or are they taking more time in regular full time degree programs, and in either case, why?

Attrition

Time to degree is only informative for students who complete a degree. A related question is that of attrition: how many students begin a Ph.D. program but never complete a Ph.D.? These are challenging data to collect; challenging for departments, because it is not always clear when attrition happens (will the student taking a leave of absence return?), and challenging for statisticians because it is hard to locate and survey students who have left their degree programs.

The Council of Graduate Schools recently conducted a Ph.D. Completion Project. Participating institutions submitted information on their Ph.D. programs in selected fields; one

Table 3. Median Time to Degree of Doctoral Recipients in Computer Sciences

	2004-2008		2009-2012	
	Median	N	Median	N
All doctorates	7.66	6,267	7.58	6,023
Gender:				
Men	7.58	4,983	7.33	4,773
Women	7.92	1,283	8.25	1,250
Citizenship status:				
U.S. citizens and permanent residents	7.75	2,683	7.58	2,976
Temporary visa holders	7.42	3,553	7.58	3,001
Underrepresented minority status:				
Underrepresented minorities	9.66	167	8.33	206
Not underrepresented minorities	7.75	2,498	7.50	2,746
Carnegie classification of doctoral institution:				
Very high research activity universities	7.33	5,004	7.33	4,759
High research activity universities	9.00	1,106	8.88	1,076
Other Carnegie classification institutions	9.42	157	9.54	188

of those fields was Computer and Information Sciences, and 15 institutions submitted data on 17 CIS Ph.D. programs. Data were collected on the ten-year completion rate of two groups of students, those beginning a Ph.D. program in the 1992-93 through 1994-95 academic years, and those beginning in 1995-96 to 1997-98. The CGS report on *Ph.D. Completion and Attrition: Baseline Data from the Ph.D. Completion Project* (2007) shows CIS with the lowest rate of 10-year completion (41.5%, compared to the engineering average of 63.6% and the mathematics and physical sciences average of 54.7%). Conversely, CIS had the highest rate of attrition (25.4% attrition within the first two years compared to 14.5% for engineering and 17.8% for mathematics and physical sciences; 51.4% attrition at the end of 10 years compared to 26.7% for engineering and 36.9% for mathematics and physical sciences.)

It should be taken into account that this 10-year period included the dot-com boom, and that computing students may have had more temptation and more opportunity to leave a Ph.D. program than students in other fields or at other times. It would be interesting to see comparable numbers for students beginning Ph.D. programs in 2001-02 through 2003-04, but no such data has been collected.

Further information on the Ph.D. Completion Project, including the publication referenced above, is available at www.phdcompletion.org

Acknowledgements

Thanks to Mark Fiegener, SED Project Officer, Human Resources Statistics Program, NSF, who provided the SED data specific to computer sciences.

