

Computing Research News

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

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CCC Calls for New Visioning Proposals

By Liz Bradley (University of Colorado at Boulder) and Randal Bryant (Carnegie Mellon University),
Computing Community Consortium Council, Visioning Co-Chairs

The Computing Community Consortium (CCC) solicits proposals for workshops that will create exciting visions and agendas for research at the frontiers of computing. Successful workshops will articulate new research visions, galvanize community interest in those visions, and mobilize support for those visions from the computing research community, government leaders, and funding agencies. Past examples can be found at www.cra.org/ccc/visioning/visioning-activities.

Workshop organizers will be expected to bring together a group of scientists and practitioners in the area of interest, and to formulate a program that encourages new ideas, innovative thinking, and broad discussion. Workshops can be of varying sizes, typically ranging from 20 to 100



participants. CCC will help to support both workshop organization and subsequent communication of the results. The output of a successful workshop will be one or more white papers and reports for the CCC to post on its website. The CCC will work with the workshop organizers to communicate to other stakeholders and funding agencies.

Proposals are encouraged across the full spectrum of theoretical and

applied work related to the creation and application of information technologies as well as their use in addressing important scientific or societal challenges. Awards can range from \$10,000 to \$200,000, but proposers are encouraged to ask for an amount commensurate with activities outlined in their proposals. Proposals may be emailed to cccrcp@cra.org at any time.

For CCC planning purposes, proposals with start dates prior to September 2014 should be submitted by December 1, 2013. Please see www.cra.org/ccc/visioning/creating-visions-for-computing-research for more information.

CRA Staff Update



Ama Nyame-Mensah



Heather Wright

In August CRA welcomed two new staff members as research assistants for the Center for Evaluating the Research Pipeline (CERP), Ama Nyame-Mensah and Heather Wright.

At CERP, Ama helps evaluate programs that are aimed at promoting demographic diversity in computing fields. She holds a Bachelor of Arts degree in Economics from the University of Delaware and earned a Master of Arts degree in Urban Affairs and Public Policy from the same institution in 2013. While at the University of Delaware, Ama focused her studies on examining the role of social and technological innovation in economic development.

In her role at CERP, Heather is working on evaluating the CI Fellows Project. She graduated from Radford University in 2013 with a Bachelors of Science in Sociology, with minors in Technical and Business Writing and Women's Studies. Previously, Heather worked as a Research Assistant for the Center for Social and Cultural Research.

CISE Looks Ahead to 2014

By Farnam Jahanian

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



As October approaches and we transition to a new federal fiscal year (FY), it's a great opportunity to pause to reflect on FY 2013 and look ahead to FY 2014. It has been an exciting year for the Computer and Information Science and Engineering (CISE) Directorate at the National Science Foundation (NSF). In FY 2013, CISE's budget surpassed \$850 million. The directorate received nearly 7,500 research proposals and plans more than 1,500 grant awards. These investments are estimated to support the work of nearly 8,000 senior researchers and over 7,000 graduate and undergraduate students.

As we embark upon FY 2014 and a new academic year, let me share with you key updates and describe some of the opportunities the CISE community can expect as we continue our commitment to advancing the frontiers of our discipline.

Update on core programs

CISE remains strongly committed to maintaining and strengthening our core research programs, which are housed in three of CISE's four divisions: Computing and Communication Foundations (CCF), Computing and Network Systems (CNS) and Information and Intelligent Systems (IIS). CISE's fourth division, the Division of Advanced Cyberinfrastructure (ACI), previously the NSF Office of Cyberinfrastructure, continues to carry out its NSF-wide mission of advancing and provisioning cyberinfrastructure for science, engineering and education.

New solicitations for CISE's core programs, released on July 12, 2013, advance foundational knowledge in all areas of computing, communication and information science and engineering. Principal investigators should note that there are separate

submission windows for small, medium and large awards, and that the dates of these windows have shifted relative to previous years. In addition, one-year REU supplement requests may now be submitted along with the initial proposal. Several other revisions have been made to the core solicitations, and I highlight only a couple here.

In IIS, the Cyber-Human Systems (CHS) program constitutes a re-visioning of what was previously the Human-Centered Computing program (HCC). While CHS still explores the relationship between humans and computing devices at all phases of design, development and application, it now emphasizes the potential of computing systems for augmenting human capabilities. For more information, see NSF solicitation [13-580](#).

Another change appears in CNS's Computer Systems Research (CSR) program, which features a new highlighted area, Extensible Distributed Systems (EDS). This area addresses leveraging the rapid growth in edge devices such as smart phones and tablets coupled with new applications and underpins many smart technologies and infrastructures of the future, as well as how humans interact with such technologies and infrastructures. The EDS area supports research into the science and design of extensible, robust and efficient distributed systems, advancing software and hardware architectures to enable the move from small-scale to planetary-scale systems. For more information, see NSF solicitation [13-581](#).

These new solicitations update and strengthen our core programs, which advance foundational knowledge in the CISE disciplines and support intellectually rich, cutting-edge paradigms for discovery. The full text of the solicitations may be found on the [CISE Funding webpage](#).

Update on cross-cutting programs and initiatives

CISE continues our commitment to a balanced portfolio—from curiosity-driven, single investigator research to center-scale, multidisciplinary research. Over the last five years, through the [Expeditions in Computing](#) program, CISE funded 14 center-scale projects that seek disruptive innovations in computing; another round of awards is expected soon. We recently initiated "Frontier" awards that support center-scale research efforts that target national priority areas. Last month, we announced three new Frontier awards through the [Secure and Trustworthy Cyberspace](#) (SaTC) program, for a total of five SaTC Frontiers in the past two years. And in May, we issued two Frontiers in [Cyber-Physical Systems](#) (CPS), the first center-scale projects under this program. Also this year, ACI launched the Blue Waters and Stampede advanced computational centers, providing cutting-edge cyberinfrastructure resources to the research and education community.

The community should expect continued support for our cross-cutting programs, such as Smart and Connected Health, [Core Techniques and Technologies for Advancing Big Data Science & Engineering](#) (BigData), [Cyberlearning: Transforming Education](#) (CTE) and the [National Robotics Initiative](#) (NRI). This year we also announced two new programs that cut across division boundaries to advance CISE knowledge: [eExploiting Parallelism and Scalability](#) (XPS) and [Failure-Resistant Systems](#) (FRS).

NSF is a partner in the administration's new Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative, a new research effort to advance our understanding of the human brain. CISE will expand our collaboration with other NSF directorates in investing in this effort,

including through investments in the interdisciplinary [Computational Neuroscience](#) program and the new [Brain Science and Technology Center](#) launched this year.

Investments in the Cyberinfrastructure Framework for 21st Century Science, Engineering and Education (CIF21), led by ACI, totaled \$82.5 million in FY 2013. The cross-directorate CIF21 portfolio includes the following CISE programs: [Software Infrastructure for Sustained Innovation](#) (SI²), [BigData](#), [Computational and Data-Enabled Science and Engineering](#) (CDS&E) and [Data Infrastructure Building Blocks](#) (DIBBs). CIF21 complements CISE's wider investment in cyberinfrastructure activities across all scales—campus, regional, national and international.

Organizational changes

This fall, two of our four Division Directors are completing their terms with CISE.

Dr. Susanne Hambrusch completed her tenure as Division Director for Computing and Communication Foundations (CCF) on August 29 and returned to her academic position at Purdue University. Dr. Hambrusch served as Division Director from 2010 to 2013, leading CCF in its mission to support research and education projects that explore the foundations of computing and communication devices and their usage. During her time at NSF, her many contributions included helping to shape the cross-cutting CyberSEES program and the Interdisciplinary Faculty Program in Quantum Information Science. She also led the creation of the XPS program and the United States-Israel Collaboration in Computer Science, and she helped to increase the number of Graduate Research Fellowships available for students pursuing CISE disciplines. NSF greatly appreciates Susanne's leadership in CISE and her efforts on behalf of the community.

Alan Blatecky, Division Director for Advanced Cyberinfrastructure (ACI), will complete his term at NSF on September 7. Mr. Blatecky came to NSF in 2010 as the Director of the Office of Cyberinfrastructure (OCI),

which joined CISE as its fourth division earlier this year. During his tenure, he has demonstrated tremendous leadership in broadening and strengthening NSF's support for the research, development, acquisition and provisioning of state-of-the-art cyberinfrastructures essential to the advancement of science and engineering, from the campus and regional level to the national and international level. He helped to transform CIF21 into the NSF-wide portfolio that it is today, accounting for \$82.5 million in investments in FY 2013, and through collaboration with GEO, helped establish EarthCube as a new approach to conduct multidisciplinary science. He has also strengthened the broader ACI portfolio, recognizing the role of data, software, networking and research communities as crucial cyberinfrastructures that are complementary to compute resources. Finally, under his leadership, a strong emphasis has been placed on science as a driver for cyberinfrastructure and on the growing importance of coordinating cyberinfrastructure investments across NSF. NSF and CISE thank Alan for his vision and service.

With the exemplary contributions of two search committees, NSF has identified and interviewed exceptional candidates for each position. In the next few weeks, we will announce a new Division Director for CCF, and an announcement for the new ACI Division Director will follow soon after.

I also want to recognize the excellent work of the CISE staff and program directors. CISE thanks those program directors who are returning to their

home institutions and welcomes those who are newly arriving. We greatly appreciate their expertise, dedication, and service to shape the future of our discipline and priorities for our Nation.

CISE Community

In order to enhance community engagement and augment our communications, CISE has expanded the use of our Twitter account. In addition to the automated tweets that currently flag news and new funding opportunities, we will begin including additional announcements in the coming weeks. If you do not already follow us, we invite you to subscribe to our feed at @NSF_CISE.