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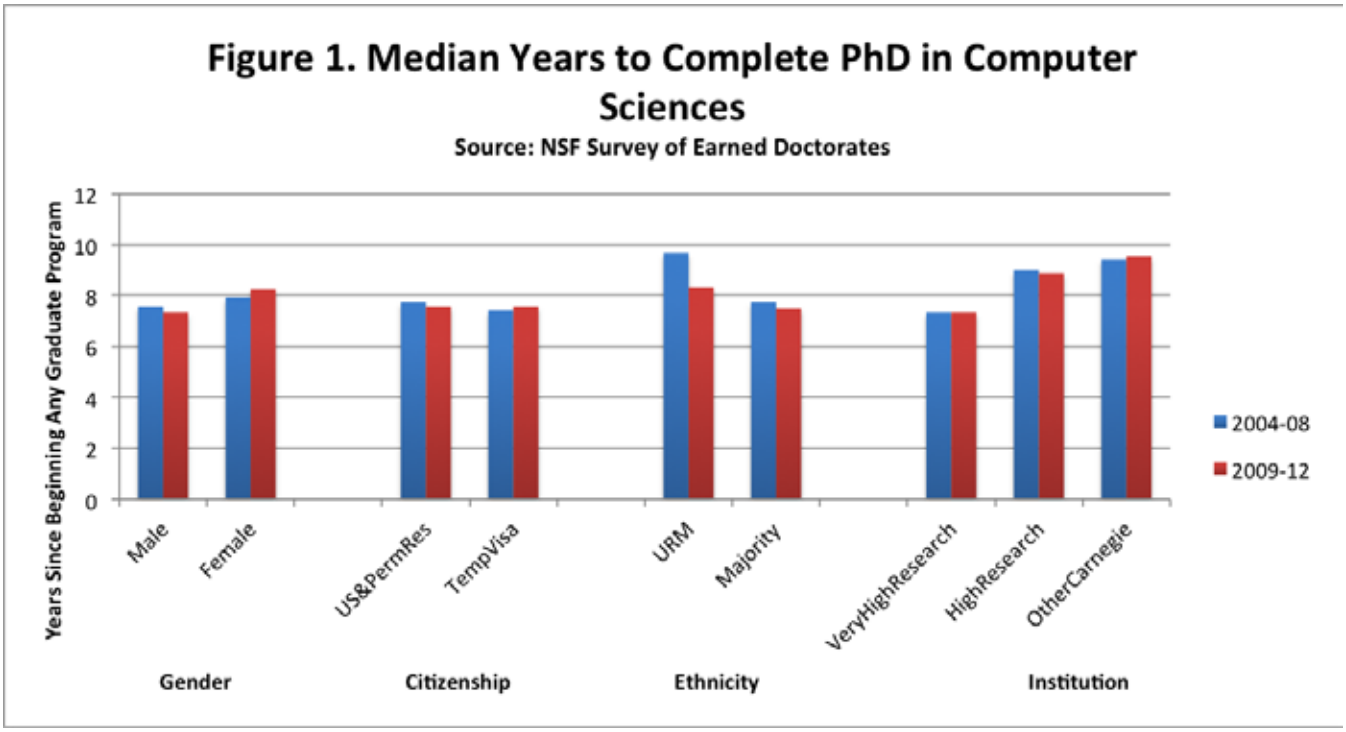
[1]NSF defines Computer Sciences as computer science, information science, and other closely related fields, but not including computer engineering.

[2]Underrepresented minorities in computing include American Indian/Native American, African-American/black, Native Hawaiian or Pacific Islander, and Hispanic.

SOURCE for Tables 1-3 and Figure 1: National Science Foundation, National Center for Science and Engineering Statistics, NSF/NIH/ED/USDA/NEH/NASA Survey of Earned Doctorates. Computer Sciences data: special tabulation (March 2014). Other data: Annual reports of Doctorate Recipients from U.S. Universities.



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Professional Opportunities

Bowdoin College

Computer Science Department

One-Year Visiting Assistant Professor

The Department of Computer Science at Bowdoin College invites applications for a one-year position as Visiting Assistant Professor starting Fall 2014. Preference will be given to applicants with proven teaching excellence. In addition, Bowdoin is building an environment in which students and faculty from across all disciplines can employ computational approaches to enrich their work; we welcome applications from candidates who can contribute to this effort. The teaching load is two courses per semester. Ph.D. preferred, advanced ABDs considered.

Bowdoin accepts only electronic submissions. Please visit https://careers.bowdoin.edu to submit a cover letter, a curriculum vitae, a statement of research plans, a statement on teaching philosophy, and the names of three references who have agreed to provide letters of recommendation.

Review of applications will begin March 24, 2014, and will continue until the position is filled.

A highly selective liberal arts college on the Maine coast with a diverse student body made up of 31% students of color, 5% international students and approximately 15% first generation college students, Bowdoin College is committed to equality and is an equal opportunity employer. We encourage inquiries from candidates who will enrich and contribute to the cultural and ethnic diversity of our college. Bowdoin College does not discriminate on the basis of age, race, creed, color, religion, marital status, gender identity and/or expression, sexual orientation, veteran status, national origin, or disability status in employment, or in our education programs.

For further information about the college please visit our website: http://www.bowdoin.edu.

Bucknell University

Visiting Assistant Professor, Computer Science

Job Summary:
The Bucknell University Department of Computer Science invites applications for a one-year visiting position in computer science beginning mid-August 2014. Outstanding candidates in all areas will be considered. Candidates may be teaching undergraduate courses in programming languages and theory of computation. Candidates are expected to have completed or be in the final stages of completing their Ph.D. in computer science or closely related field by the beginning of the 2014 fall semester. A strong commitment to excellence in teaching is required.