Computer and information science and engineering, as a discipline, has a rich intellectual agenda. The work of the CISE community provides the intellectual rigor and tools needed to expand the scope of knowledge in all areas of science and engineering and is critical in addressing our national priorities of health, energy, transportation, education and life-long learning, and public safety and emergency preparedness. We invite you to take advantage of the many opportunities CISE offers, of which only a few were highlighted here. We look forward to working with you in the upcoming year!

Note to Department Chairs:

Taulbee Survey 2012-13 Coming Soon!

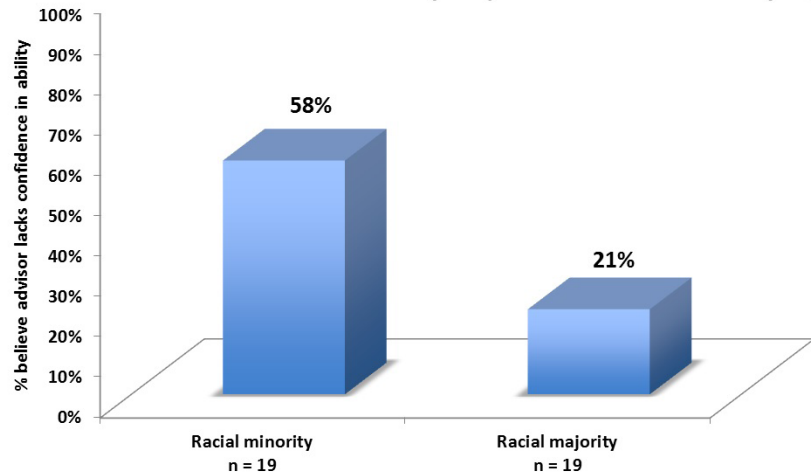
If you have a new chair, please advise membership
[at] cra.org
to ensure the survey is properly addressed.

Center for Evaluating the Research Pipeline

A group of graduate students in PhD programs in computing reported that they “have seriously considered leaving their graduate program” over the past year. When asked for the primary reason they considered leaving, students of racial minority in computing fields (Black; Hispanic/Latina/o) were more likely than students of racial majority in computing fields (Asian/White) to say this was due to the perception that their advisors lacked confidence in their ability, $p < .05$.

Note: Sample sizes included Asian, $n = 7$; Black, $n = 9$; Hispanic/Latina/o, $n = 10$; White, $n = 12$. This sample was culled from a larger dataset ($N = 154$). The sample of students of racial minority used in this analysis was exhaustive of all minority students in the overall dataset. The sample of students of racial majority used in this analysis was culled from a larger sample of majority students ($n = 135$) in the overall dataset; this subsampling strategy created equal sample sizes across comparison groups and greater statistical reliability than would have otherwise been the case.

Students of racial minority in computing are more likely to want to leave their computing graduate program because they believe their advisor lacks confidence in their ability compared to students of racial majority.



**Center for
Evaluating the
Research Pipeline**

This analysis 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/>.

Nominations Open for 2014 CRA Award for Outstanding Undergraduate Researchers



The Computing Research Association is pleased to announce the annual CRA Award for Outstanding Undergraduate Researchers, which recognizes undergraduate students in North American colleges and universities who show outstanding research potential in an area of computing research. The award is a terrific way to recognize your best student researchers and your department.

Eligible nominees are enrolled as undergraduates in a North American college or university throughout the academic year September 2013 to May 2014. They must be nominated by two faculty members and recommended by the chair of their home department. No more than

two male and two female candidates can be recommended by the same department chair in the same year. The deadline for nominations is Friday, October 25, 2013.

A cash prize of \$1,000 will be awarded to each of two undergraduate students, one female and one male. A small number of other outstanding candidates will be recognized as Runners-Up and Finalists. All nominees whose work is considered to be exemplary are recognized with Honorable Mentions.

Everything you need to nominate a candidate – instructions and the nomination form – is available at: <http://cra.org/awards/undergrad/>.

[Microsoft Research](#) and [Mitsubishi Electric Research Labs \(MERL\)](#) sponsor the Outstanding Undergraduate Researchers Award Program in alternate years. The 2014 award is being sponsored by MERL.

Please share this information with your faculty who may have promising students to nominate.

Updates from the Computing Community Consortium

By Ann Drobnis, Director, Computing Community Consortium



The mission of CRA's Computing Community Consortium is to catalyze the computing research community and enable the pursuit of innovative, high-impact research. In its six years of existence, the CCC has conducted activities aimed at strengthening the research community, articulating compelling research visions, and aligning those visions with pressing national and global challenges. CCC has developed white papers and organized events to communicate the importance of those visions to policymakers, government and industry stakeholders, the public, and the research community itself.

Over the past year, the CCC has invested time and effort to formalize how it is organized, and it has seen its leadership transition, with Susan Graham taking over as chair from Ed Lazowska, the founding chair of CCC. Greg Hager has taken on the role of vice chair. With those changes now in place, the CCC is excited to be introducing some new initiatives and reintroducing former initiatives with some changes in the coming weeks.

One of the most visible activities of the CCC over the past few years has been the Computing Innovation Fellows Program, which was put in place to ensure that top talent was retained in the CS&E Research Pipeline during the economic downturn. Although that program has ended, the number of postdoctoral researchers in CS has continued to increase. Given this, it is important to ensure that the Postdoc experience helps junior researchers to move their careers forward. To this end, CCC anticipates awarding grants to institutions or consortia of

institutions to design and implement a Best Practices program for Postdocs in computer science and computing-related fields. These programs will enable PhD graduates to transition effectively to research roles in a variety of sectors. Grantees will be selected in response to an open call for proposals, to be released mid-September.

Institutions will be asked to propose programs that focus on creating and implementing best practices which are sustainable over time, attempt new and innovative practices, and create programs that can be assessed through a set of common metrics. The awardee institutions will be expected to work together to define best practices for the field over the course of the award (3 years). Awards will be commensurate with the scope of work described in the proposals. By publicizing the resulting best practices, this activity will create a model for other institutions and thereby impact the entire computing research community. If you are interested in receiving the RFP, please email info@postdocbp.org and check the website at www.postdocbp.org for further information.

Visioning workshops have been at the core of CCC's activity and we will continue to catalyze new ideas in computing through this mechanism. We are releasing a new Call for Visioning Workshop Proposals today (see CCC Calls for New Visioning Proposals, p. 2) CCC not only provides financial support for workshops, but also helps the workshop organizers to communicate the results of the workshop to policymakers and other stakeholders. Please read the release and check the website for additional information (<http://www.cra.org/ccc/visioning/creating-visions-for-computingresearch>).

As a complement to visioning workshops, CCC has an active program for sponsoring tracks or symposia at conferences to help generate research visions. We are in

the process of reviewing this program and updating its structure to be more in line with our mission. Stay tuned to the CCC blog and website (<http://www.cra.org/ccc/visioning/visionary-conference-tracks>) for information on ways to bring the CCC visioning track to your favorite conference.

The CCC is working to develop ways to communicate new ideas and research in computing. We are specifically soliciting contributions to our Research Highlight of the Week every week (<http://www.cra.org/ccc/resources/highlights>). To further expand on these Highlights, CCC has created a video series, called Computing Research in Action (<http://www.cra.org/ccc/resources/computing-research-in-action>). The first two videos in the series were released this summer. Stay tuned for future videos.

In addition to these activities, the CCC is continuing to support many of our past initiatives in Big Data, Robotics, Health, and Sustainability. Expect to hear more about these initiatives in the near future.



Postdoc Best Practices

**RFP will be issued on
September 9**

www.PostdocBP.org

GRACE HOPPER

Celebration of Women in Computing

Expanding the Pipeline:

The 2013 Grace Hopper Celebration of Women in Computing Conference

By Seema Gururaj



Photo Courtesy: Anita Borg Institute

The annual Grace Hopper Celebration of Women in Computing (GHC) is a multi-day conference focused exclusively on the research and career interests of women in computing. GHC is the flagship conference of the Anita Borg Institute and is presented in partnership with the Association for Computing Machinery (ACM). Inspired by the legacy of Rear Admiral Grace Murray Hopper, the architect behind COBOL, GHC was first held in 1994, led by Anita Borg, founder of the Anita Borg Institute (ABI), and Telle Whitney, current CEO of ABI.

GHC encourages women to pursue and remain in the field of computer science by providing a wide range of role models, peer-networking opportunities, and up-to-date information on advanced technical opportunities and career paths in computing. The conference offers multiple sessions designed to address specific career

development needs of women in computing, such as: technical exposure, collaboration, inspiring role models and community building. Conference speakers are leaders in their respective fields, representing industrial, academic and government communities. Special sessions focus on the role of women in today's technology fields, including computer science, information technology, and engineering.

The conference includes several critical components designed to address the barriers to women in computing:

- **Technical Exposure:** GHC breaks down stereotypes by celebrating the accomplishments of women in the field of computer science, showcasing their technical success and offering a supportive environment where their ability as a computer scientist is encouraged. The successes of women from underrepresented minority backgrounds are also broadly highlighted, further breaking the stereotypes associated with gender and race. Some of the fields' most respected researchers and practitioners in many of the computing disciplines come to GHC to present significant technical work. Keynote speeches are delivered by outstanding women from a variety of areas provide vivid role models and inspiration for the attendees. A large poster session and technical breakout sessions are held with short technical presentations, allowing broader participation by the attendees—these also provide students with a crucial opportunity to present their technical work.