Duties and Responsibilities:
Bucknell is a highly selective private university emphasizing quality undergraduate education in engineering and in liberal arts and sciences. The B.S. programs in computer science are ABET accredited. The computing environment is Linux/Unix-based. More information about the department can be found at: http://www.bucknell.edu/ComputerScience/.

Applications will be considered as received and recruiting will continue until the position is filled. Candidates are asked to submit a cover letter, CV, a statement of teaching philosophy and research interests, and the contact information for three references. Please submit your application to http://jobs.bucknell.edu/ by searching for the "Computer Science Visiting Faculty Position."

Please direct any questions to Professor Stephen Guattery of the Computer Science Department at guattery@bucknell.edu.

Bucknell University, an Equal Opportunity Employer, believes that students learn best in a diverse, inclusive community and is therefore committed to academic excellence through diversity in its faculty, staff, and students. Thus, we seek candidates who are committed to Bucknell's efforts to create a climate that fosters the growth and development of a diverse student body. We welcome applications from members of groups that have been historically underrepresented in higher education.

The successful candidate must be able to participate in the teaching of required core courses.

Minimum Qualifications:
Ph.D. computer science or closely related field completed or in the final stages before beginning employment at Bucknell University.

Apply Here: http://www.Click2Apply.net/9wjptwq

FX Palo Alto Laboratory, Inc.

Research Scientists

FX Palo Alto Laboratory (FXPAL) is seeking talented research scientists to join our lab as regular or visiting employees (e.g. post doc or faculty sabbatical). FXPAL's research spans multimedia, information access, smart spaces, and remote collaboration. The following research area is of particular interest, although we will consider exceptional candidates in other related areas.

Collaborative Spaces and Telepresence
This candidate will join an existing, technically diverse team working on a variety of presence and communication technologies. We seek candidates with backgrounds in multimedia systems, ubiquitous computing, distributed systems, and/or human-computer interaction. Ideal candidates will have prior experience working on communication tools and/or telepresence applications.

Data Mining and Visual Analytics
The ideal candidate has expertise in analysis, visualization and management of media such as text, image, video, and audio. Ideal candidates will also have experience in network analysis as applied to social and enterprise media such as microblogs, forums, and emails and/or data visualization and interactive large-scale data applications. Fluency with tools supporting the collection, organization and processing of large structured and unstructured data sets is desirable.

Both positions require a Ph.D. in Computer Science or related field and strong development skills.

About FXPAL
We provide multimedia and document services technology research for Fuji Xerox Co., Ltd. Our mission is to research and invent new technologies, to cooperate with Fuji Xerox business units to develop technologies and to interact with the US software industry to deliver new products for the Fuji Xerox market.

To Apply
Please email your resume to: fxpalresumes@fxpal.com. We are an equal opportunity employer and value diversity in the workplace.

Hardin-Simmons University

Hardin-Simmons University Kelley College of Business

Assistant/Associate Prof of Computer Science

Assistant/Associate Professor of Computer Science at Hardin-Simmons University in Abilene, TX. Christian educator. Normal teaching load 12 hours per semester. Require masters in computer science or related field, Ph.D. preferred.

Other requirements at http://www.hsutx.edu/employment/applicants/faculty. Vita, statement of commitment to Christian higher education, copies of transcripts to Michael Monhollon, mikem@hsutx.edu.

The Henry M. Jackson Foundation (HJF)

Junior and Senior Scientists

The Henry M. Jackson Foundation (HJF) is looking for junior and senior scientists to join the U.S. Army Medical Research and Materiel Command's Biotechnology High Performance Computing Software Applications Institute (BHSAI) [www.BHSAI.org]. HJF provides scientific, technical, and programmatic support services to the BHSAI.

Professional Opportunities

This opening is for dynamic scientists interested in working in an interdisciplinary environment focused on the development and the application of computational solutions to biomedical problems, involving signal processing of time series physiological data, data mining, data-driven and physiological-based models, and artificial intelligence. The candidate should have a Ph.D. in a related discipline and a strong publication record. The candidate is expected to simultaneously work on multiple projects, involving a diverse and interdisciplinary team of scientists across multiple laboratories.

Foreign nationals are welcome to apply. U.S. citizenship or permanent resident status is not required. This position is located in Frederick, Maryland.

Please apply on-line at www.hjf.org/careers. Click "Advanced Search" and enter job number **208839** in the Job Opening ID box.