- **Collaboration and Information Exchange:** GHC presents multiple perspectives, which spurs innovation. Speakers are asked to comment on open problems with emphasis on possibilities for significant advances that require collaboration within and across areas of expertise.
- **Role Models and Inspiration:** By gathering a large number of professional technical women together in a single forum, attendees establish ties to groups of successful role models and potential mentors.
- **Networking, Community Building, and Breaking Down Feelings of Isolation:** Networking and community building are central tenets of GHC. A crucial GHC function is to break participants' feelings of isolation and create a sense of community for women in computing both during and after the conference.

[Participant feedback](#) confirms that the GHC continues to provide a forum in which technical women from myriad backgrounds come together for information exchange, role models and inspiration, networking and community-building.

Inspiration can spur participants to take actions as well as act as change agents themselves. Respondents' reported the following intentions as a result of attending the conference:

- 40% will advocate for change in their teams, departments or organizations.
- 17% joined one or more online communities.
- 16% joined Systems.
- 11% started a mentor-mentee relationship.

Overall, the evaluation results suggest that the Grace Hopper Conference plays a positive role in attendees' career development. Nearly all respondents were inspired by role models at GHC, three-quarters of female respondents feel less isolated as women in technology, three-quarters of all respondents reported that GHC increased their commitment to their chosen careers, and two-thirds perceived that attending GHC has increased their networks of technical women.

In 2012, the GHC conference theme was "Are We There Yet?" It gave us an opportunity to assess where we were in our respective career paths, and where we were collectively as a community. We assessed the decline of female undergraduates receiving degrees in computing related disciplines, our progress in increasing the number of women in the C-suite and as Fellows and Senior Fellows in their respective institutions and organizations, and the fundamental challenges of the

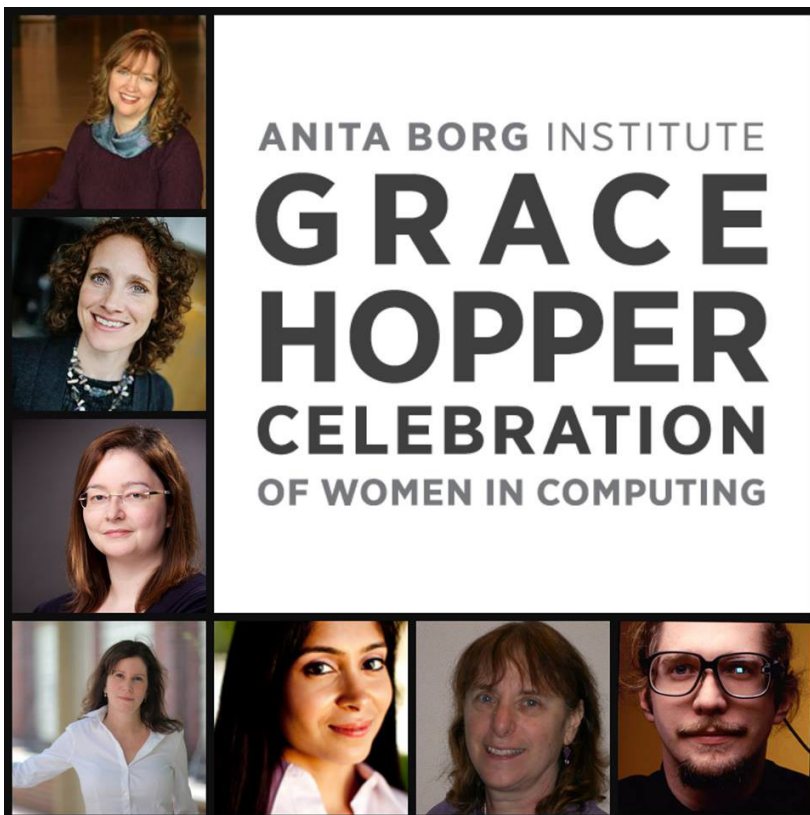
recruitment, retention and advancement of technical women. Efforts to recruit more engineers and scientists into STEM (and computing in particular) have never been greater. As a result, the theme for the [2013 Grace Hopper Celebration of Women in Computing Conference](#), the world's largest conference for women in computing, is THINK BIG. DRIVE FORWARD. We challenged our community this year to help create a conference that was aspirational and forward thinking. We expect over 4000 women and men to attend from over 40 countries. Over 300 scholarships were awarded, thanks to our generous corporate and academic sponsors, and over 200 individuals will have provided their expertise, serving on boards, committees, and as reviewers, judges, session chairs, Hopper volunteers, and staff, which collectively form the Grace Hopper community.

At the same time, we at the Anita Borg Institute and the conference planning committee challenged ourselves to

"Think Big" as well, when we started planning this conference nine months back. We realized that technical women need forums where they can connect with experts in their technical fields and at the same time, grow their leadership skills and identify opportunities for career advancement return to the workforce after a leave of absence, change fields, and keep their technical skills current, while balancing the demands outside of work and school. This resulted in a conference that is now structured in a way that allows us to have in-depth conversations on cutting edge technology in the areas of Software Engineering, Mobile Experiences, Media and Entertainment, Medical Technology and Education Technology. We believe in nurturing the person as an individual as well, and have some robust professional development offerings. We devote an entire day on [Wednesday](#) to bringing out the *leader within you* via workshops, thought provoking panels and talks.

The conference will open each day with [keynote speakers and plenary sessions](#) led by highly distinguished and accomplished women such as Maria Klawe (President of Harvey Mudd College), Sheryl Sandberg (COO Facebook and Co-Founder LeanIn.org), Ana Pinczuk (SVP Cisco) and Dr. Arati Prabhakar (Director, DARPA). Our ["ABIE" Award winners](#), who are recognized by the community for their contributions in Social Impact, Technical Leadership and as Change Agents across the world, are celebrated at an evening of inspiration. These women serve as examples across generations and exemplify the conference theme. These talks will no doubt spur conversations that are provocative, difficult, and necessary to drive the change that is needed for technical women to move forward.

[Invited speakers](#) who have changed the status quo in their respective technical fields with their innovative work include: Brenda Chapman (Academy Award winner and first woman to direct an animated feature, *Brave*), Sheila Nirenberg (Professor of Computational Neuroscience in Computational Biomedicine at Weill Cornell Medical College), Thad Starner (Professor at



*GHC 2013 Invited Technical Speakers
Photo Courtesy: Anita Borg Institute*



*GenConnex Program for Local High School Girls
Photo Courtesy: Anita Borg Institute*

Georgia Institute of Technology and Technical Lead/Manager on Google's Project Glass), Elaine Weyuker (ACM Fellow, IEEE Fellow and AT&T Fellow at Bell Labs for research in software metrics and testing), Pooja Sankar (CEO and Founder, Piazza) and Elise Foster (Education Practice Lead, Wiseman Group). These talks are quite inspiring and can be life changing for the attendees, as borne out by the open-ended comments gleaned from the post-conference survey.

CRA-W figures prominently at GHC 2013 with [Graduate, Early Career Faculty, and Mid-Career Faculty workshops](#). Graduate workshops include Graduate School Survival Skills, Publishing your Research, and Building Your Professional Network. Early Career Faculty workshops include Finding Your Dream Job, Starting and Growing Your Own Research Program, and Preparing for Promotion. Mid-Career Faculty workshops include Funding, Career Success After Tenure, and Effective Leadership & Creating Change. For undergraduates, CRA-W will host tables in the [Student Opportunity Lab](#) where they can learn about graduate school and the application process.

Our ability to attract diverse, high quality talented women in computing

is noteworthy. Attendees can submit resumes to the GHC database, and sponsors have access prior to the start of the conference. Last year we had over 100 industry and academic sponsors eager to recruit at our [Career Fair](#).

We also have our eyes on technology and career trends that we are showcasing via a "Best Of" track, which includes "Best of Minnesota, Leader

in Medical Innovations," "Computing on Wheels: Insider's look at the automobile of today and beyond," "Retention Solutions for Individuals, Managers and Leaders – ABI Research," "Best of ... ACM SIG'S," "Best of ... Future Trends," "Entrepreneur should really be a verb not a noun," Margaret Martonosi – ABIE Technical Leadership Award Winner, and the ACM Student Research Competition.

We are inviting 40 local Minneapolis high school students to attend this prestigious event as part of our [Grace Hopper GenConnex program](#). 30% of the selected students will be from underserved or low income groups. Their immersive experience includes being part of the conference activities and participating in a gaming workshop that requires no coding experience.

All this culminates in an evening that celebrates all of our accomplishments and the strides that we have made thus far. And an all day code-a-thon for humanity where 200 women will code side by side with women from across the globe to contribute their skill and time to open source projects.

[Be part of the community that is driving technology](#). We look forward to your sponsorship and advocacy of women and men in your institutions and organizations to attend this conference. [Free childcare](#) is provided to attendees who register in advance. See you at [GHC 2013!](#)

About the author:

Seema Gururaj is currently the Director of the Grace Hopper Celebration of Women in Computing (GHC) at the Anita Borg Institute. During her tenure as the Director, the conference received its highest quality rating and now welcomes over 4000 women from all over the world. She has 10+ years of experience in a career that has spanned a technical leadership role at IBM to social entrepreneurship, designing strategies for local as well as international non-profit organizations. Her Social Impact Portfolio includes creating an impact in diverse areas like women and technology, education, health care, and an urbanization think-tank.



*2013 Grace Hopper Conference Career Fair
Photo Courtesy: Anita Borg Institute*

Expanding the Pipeline:

Collaborative Research Experience for Undergraduates: the CREU program still going strong at 15

By Andrea Danyluk

The Collaborative Research Experience for Undergraduates (CREU) program has evolved in a number of ways since it was introduced by CRA-W under the name “CREW” in 1998. But several key ingredients – collaboration, cohort, and strong mentoring – remain central to the program.

Administered jointly by CRA-W and the Coalition to Diversify Computing (CDC) since 2004, CREU encourages and supports undergraduates and minorities in computing research. The goal of the program is to increase the number of women and minorities who continue on to graduate school in computer science and computer engineering. Teams of undergraduates work with faculty member sponsors at their home institutions on research projects during the academic year and, in some cases, the following summer. The ability to work on the project through an entire academic

year provides a complete research experience that can be more difficult to achieve in a shorter period of time. CREU students receive stipends for their work. This acknowledges the research as an important contribution to computer science and, of course, the students themselves.

Collaboration: Becoming a Member of a Research Team

Research shows that peer support can have significant impact on persistence in computer science education and in particular that women benefit from having a critical mass of female colleagues. Thus in providing students with research support, the CREU program emphasizes collaboration in the form of small (typically 2-4 students) teams.

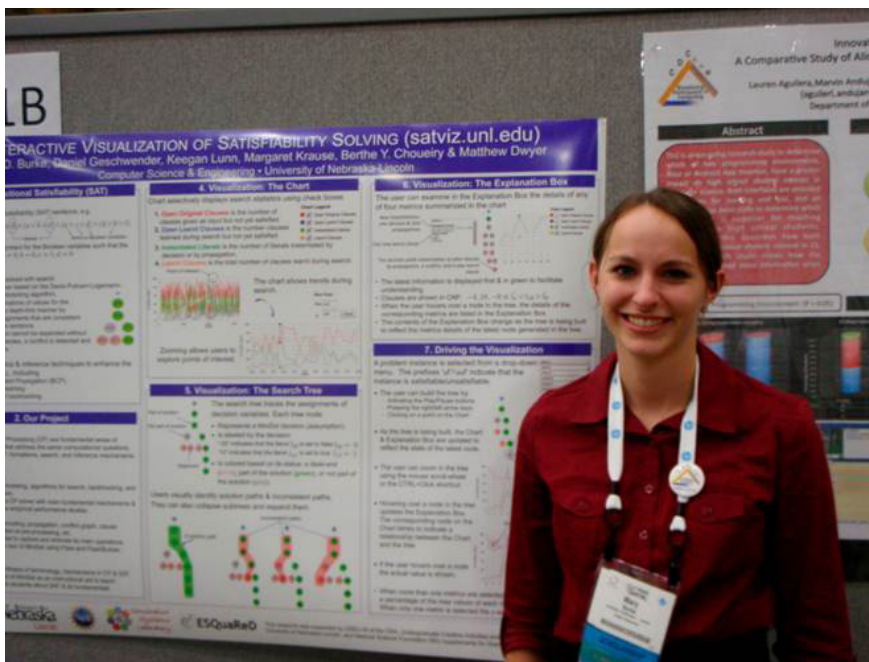
Students in CREU projects tend to already know their advisors and each other. This level of familiarity from the

start, together with regular meetings, collaboration, and an overall shared sense of purpose makes it possible for the students to build strong relationships with each other and to have a strong sense of belonging to a research community. It also provides a natural way for students to learn that a group can be much stronger than the sum of the individuals in it. As one CREU student put it, “We’re all from completely different backgrounds and think about computer science in completely different ways [...] It turns out that this is actually our strength. [...] Instead of clashing we help each other and when we encounter things that nobody knows we work together to figure it out.”

Cohort: Becoming a Member of the Wider Research Community

Students participating in CREU are strongly encouraged to submit papers to journals and to present papers or posters at national or regional conferences. The program provides travel funds to support such participation, and CREU participants over the years have found this to be extremely valuable. They are able to meet researchers from outside their home institutions and receive feedback and advice on their work from a broad audience. More generally, having the opportunity to participate in the wider research community is both exciting and empowering.

In the past year alone, CREU students have been co-authors on papers presented at a wide and impressive array of venues, including the USENIX conference on File and Storage Technologies (FAST2013), the ACM Conference on Human Factors in Computing Systems (CHI '13), and the ACM Technical Symposium on



Computer Science Education (SIGCSE 2013).

Fourteen CREU posters were presented at the Grace Hopper Celebration of Women in Computing 2012, which was the official cohort meeting place for CREU 2011-12 students. Ten CREU students attended or presented posters at the Tapia Celebration of Diversity in Computing 2013.

Mentoring for Success

It's hard to say enough about the importance of good mentoring. From devising a good project to guiding the work to providing advice on careers, the mentor is a critical component of each CREU project.

Mentoring begins early in CREU projects. Applications to the CREU program are in the form of research proposals, and we expect students to be actively involved in writing the proposal, with the guidance and support of their faculty mentors. Of course, crafting the project itself is typically the advisor's job, and it can be a challenging one. The key is to design a project that is truly a research experience (i.e., that doesn't have a known outcome or solution) and that requires only the skills and experience that an undergraduate can reasonably be expected to have, but that also has

a good probability of success in a one-year time frame.

CREU participants work closely with their faculty mentors and in some cases also have the opportunity to interact with post-docs and graduate students as they work on their projects. Some mentors work side-by-side with students in the lab. Others schedule weekly group meetings to review the students' progress and set goals for the next week. Through this close interaction, CREU mentors keep their students moving forward. As one student put it, her mentor was "great about guiding us through difficulties, making sure we have the resources we need and helping us stay on track."

Informal interactions between students and mentors can be just as important as formal meetings. CREU students note and appreciate these interactions. "By working on this project, I am learning a lot about a career in academia and about graduate school and the field in general. I am really glad that through this project, I have learned a lot more about this field and not just about the project that I am working on." We expect that CREU mentors will take a genuine interest in the professional development of their students and will talk to them about their career ambitions, about being a researcher, applying to graduate school and so on.

Finally, CREU mentors serve as role models. In addition to "trying out" research for themselves, the students observe real researchers – their mentors – at work.

How to Get Involved in a CREU Project

An application to the CREU program consists of a research proposal. The proposal should contain a project description, the specific questions to be addressed or hypotheses to be investigated, the plan and methods for carrying out the research, and a summary of related work on the topic along with appropriate citations. In addition, the proposal should describe the student and faculty responsibilities and the timeline.

The proposal is also the means by which the CREU program gets to know the students who would be involved in the project, and so the proposal should include relevant information about the students, such as their transcripts and explanations of the ways in which the CREU project would provide a meaningful experience for them. For more information on CREU, please go to: <http://cra-w.org/undergraduate> and click on the CREU link. CREU reviews project proposals once a year. The proposal deadline is typically in early May.



To learn more about strategies for being a good undergraduate research mentor, go to the link given above, and scroll down to the Resources for Mentors of Undergraduate Research. CRA-W has compiled its own set of resources, along with pointers to many others, including the REU-In-A-Box resource developed by NCWIT's Academic Alliance.

Andrea Danyluk, Jamika Burge, and Joel Branch co-direct the CREU program. Andrea Danyluk is a Professor in the Computer Science Department at Williams College. She is a CRA-W Board Member. Jamika Burge is a Researcher at Information Systems Worldwide and is the Chair-Elect of the Coalition to Diversify Computing (CDC). Joel Branch is a Researcher at IBM and a Board member of CDC. CREU is funded by a grant to the CRA-W/CDC Alliance from the NSF Broadening Participation in Computing (BPC) program.



Announcing the 2014 Microsoft Research Faculty Fellowship Program

Microsoft Research Faculty Fellowships help new professors succeed

The road to tenure can be a bumpy one for early career professors in any field. Most find their first few years filled with a seemingly endless process of writing grant proposals. For the professors who are selected as Microsoft Research Faculty Fellows each year, this “overhead” is considerably lessened, allowing them to concentrate on the business of pursuing their research with minimal distractions. Microsoft Research selects a handful of top early-career professors in the field of computer science and provides them each with a cash award that is intended to help fund research for up to two years.

Microsoft Research is inviting nominations for its **2014 Faculty Fellowship program**, starting on **August 28, 2013**. This program recognizes and supports exceptional early-career faculty engaged in innovative computing research. Only one (1) application will be accepted per research institution. The potential Fellows for the Microsoft Research Faculty Fellowship program must be nominated by their research institution, and their nominations must be confirmed by a letter from the head of the institution. Direct applications from new faculty members are not accepted. Please pay particular attention to the [eligibility criteria](#).

Nominations open: August 28, 2013

Nominations and applications deadline: September 30, 2013

Nominations are to be submitted online at: <https://cmt.research.microsoft.com/MSRFacultyFellowship>. For further information, please visit <http://research.microsoft.com/en-us/collaboration/awards/msrff.aspx> for eligibility criteria and instructions.

In case you have any additional questions about the program in general, please send an email to msrff@microsoft.com or contact: Jaime Puente, Director, [Microsoft Research Connections](#), and Chair of Microsoft Research Faculty Fellowship Program, japuente@microsoft.com.

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Professional Opportunities

Arizona State University

School of Computing, Informatics, and Decision Systems Engineering

Computer Science and Engineering Lecturer (Job #10448)

The School of Computing, Informatics, and Decision Systems Engineering (SCIDSE) in the Ira A. Fulton Schools of Engineering at Arizona State University (ASU) seeks applicants for a full time lecturer position beginning August 2013. This is a non-tenure track appointment with a fixed term academic year contract.

A minimum of a M.S. in Computer Science, Computer Engineering or a related discipline and teaching experience in an undergraduate engineering program is required.

The successful candidate for this position will have a demonstrated record of excellence in teaching that incorporates active learning, an extensive knowledge of software engineering, programming languages, information assurance, or computer systems and networks.

Preference will be given to those candidates with a Ph.D. or near completion Ph.D. with proven teaching skills in undergraduate education. Professional experience in the areas of software application and systems development and a commitment to work collaboratively with a diverse student population is also desirable.

Current information regarding this position and instructions for applying are available at <http://engineering.asu.edu/hiring>. Review of applications will begin on July 15, 2013; if not filled, reviews will occur on the 1st and 15th each month thereafter until the search is closed.