The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF) is a congressionally authorized, not-for-profit corporation that provides unparalleled scientific and management services to military medical research and education programs worldwide. Our mission is to advance military medical research. AA/EEO

National Science Foundation, Arlington, VA

Division Director, Division of Computer and Network Systems

NSF's Directorate for Computer and Information Science and Engineering (CISE) is seeking a candidate for: Division Director, Division of Computer and Network Systems (CNS). CISE enable the U.S. to uphold a position of world leadership in computing, communications, and information science and engineering; promote understanding of the principles and uses of advanced computing, communications and information systems in service to society; and contribute to universal, transparent and affordable participation in an information-based society. Information about the Directorate's activities may be found at http://www.nsf.gov/home/cise/.

Appointment to Senior Executive Service (SES) position may be on a 1 to 3 year SES limited term basis, with a salary range of $157,000 to $176,200. Announcement CNS-2014-0006, with position requirements and application procedures, is located at https://www.usajobs.gov/GetJob/ViewDetails/360791000?org=NSF or can be obtained by contacting the Executive Personnel Staff, 703-292-4376 (Hearing impaired individuals may call TDD 703-292-5090). Formal consideration of interested applications will begin on March 17, 2014 and will continue until a selection is made or when the job announcement is closed on May 1, 2014.

NSF is an Equal Opportunity Employer.

University of Central Florida

Center for Research in Computer Vision

Multiple Assistant Professor Positions

CRCV is looking for multiple tenure-track faculty members in the Computer Vision area. Of particular interest are candidates with a strong track record of publications. CRCV will offer competitive salaries and start-up packages, along with a generous benefits package offered to employees at UCF.

Faculty hired at CRCV will be tenured in the Electrical Engineering & Computer Science department and will be required to teach a maximum of two courses per academic year and are expected to bring in substantial external research funding. In addition, Center faculty are expected to have a vigorous program of graduate student mentoring and are encouraged to involve undergraduates in their research.

Applicants must have a Ph.D. in an area appropriate to Computer Vision by the start of the appointment and a strong commitment to academic activities, including teaching, scholarly publications and sponsored research. Preferred applicants should have an exceptional record of scholarly research. In addition, successful candidates must be strongly effective teachers.

To submit an application, please go to: http://www.jobswithucf.com/postings/34681

Applicants must submit all required documents at the time of application which includes the following: Research Statement; Teaching Statement; Curriculum Vitae; and a list of at least three references with address, phone numbers and email address.

Applicants for this position will also be considered for position numbers 38406 and 37361.

UCF is an Equal Opportunity/Affirmative Action employer. Women and minorities are particularly encouraged to apply.

University of Connecticut

Assistant/Associate/Full Professors

The School of Engineering and Institute for Systems Genomics is seeking applicants for multiple 9-month tenure-track faculty positions. The research specialties of interest include, but are not limited to, computational biology, bioinformatics, systems biology, big data analysis, genomics data interpretation and visualization, biological databases, biomedical literature mining and related areas.

Apply and see full details at https://academicjobsonline.org/ajo/jobs/3909

UConn is an EEO/AA employer.

University of Louisville

Department of Computer Engineering and Computer Science (CECS)

Tenure-Track Position

Job ID: UL138
Location: Spd-Computer Engineering and Computer Science

Equal Employment Opportunity
The University of Louisville is an Affirmative Action, Equal Opportunity, Americans with Disabilities Employer, committed to diversity and in that spirit, seeks applications from a broad variety of candidates.

Position Description
Position Type: Assistant Faculty
Duration: Tenure track
Start Date: August 15, 2014

Application Process
Screening of application materials will begin March 15, 2013. Applicants must apply on-line via the "Online App. Form" link below.

Postal Address:
Dr. Anup Kumar, Professor
Chair, Faculty Search Committee
University of Louisville
Department of Computer Engineering and Computer Science
Speed School of Engineering
217 Duthie Center
Louisville, Kentucky 40292
Phone: (502) 852-0471
Fax: (502) 852-4713
Email: a0kuma01@louisville.edu

Application Information
Contact: Spd-Computer Engineering and Computer Science
University of Louisville
Phone: 502-852-6542
Fax: 502-852-5665
Online App. Form: https://highereddecisions.com/uofl/current_vacancies.asp

Professional Opportunities

University of Maryland

Center for Complexity in Business

Postdoctoral Research Fellowship

The Center for Complexity in Business (ter.ps/ccb) at the University of Maryland's Robert H. Smith School of Business seeks applications for a postdoctoral fellowship for 2014-2015. Candidates will be expected to work primarily on interdisciplinary projects that examine and analyze the diffusion of information in social media. The position is for at least one year. Applications will be reviewed starting immediately.