Arizona State University is an equal opportunity/affirmative action employee. Women and minorities are encouraged to apply. ASU's complete non-discrimination statement can be found at: www.asu.edu/titleIX.

Carnegie Mellon University

The Information Networking Institute

Faculty Positions (1. risk management and information assurance 2. networking, systems and security)

Positions available:

The Information Networking Institute at Carnegie Mellon University is soliciting applications for multiple open faculty positions in the areas of 1) risk management and information assurance and 2) networking, systems and security.

The positions are based at Carnegie Mellon's main campus in Pittsburgh, PA, and Carnegie Mellon's Silicon Valley campus in Moffett Field, CA.

Responsibilities for one position include teaching courses for the various Master of Science programs INI offers (Information Networking; Information Security Technology and Management; and Information Technology – Information Security, – Mobility and – Software Management), as well as leading and participating in research projects. Candidates must demonstrate a strong commitment to teaching, a strong research background, and a proven research track record evidenced by a publication history.

Preference will be given to candidates having a documented track record of interdisciplinary research experience.

The second position will have formal administrative role and focus on overseeing academic processes, serving on committees and other, in addition to the regular teaching and advising responsibilities for the INI programs. Prior experience in higher education administration or a similar capacity and domain area expertise are preferred for candidates for this position.

Joint appointments with other departments in the College of Engineering including CyLab, Engineering and Public Policy, Electrical and Computer Engineering may be explored for both positions.

A Ph.D. in Information Systems, Computer Science, Electrical Engineering, or closely related field is required.

Interested candidates are requested to submit a curriculum vitae, statements of teaching and research interests, a cover letter indicating which area they are applying to (risk management or networking, systems and security) as well as the names and contact information of three references to:

Dena Haritos Tsamitis
Director, Information Networking Institute;
Director of CyLab Education, Training and Outreach
4616 Henry Street
Pittsburgh, Pennsylvania 15213
Email at: dena@cmu.edu

Columbia University

Department of Computer Science and the Institute for Data Sciences and Engineering

Lecturer in Discipline

The Department of Computer Science at Columbia University in the New York City invites applications for Lecturer in Discipline in the area of Data Science.

Lecturers in Discipline are officers who meet a programmatic need for instruction in specialized fields. The selected candidate/s will be expected to teach courses on Algorithms and Machine Learning. Courses will be geared towards data science, at the graduate level, and the candidate/s will be responsible for advising students in Institute for Data Sciences and Engineering Certification of Professional Achievement program. In addition to teaching and mentoring responsibilities, the selected candidate will assist the growth and development of future graduate degree programs within the Institute, while ensuring adequate linkage with industry and practical applications; and coordinating with the faculty in the Institute for Data Sciences and Engineering.

Candidates for appointment must demonstrate practice expertise, professional competence and scholarship in Computer Science. Candidates must hold a doctorate degree or its professional



THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Head of the Department of Computer Science and Engineering

The Hong Kong University of Science and Technology (HKUST), opened in October 1991, comprises four Schools: Science, Engineering, Business & Management, and Humanities & Social Science. The University's mission is to advance learning and scholarship; to promote research, development, and entrepreneurship, and to contribute to the region's economic and social development.

The School of Engineering, the largest School of the University, currently enrolls about 38% of the University's total undergraduate and postgraduate students of approximately 12,600. It comprises six departments: Chemical & Biomolecular Engineering, Civil & Environmental Engineering, Computer Science & Engineering, Electronic & Computer Engineering, Industrial Engineering & Logistics Management, and Mechanical Engineering.

The Department of Computer Science & Engineering (CSE) currently has 44 faculty members, teaching about 560 undergraduate students and 180 postgraduate research students. The Department conducts comprehensive teaching and research programs in both basic and applied aspects of Computer Science & Engineering. The academic degrees offered by the Department are: BEng, MSc, MPhil and PhD. Research activities in the Department are broadly categorized into artificial intelligence; data, knowledge and information management; networking and computer systems; software technologies; theoretical computer science; vision and graphics. For more information, please visit the University and Department websites available on <http://www.ust.hk/> and <http://www.cse.ust.hk/> respectively.

Applications/nominations are invited from well-qualified and accomplished scholars for the position. In addition to extensive teaching and research experience, the successful candidate must have demonstrated leadership qualities necessary to lead and manage the Department in its diverse academic and administrative functions and to interact effectively with industry and commerce.

Salary will be highly competitive with generous benefits. Applications/nominations together with detailed curriculum vitae and the names and addresses/fax numbers/email addresses of three referees should be sent to Professor Chung Yee Lee, Chair of Search Committee for Headship of CSE, c/o School of Engineering, HKUST, Clearwater Bay, Kowloon, Hong Kong [Fax No.: (852) 2358 1458, e-mail: dhcse@ust.hk] before **Tuesday, 1 October 2013**.

HKUST is committed to increasing the diversity of its faculty and has a range of family-friendly policies in place.

(Information provided by applicants will be used for recruitment and other employment-related purposes.)

Professional Opportunities

equivalent. The ideal candidate also possesses the ability to bring real world approaches, methods and technologies from industry to the School's classrooms. In collaboration with the Institute's Director of Industry Interactions and Entrepreneurship, the incumbent will provide students with exposure to practitioners of outstanding professional achievement and leadership. The Department is especially interested in qualified candidates who can contribute, through their teaching and/or service, to the diversity and excellence of the academic community.

Apply here: <https://academicjobs.columbia.edu/applicants/jsp/shared/frameset/Frameset.jsp?time=1371763560614>

Galois, Inc.

Software Engineer/Researcher

We are currently seeking software engineers/researchers to play a pivotal role in fulfilling our mission to make critical systems trustworthy.

Galois engineers participate in one or more projects concurrently, and specific roles vary greatly according to skills, interests, and company needs. Your role may include technology research and development, requirements gathering, implementation, testing, formal verification, infrastructure development, project leadership, and/or supporting new business development.

Skills & Requirements

- Education — Minimum of a Bachelor's degree in computer science or equivalent. MS or PhD in CS or a related field desirable but optional, depending on specific role.
- Required Technical Expertise — Must have hands-on experience developing software and/or performing computer science research. Demonstrated expertise in aspects of software development mentioned above.
- Desired Technical Expertise — Fluency in the use of formal or semi-formal methods such as Haskell or other functional programming languages. Direct experience in developing high assurance systems and/or security products. Experience with identity management, security risk analysis, systems software, or networking.
- Required General Skills — Must work well with customers, including building rapport, identifying needs, and communicating with strong written, verbal, and presentation skills. Must be highly motivated and able to self-manage to deadlines and quality goals.

Our engineers develop in programming languages including functional languages, designing and developing advanced technologies for safety- and security-critical systems, networks, and

applications. Engineers work in small team settings and must successfully interact with clients, partners, and other employees in a highly cooperative, collaborative, and intellectually challenging environment.

We're looking for people who can invent, learn, think, and inspire. We reward creativity and thrive on collaboration. If you are interested, please send your cover letter and resume to us at careers@galois.com

Indiana University-Purdue University Indianapolis

School of Informatics and Computing

Research Assistants and Postdoctoral Fellows

Research assistant or postdoctoral positions in computational proteomics are available in the School of Informatics and Computing at IUPUI. The appointees will work on ongoing projects in developing computational tools/pipelines for analysis of mass spectrometry data.

Candidates must have a Master's (for research assistant positions) or PhD degree (for Postdoc positions) in bioinformatics, computer science or other related disciplines and have demonstrated high research productivity. Proficiency with JAVA is required. Knowledge of mathematical modeling techniques and algorithm design is desirable.

Applicants should email a single PDF file including cover letter, CV, brief research statement and 2 or 3 reference letters to Dr. Xiaowen Liu (xwliu@iupui.edu).

For more information about Dr. Liu's lab, please visit: <http://mypage.iu.edu/~xwliu/>

Princeton University

Computer Science Department

Assistant Professor

The Department of Computer Science at Princeton University invites applications for faculty positions at the Assistant Professor level. We are accepting applications in all areas of Computer Science. Applicants must demonstrate superior research and scholarship potential as well as teaching ability.

A PhD in Computer Science or a related area is required. Candidates should expect to receive their PhD before Fall, 2014. Successful candidates are expected to pursue an active research program and to contribute significantly to the teaching programs of the department. Applicants should include a CV and contact information for at least three people who can comment on the applicant's professional qualifications.

There is no deadline, but review of applications will be underway by December 2013. Applications in the area of Machine Learning are particularly encouraged

and candidates are strongly urged to apply by November 1, 2013.

You may apply online at: <http://jobs.cs.princeton.edu/>.

Princeton University is an equal opportunity employer and complies with applicable EEO and affirmative action regulations.

St. John's University

Computer Science, Mathematics and Science

Assistant Professor

The Division is seeking applications for one tenure track position. Position available for Fall 2013 or Spring 2014. Expertise and substantial experience in computer, network, and mobile device security are essential.

Qualifications: Candidates must be experienced in multiple areas of cyber security such as digital forensics and securing medical records and must hold a Ph.D. in computer science, or a closely related area, with specialization in cyber security, and possess industry field experience as well as university-level teaching experience and/or publications and presentations.

Apply online at www.stjohns.edu by clicking the "work at St. John's" tab at the bottom of the page and then click "Faculty positions".

Stanford University

Department of Communication

Assistant Professor

The Department of Communication at Stanford University is seeking applicants for a tenure track Assistant Professor whose area of expertise includes the large-scale effects of information/communication technology OR cultural production OR new media and ways of thinking. The successful candidate will teach courses at both the graduate and undergraduate levels.

Applicants should apply online thru Academic Jobs Online at: <https://academicjobsonline.org/ajol/jobs/2800>

Please include a cover letter outlining research and teaching interests, a cv, and three letters of reference. Inquires can be directed by email to: siyengar@stanford.edu

For full consideration, materials must be received by November 15, 2013. The term of the appointment would begin September 1, 2014.

Stanford University is an equal opportunity employer and committed to increasing the diversity of its faculty. It welcomes nominations of, and applications from, women and members of minority groups, as well as others who would bring additional diversity to the university's research and teaching missions.

Professional Opportunities

Subfield for search: **Effects of Information/ Communication Technology**

We seek a scholar who investigates emerging inter-relationships between new forms of communication and social, economic or political outcomes at either the individual or aggregate level of analysis. Our preference is for a scholar with a cross-national research agenda.

Subfield for search: **Cultural Production in the Digital Age**

We seek an analyst of media and culture with exceptional interpretive skills who examines the relationship between media institutions and emerging forms of narrative, identity and community formation. Given the increasingly global nature of cultural production, we prefer a scholar who explores these issues in a transnational, comparative context.

Subfield for search: **New Media and Ways of Thinking**

We seek a scholar who investigates new forms of media and new ways of interacting. We prefer

a scholar who utilizes cutting-edge theoretical perspectives and methodologies, for example the neuroscience or physiology of message processing, network analysis of complex social interactions, computational analysis of big data sets derived from ubiquitous sensing networks, or the role of media in verbal and nonverbal development.

Technicolor Palo Alto Research Center

Researcher

The Technicolor Research Center (<http://palocalto.thlab.net>) is located in downtown Palo Alto, just steps from the Stanford campus. We are looking for **several researchers** to create and develop next-generation solutions to discover, deliver and manage personalized digital media. We are looking for outstanding researchers with expertise in **statistics, machine learning, and data mining** to lead research in areas ranging from recommender systems to user behavior analysis and privacy.

Candidates must show evidence of a promising

research record as well as visibility and influence in their academic community.

Key Responsibilities:

- Propose, launch, lead and execute research with peer researchers at Technicolor labs, in collaboration with academic partners (PhD students, postdocs, professors)
- Develop new and innovative technologies and contribute to developing intellectual property
- Publish in top conferences, maintain world-class academic credentials and visibility
- Help transfer research advances to products, establish relationships with business divisions
- Develop and strengthen relationships with the academic community and attract high-quality visiting students, postdocs and professors

Skills and Qualifications:

- Ph.D. in Computer Science, Statistics, EE, MS&E or other relevant discipline

Full / Associate Professor and Associate Dean Position Competitive Tax-free Salary



The Computer, Electrical, and Mathematical Sciences and Engineering (CEMSE) Division (<http://CEMSE.kaust.edu.sa>) at King Abdullah University of Science and Technology (KAUST) is seeking a leading scientist for the position of Associate Dean. The associated faculty appointment will be for Full Professor or Associate Professor either in Computer Science, Electrical Engineering, or Applied Mathematics.

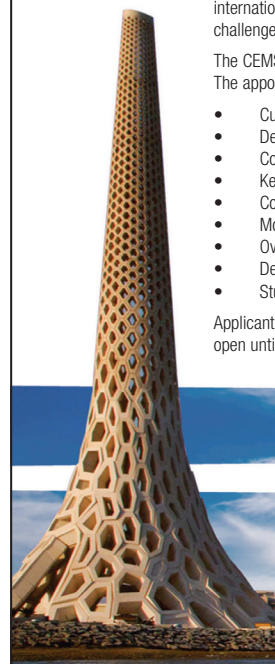
KAUST is an international, graduate research university dedicated to advancing science and technology through interdisciplinary research, education, and innovation. Located on the shores of the Red Sea in Saudi Arabia, KAUST offers superb research facilities, and internationally competitive salaries. The university attracts top international faculty, scientists, engineers, and students to conduct fundamental and goal-oriented research to address the world's pressing scientific and technological challenges related to the sustainability of water, food, energy, and the environment.

The CEMSE Division is looking for candidates who have the passion to pursue a high impact research program and have a commitment to teaching at the graduate level. The appointment will be split 50% research and 50% administrative duties, including:

- Curriculum development and maintenance
- Developing and directing the implementation of academic goals, objectives, policies, procedures, and standards
- Coordinating the academic faculty ensuring quality assurance and accreditation compliance
- Keeping up-to-date on international education trends and development and ensure these are reflected in Division programs and policies
- Course and class scheduling
- Monitoring compliance to teaching duties by the faculty
- Overseeing the student admission process
- Development and coordination of student recruiting strategies and activities
- Student performance monitoring

Applicants should apply at <http://apptrkr.com/369821>. Applications received by August 15, 2013 will receive full consideration and the position will remain open until filled.

www.kaust.edu.sa



Professional Opportunities

- Strong academic track record and in-depth knowledge in one or more of the following areas: statistics, systems, data mining, machine learning, human factors/interfaces, privacy
- Practical expertise in areas such as statistical analysis, statistical machine learning, recommender systems, user profiling or privacy
- Effective interpersonal and communication skills
- Ability to perform research guided by business opportunities

Technicolor is a leading provider of production and distribution services to movie and TV studios, network service providers and broadcasters. The Palo Alto lab works closely with Technicolor groups focused on entertainment services, analytics for studios, and new services for personalized content delivery such as www.mgo.com.

Application Instructions:

Send in your resume to paloaltojobs@technicolor.com

Texas Tech University

Department of Computer Science

Assistant or Associate Professor

The Department of Computer Science at Texas Tech University invites applications for a tenure-track position at the rank of assistant or associate professor starting in Fall 2014. Successful candidates must have a Ph.D. in computer science or a closely related field, be able to teach graduate and undergraduate courses, and perform research as evidenced by scholarly publications. Successful candidates are also expected to contribute through professional and departmental service. Preference will be given to researchers in cyber security and software engineering and candidates with strong potential to obtain extramural funding.

The Department of Computer Science currently has 15 faculty members with 293 undergraduate and 119 graduate students. Texas Tech University, with an enrollment of 32,000 students, comprises 12 academic colleges/schools and is a part of the state-supported Texas Tech University System. The

university shares its campus with the TTU Health Science Center.

Lubbock, a city of more than 200,000, is an economic and medical center on the Texas South Plains. The area offers a low cost of living, no state income tax, short commute times, and a rich heritage of music and culture.

Review of applications will begin in September 2013 and will continue until the position is filled. A letter of application, curriculum vitae, statement of proposed research, teaching statement, a sample of three papers published, and three letters of reference should be submitted electronically at <http://jobs.texastech.edu>. Please use Requisition number 86897.

As an Equal Employment Opportunity/Affirmative Action employer, Texas Tech University is dedicated to the goal of building a culturally diverse faculty committed to teaching and working in a multicultural environment. We actively encourage applications from all those who can contribute, through their research, teaching and/or service, to the diversity and

JOIN THE INNOVATION.

Qatar Computing Research Institute seeks talented scientists and software engineers to join our team and conduct world-class applied research focused on tackling large-scale computing challenges.

We offer unique opportunities for a strong career spanning academic and applied research in the areas of Arabic language technologies including natural language processing, information retrieval and machine translation, distributed systems, data analytics, cyber security, social computing and computational science and engineering.

Scientist applicants must hold (or will hold at the time of hiring) a PhD degree, and should have a compelling track record of accomplishments and publications, strong academic excellence, effective communication and collaboration skills.

Software engineer applicants must hold a degree in computer science, computer engineering or related field; MSc or PhD degree is a plus.

We also welcome applications for post-doctoral researcher positions.

As a **national research institute** and proud member of Qatar Foundation, our research program offers a collaborative, multidisciplinary team environment endowed with a comprehensive support infrastructure.

Successful candidates will be offered a highly competitive compensation package including an attractive tax-free salary and additional benefits such as furnished accommodation, excellent medical insurance, generous annual paid leave, and more.

For full details about our vacancies and how to apply online please visit <http://www.qcri.qa/join-us/>
For queries, please email QFJobs@qf.org.qa

 /QCRI.QA  @QatarComputing  QatarComputing
 QatarComputing www.qcri.qa



معهد قطر لبحوث الحوسبة
Qatar Computing Research Institute

عضو مؤسسة قطر Qatar Foundation Member



Professional Opportunities

excellence of the academic community at Texas Tech University. The university welcomes applications from minorities, women, veterans, persons with disabilities, and dual-career couples.

University of California at Davis

Department of Statistics

Assistant/Associate/Full Professor

The Department of Statistics at the University of California, Davis invites applications for a tenured/tenure-track open rank faculty position beginning 07/01/2014. Requires a Ph.D. in Statistics or a related field and research interest in statistical methodology, theory or computing for problems involving large/massive and complex data. Candidates with demonstrated interests in scientific applications in bioinformatics, bio-medical imaging, or genomics, are especially encouraged to apply. Application review begins 12/01/2013 until position is filled. See <http://www.stat.ucdavis.edu/employment/academic/> for more information.

To apply, go to <https://recruit.ucdavis.edu/apply/JPF00083>.

UC Davis is an affirmative action/equal employment opportunity employer and is dedicated to recruiting a diverse faculty community. We welcome all qualified applicants to apply, including women, minorities, individuals with disabilities and veterans.

University of Chicago

Department of Computer Science

Assistant Professor Positions

The Department of Computer Science at the University of Chicago invites applications from exceptionally qualified candidates in the areas of theory of computing, and systems for faculty positions at the rank of Assistant Professor.