To apply send a vita, a short research statement, letters of recommendation, and a writing example. This packet should be sent to Carol Cron (ccron@rhsmith.umd.edu).

University of Pennsylvania

Computer & Information Science / Psychology

Postdoctoral Research Fellow in Natural Language Processing

The University of Pennsylvania invites applicants for a postdoctoral research position in natural language processing for health and social scientific discovery, working on an interdisciplinary research project studying the effects of subjective well-being, depression, optimism/pessimism, and future orientation on health outcomes. This work includes building models to better understand people – their health and psychology. For example, projects might include predicting personality from the words one uses, comparing the linguistic features of psychological traits across languages and cultures, and automatically recognizing cognitive distortions (exageting, logical fallacies) in language.

The ideal candidate will have research experience in computational linguistics and applied machine learning. She or he will help to develop novel methods to leverage large datasets (i.e. billions of tweets) and use them to further our understanding of health, well-being, and the psychological states of people or large populations. Methods and results will be published in high impact computer science venues and (via collaboration) in social science and multidisciplinary venues.

Application Deadline: (ongoing review of applications as of March 10)
Approximate Start Date: 8/1/2014
How to Apply: Send a detailed CV, writing sample, and at least 2 references who can be contacted for letters to WWBP.applications@gmail.com. Include job-code "POSTDOC-CS" in subject line.

The University of Pennsylvania is an EOE/Affirmative Action Employer.

This work is with the World Well-Being Project (WWBP), a collaboration between computer scientists, psychologists, and medical researchers pioneering techniques for measuring physical and psychological well-being based on language in social media. We are shedding new light on psychosocial processes and developing unobtrusive well-being measures to supplement (and in part replace) expensive survey methods. More about the project can be found at http://wwbp.org.

Primary Contact:
Prof. Lyle Ungar (ungar@cis.upenn.edu)

Secondary Contact:
H. Andrew Schwartz (hansens@seas.upenn.edu)

University of Utah

Director, Center for High Performance Computing

The University of Utah is seeking an innovative and entrepreneurial Director to lead its Center for High Performance Computing (CHPC). CHPC is an active participant within the emerging Condo of Condos national consortium, XSEDE Campus Champions, CASC, Internet2, GENI, and Utah EPSCoR. Reporting to the Deputy CIO, the Director is responsible for developing the facility and creating an effective management structure that promotes the adoption of innovative research computing, a nimble academic service environment, and ongoing professional development among the staff.

Master's degree (Ph.D. strongly preferred) or equivalent research training in computer science or a computationally intensive science or engineering discipline, 5+ years of progressive leadership experience in high performance research computing, and strong collaborative skills as demonstrated through leadership of scientific or computational partnerships. Successful proposal writing and collaboration experience with diverse faculty teams is highly desirable. Previous research computing experience in an academic setting or other research environment also is highly desirable.

For further information and to apply, please visit: https://utah.peopleadmin.com/postings/30116

EQUAL EMPLOYMENT OPPORTUNITY

The University of Utah is an Affirmative Action/Equal Opportunity employer and is committed to diversity in its workforce. In compliance with applicable federal and state laws, University of Utah policy of equal employment opportunity prohibits discrimination on the basis of race or ethnicity, religion, color, national origin, sex, age, sexual orientation, gender identity/expression, veteran's status, status as a qualified person with a disability, or genetic information. Individuals from historically underrepresented groups, such as minorities, women, qualified persons with disabilities, and protected veterans are strongly encouraged to apply. Veterans' preference is extended to applicants, consistent with University policy and Utah state law.

To inquire about this posting, email: employment@utah.edu or call 801-581-2300. Reasonable accommodations in the application process will be provided to qualified individuals with disabilities. To request an accommodation or for further information about University AA/EO policies, please contact the Office of Equal Opportunity and Affirmative Action, 201 S. Presidents Cr., Rm 135, (801) 581-8365 (V/TDD), email: oeo@umail.utah.edu.