Systems is a broad, synergistic collection of research areas spanning systems and networking, programming languages and software engineering, software and hardware architecture, data-intensive computing and databases, graphics and visualization, and systems biology. Particular areas of focus include formal definition, design, and implementation of programming languages, data-intensive computing systems and algorithms, large scale distributed and collaborative systems, heterogeneous computer architectures, reliable computing systems, and self-tuning systems.

The University of Chicago has the highest standards for scholarship and faculty quality, and encourages collaboration across disciplines. We encourage strong connections with researchers across the campus in such areas as mathematics, natural language processing, bioinformatics, logic, molecular engineering, and machine learning, to mention just

a few.

Applicants must have completed all requirements for the PhD except the dissertation at time of application, and must have completed all requirements for the PhD at time of appointment. The PhD should be in Computer Science or a related field such as Mathematics or Statistics.

The Department of Computer Science (cs.uchicago.edu) is the hub of a large, diverse computing community of two hundred researchers focused on advancing foundations of computing and driving its most advanced applications. Long distinguished in theoretical computer science and artificial intelligence, the Department is now building a strong Systems research group. This closely-knit community includes the Department of Statistics, Toyota Technological Institute, the Computation Institute, and Argonne's Mathematics and Computer Science Division.

The Chicago metropolitan area provides a diverse and exciting environment. The local economy is vigorous, with international stature in banking, trade, commerce, manufacturing, and transportation, while the cultural scene includes diverse cultures, vibrant theater, world-renowned symphony, opera, jazz, and blues. The University is located in Hyde Park, a Chicago neighborhood on the Lake Michigan shore just a few minutes from downtown.

All applicants must apply through the University's Academic Jobs website.

Please apply at the following sites:

1. Theory of computing, academiccareers.uchicago.edu/applicants/Central?quickFind=52933.
2. Systems, academiccareers.uchicago.edu/applicants/Central?quickFind=52953.

A cover letter, curriculum vitae including a list of publications, a statement describing past and current research accomplishments and outlining future research plans, and a description of teaching philosophy are required. Three reference letters are required, one of which must address the candidate's teaching ability to be considered as an applicant. The reference letters can be sent by mail to:

Chair, Department of Computer Science
The University of Chicago
1100 E. 58th Street, Ryerson Hall
Chicago, IL 60637-1581

Or by email to: Recommend@mailman.cs.uchicago.edu (letters can be in pdf, postscript or Microsoft Word).

Candidates may also post a representative set of publications, as well as teaching evaluations, to this website.

To ensure fullest consideration of your application all materials, including supporting letters, should be received by January 15, 2014. However, screening will

continue until all available positions are filled.

The University of Chicago is an Affirmative Action / Equal Opportunity Employer.

University of Cincinnati

Faculty Positions

Two full-time tenure track Assistant/Associate Professor faculty positions in Computer Science are open in the EECS Department at the University of Cincinnati. Areas of expertise being sought include, but are not limited to, software engineering, cyber-security, and scalable data management & analytics. Candidates must have a PhD in Computer Science or a closely related discipline by the date of appointment.

Apply and view detailed job description at www.jobsatuc.com (Position # 213UC5559). Review of applications will continue until both positions are filled.

The University of Cincinnati is an affirmative action/equal opportunity employer. UC is a smoke-free work environment.

University of Notre Dame

Assistant or Associate Professor

The Department of Computer Science and Engineering at the University of Notre Dame invites applications for Assistant or Associate Professor. Excellent candidates in all areas will be considered.

The Department offers the PhD degree and undergraduate Computer Science and Computer Engineering degrees. Faculty are expected to excel in classroom teaching and to build and lead highly-visible research projects that attract substantial external funding.

The University of Notre Dame is a private, Catholic university with a doctoral research extensive Carnegie classification, and consistently ranks in USNWR as a top-twenty national university. The South Bend area has a vibrant and diverse economy with affordable housing and excellent school systems, and is within easy driving distance of Chicago and Lake Michigan.

Applicants should send (pdf format preferred) a CV, statement of teaching and research interests, and contact information for three professional references to: cse-search-2014@nd.edu.

The University of Notre Dame is an Equal Opportunity, Affirmative Action Employer.

University of Oregon

Department of Computer and Information Science

Department Head

The Computer and Information Science (CIS) Department at the University of Oregon invites applications for the position of Department Head at the rank of Full Professor. We seek an outstanding

Professional Opportunities

scholar who will be excited to head a computer science department in a strong public research university. The department has planned five or more hires in the coming years due to open positions and upcoming retirements. The department's growth plans will build on our expertise in distributed systems, parallel computing, and data sciences, although individuals from all areas of computer science are encouraged to apply for Head.

We seek an individual with strategic vision and leadership abilities. The ideal candidate will be a prominent scholar with a sustained record of publication and research funding and the ability and vision to help the department build on our areas of strength. We are looking for an innovative thinker who is eager to advance interdisciplinary scholarship, build bridges between academia and industry, mentor faculty to achieve excellence, and communicate the intellectual excitement of computer and information science and its broad, evolving role in contemporary society. A Ph.D. in Computer Science or a closely related field is required.

Applications will be accepted electronically through the department's web site at <https://faculty.cs.uoregon.edu/search/application.php>. Review of applications will continue until the position is filled. Please address questions to faculty_search@cs.uoregon.edu.

The University of Oregon is an AAU research university located in Eugene and within a one-hour drive of both the Pacific Ocean and the snow-capped Cascade Mountains. The CIS Department is part of the College of Arts and Sciences and is housed within the Lorry Lokey Science Complex. The CIS department offers a stimulating and friendly environment for collaborative teaching and research both within the department and with other departments on campus. More information about the department, its programs, and current faculty can be found at <http://www.cs.uoregon.edu>.

The University of Oregon is an Equal Opportunity/Affirmative Action institution committed to cultural diversity and compliance with the Americans with Disabilities Act. The University of Oregon is committed to create a more inclusive and diverse institution and seeks candidates with demonstrated potential to contribute positively to its diverse community.

University of Pennsylvania

Department of Computer and Information Science Postdoctoral Fellowship: Machine Learning

The University of Pennsylvania invites applications for a Postdoctoral Fellow in machine learning, with a focus on lifelong machine learning, multi-task learning, and knowledge transfer. The position is available immediately.

For further details and to apply, visit: <http://www.seas.upenn.edu/~eeaton/openpositions.html>.

University of the District of Columbia

Faculty Search in Computer Science and Information Technology

The Department of Computer Science and Information Technology at the University of the District of Columbia seeks applications for **three (3) tenure-track faculty positions at the level of Assistant Professor** beginning in January (preferred) or August 2014. We welcome all candidates in all areas of Computer Science and Information Technology. Applicants must hold a Ph.D. in Computer Science, IT, or closely related disciplines.

We are particularly interested in candidates with practical research experiences in three areas:

- [1] Networks and Network Security with expertise in TCP/IP programming, router programming, Snort, VPN, NVD/SCAP, pcap, system programming, Virtual Networks.
- [2] Computer Systems and Computer Security with expertise in OS kernels, system programming, code injection, stack attacks, Dtrace, anti-virus, and NVD/SCAP.
- [3] Mobile and Cloud Computing with expertise in Xcode and iOS programming, Java and Android programming, Hadoop and MapReduce programming, and Amazon EC.

Candidates who have strong practical expertise in Confidentiality, Integrity, and Availability in Technology, Policy & Practice, and Education & Awareness of information assurance and incorporating protection, detection, and reaction capabilities are encouraged to apply. NSA CAE-IAE/R experience will be a plus, but not required. Faculty duties include teaching undergraduate and graduate students,

conducting high-quality research by collaborating closely with the department's established teams, participating in and developing externally funded research projects, and performing academic duties, university services, and professional services.

The department also seeks **four (4) Adjunct Professors (part-time)** whose roles are to teach up to three undergraduate and graduate courses beginning in August 2013 (preferred) or January 2014. Applicants applying for this position (Adjunct Professor) must hold a M.S. or Ph.D. in Computer Science, IT, or closely related disciplines.

The University of the District of Columbia is a comprehensive urban land-grant institution and is classified as a Historically Black College and University. It is the only public university in the District of Columbia, the U.S. Capital.

The applicant (applying for Assistant Professor) should submit a CV with three references (names and contact information). The applicant (applying for Adjunct Professor) should submit a CV with emphasizing academic experience (teaching). All applicants should submit required materials, in electronic formats, directly to Dr. Byunggu Yu by email (byu@udc.edu). Reviews will continue until all positions are filled. The University of the District of Columbia is an Equal Opportunity/ Affirmative Action Employer.

Byunggu Yu, PhD, Chair and Professor
CSIT, UDC, <http://csit.udc.edu>

4200 Connecticut Avenue, NW.
Building 42, Suite 112
Washington, DC 20008
Telephone: (202) 274 6289
Email: byu@udc.edu

UC SANTA CRUZ



Assistant Professor

DEPARTMENT OF COMPUTER ENGINEERING

The Department of Computer Engineering at the University of California, Santa Cruz (UCSC) invites applications for a position in Computer Engineering at the assistant professor (tenure track) level. The selected candidate will contribute to research, teaching (including classroom and mentorship of graduate and undergraduate students) in the hardware track, and provide service to the campus and their profession.

BASIC QUALIFICATIONS: Requires a Ph.D. or equivalent degree in computer engineering, electrical engineering, or related fields preferably by June 30, 2014 - must be conferred by June 30, 2015; demonstrated record in research and teaching.

PREFERRED QUALIFICATIONS: Demonstrated excellence in research and demonstrated ability teaching courses in CE under the hardware track.

POSITION AVAILABLE: July 1, 2014, with academic year beginning September 2014. Position contingent upon final budgetary approval.

Apply at <http://apptrkr.com/380328>

CLOSING DATE: Review of applications will begin on December 31, 2013.

VISIT THE APO WEB SITE AT: <http://apo.ucsc.edu>

EOE

Professional Opportunities

University of Washington

Information School

Faculty Lecturer Positions (Non-Tenure Track)

The University of Washington Information School is seeking three creative individuals to teach in the areas of Information Services; Web development, Information architecture, or Data management; and Human Computer Interaction & Design. iSchool lecturers focus on teaching, pedagogy, working with diverse populations, and bringing professional experience into the classroom to create exceptional learning opportunities.

Our new colleague will join a broad-based, inclusive Information School with multiple degree programs committed to the values of leadership, innovation, and diversity. University of Washington faculty engage in teaching, research and service. These are full-time 9-month appointments with faculty voting rights anticipated at the rank of Lecturer Full-time or Senior Lecturer Full-time commensurate with qualifications and experience. Applicants must have a master's degree or equivalent degree by date of appointment. Three years of professional experience and prior teaching experience is desirable.

Review of applications will begin 9/1/2013. The

University of Washington is an affirmative action, equal opportunity employer. The University is building a culturally diverse faculty and staff and strongly encourages applications from women, minorities, individuals with disabilities and covered veterans.

For complete posting and information on how to apply please visit us at: <http://ischool.uw.edu/jobs/faculty>

University of Washington

Information School

Tenure Track Faculty Positions

The University of Washington Information School is seeking three outstanding individuals to fill full-time 9-month tenure-track positions in the areas of Information Management; Data Curation; and Information Assurance and Cybersecurity.

Our new colleagues will join a broad-based, inclusive information school. Faculty members teach across programs. University of Washington faculty engage in teaching, research and service. Successful candidates will show a commitment to bridging research and practice. Applicants must have a Ph.D. or equivalent degree by date of appointment.

For complete position announcements and information on how to apply visit <http://ischool.uw.edu/jobs/faculty>.

The University of Washington is an affirmative action, equal opportunity employer. The University is building a culturally diverse faculty and staff, and strongly encourages applications from women, minorities, individuals with disabilities and covered veterans.

Applicants may find further information about the UW Information School at <http://ischool.uw.edu>.

University of Wisconsin - Eau Claire

Computer Science

Two Tenure Track Assistant Professors

The Department of Computer Science at the University of Wisconsin-Eau Claire seeks two tenure track faculty members at the rank of Assistant Professor to start August 25, 2014.

See the position description and application procedure at: <http://www.uwec.edu/employment>

Wright State University

Computer Science & Engineering Department

Two Faculty Positions

The Department of Computer Science and Engineering (CSE) at Wright State University seeks applicants for up to two positions at assistant, associate, or full rank with rank and tenure status appropriate to qualifications and experience. Candidates for these positions are expected to have an earned Ph.D. in computer science, computer engineering or a closely related field anticipated



TANDY ENDOWED CHAIR IN CYBER SECURITY TANDY SCHOOL OF COMPUTER SCIENCE

The Tandy School of Computer Science at the University of Tulsa is seeking a candidate to fill the Tandy Endowed Chair in Cyber Security. The position is open to applicants of all ranks. Applicants should have a distinguished record in research, education, and service in Cyber Security, Information Assurance, or a related area that is commensurate with current rank. The applicant should be open to collaborative and multi-disciplinary research activities. Responsibilities will include spearheading the development of new research and curriculum areas within the school and continuing to advance the international recognition of the University of Tulsa in this field. Applicants should possess a Ph.D. or equivalent in Computer Science or a closely related field.

The University of Tulsa is a private university with approximately 4500 undergraduate, graduate, and law students. The Tandy School of Computer Science occupies the second floor of the new J. Newton Rayzor Hall dedicated in Nov. 2011. The School offers a B.S., M.S. and Ph.D. in Computer Science. The National Security Agency and U.S. Cyber Command have designated The University of Tulsa as a National Center of Academic Excellence in Cyber Operations. The University of Tulsa's information security programs have previously received similar nods of approval from the NSA, National Science Foundation, Department of Defense, and U.S. Secret Service. The Tandy School of Computer Science houses TU's Cyber Corps Program, which currently has 60 students from a variety of backgrounds including computer science, mathematics, electrical engineering, chemical engineering, mechanical engineering, law and business.

Tulsa is located in northeast Oklahoma in "Green Country," a region of rolling hills, lakes and wooded landscapes. With a metropolitan population of approximately one million, the city offers cosmopolitan amenities while maintaining the livability of a more modest urban center. Tulsa offers diverse arts, entertainment, and recreation venues appealing to young adults and families.

To apply, please send CV, teaching statement and research statement, and contact information for four references as a single PDF by e-mail to **Dr. Rose Gamble, Chair of the Search Committee at gamble@tulsa.edu**. Applicants are encouraged to submit their information prior to February 1, 2014.

The University and Tandy School of Computer Science share a strong commitment to achieving diversity among faculty and staff. We particularly encourage applications from underrepresented groups. The University of Tulsa is an Equal Opportunity/Affirmative Action Employer.

Professional Opportunities

by the start date with outstanding academic credentials. Candidates applying for a position at the rank of assistant professor must clearly demonstrate the potential to develop a vibrant funded research program that engages graduate students and produces peer reviewed publications while candidates for the rank of associate/full professor must have an outstanding record of funded research and scholarly publications. In addition, candidates must possess excellent communication skills and a commitment to engage in both undergraduate and graduate education.

For one of the positions the departments seeks a faculty member specializing in cyber security including areas such as software security; trustworthy systems; information assurance, security and privacy; mobile and embedded security; computer forensics; and security tools and visualization. Outstanding applicants with a high potential for contributing to the department's newly developed Master program in Cyber Security are strongly encouraged to apply.

For the other position, the department seeks faculty specializing in Big Data research. Particular areas of interest include, but are not limited to, data management and lifecycle, data analytics, data visualization, data fusion and integration, semantics and ontologies, social and sensor Web, biomedical and health informatics. Outstanding applicants with a high potential for collaborations with existing strengths of the department and the Kno.e.sis Center (<http://knoesis.wright.edu>) are particularly welcome to apply.

Outstanding applicants specializing in other emerging research areas are also welcome to apply.

The Department has 26 faculty members, more than 500 undergraduate, 75 M.S. and 40 Ph.D. students and offers B.S., M.S. and Ph.D. degrees both in Computer Science and Computer Engineering, and an M.S. in Cyber Security. Information about the Department can be found at: <http://www.cs.wright.edu/cse/>. The Department is located in the Russ Engineering Center and Joshi Research Center, which includes the Kno.e.sis Center and the Appenzeller Visualization Laboratory. The Department is one of four departments in the College of Engineering and Computer Science, which houses 4 out of 7 of Wright State University's System of Ohio Centers of Excellence (<http://webapp2.wright.edu/web1/coe/>). Wright State University, an institution of nearly 19,000 students, is located on a spacious campus within a growing suburban community. A variety of affordable and pleasant living environments with schools and parks attractive to professionals are conveniently located close to campus. Wright State University is surrounded by industry leaders including Lexis-Nexis, Reynolds & Reynolds, CSC, Ball Aerospace, Northrop Grumman, Teradata, and SAIC. Wright State is also located adjacent to the Wright-Patterson Air Force Base, which houses the headquarters of the Air Force

Research Laboratory. The university is committed to industrial and government partnerships for research and economic development ventures and has a strong institutional commitment to underrepresented groups, women, persons with disabilities, and veterans. Applicants should provide a brief statement of their research, teaching interests, and professional goals. The application should include a cover letter indicating the rank desired and a complete vita with the names, addresses, telephone numbers and e-mail addresses of at least four references.

Applications and supporting information for the Big Data area is completed on-line at: <https://jobs.wright.edu/postings/5916> and applications for Cyber Security

area is completed on-line at: <https://jobs.wright.edu/postings/5914>.

Consideration of candidates begins October 31, 2013 and continues until the positions are closed or filled. Salaries and resources are competitive and based on rank. For details and additional information, you may contact Prof. Mateen Rizki, Chair, at mateen.rizki@wright.edu, or Prof. Thomas Wischgoll (for the cyber security search) at thomas.wischgoll@wright.edu, or Prof. Pascal Hitzler (for the Big Data search) at pascal.hitzler@wright.edu.

Wright State University is an equal opportunity/affirmative action employer.



TANDY ENDOWED CHAIR IN COMPUTER SCIENCE TANDY SCHOOL OF COMPUTER SCIENCE

The Tandy School of Computer Science at the University of Tulsa is seeking a candidate to fill a Tandy Endowed Chair in Computer Science. This tenure track position is open to applicants at all ranks. Applicants should have a notable record in research, education, and service in Computer Science, commensurate with current rank. The applicant should be open to collaborative and multi-disciplinary research activities. Responsibilities include spearheading the development of new research and curriculum areas within the School and continuing to advance the international reputation of the University of Tulsa in their field. Applicants should possess a Ph.D. in computer science or equivalent in a closely related field. All areas of expertise that complement the School will be considered, (excluding bioinformatics and security, due to recent hires). Specific research areas of interest include machine learning, intelligent agent systems, software engineering, distributed systems, evolutionary computation, robotics, computational theory/algorithms, human-computer interaction and Web services.

The University of Tulsa, ranked 83rd among national research universities by *U.S. News & World Report*, provides educational opportunities to more than 4,500 undergraduate and graduate students in the colleges of arts and sciences, business, engineering and natural sciences, and law. Students from across the nation and more than 60 countries enjoy TU's personalized attention, small class sizes and low student-faculty ratio. For more information, visit www.utulsa.edu

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The University and Tandy School of Computer Science share a strong commitment to achieving diversity among faculty and staff. We particularly encourage applications from underrepresented groups. The University of Tulsa is an Equal Opportunity/Affirmative Action Employer.