The Department of Computer & Information Sciences (CIS) achieved success in many areas in 2014. Undergraduate and graduate enrollment in all programs increased significantly. We currently have more than 700 undergraduate students in our two majors and more than 100 MS and PhD students.

Four outstanding new faculty members (page 2) and two new staff members, Marilyn Grandshaw, administrative coordinator, and June C. Mitchell, administrative specialist, joined the department. We also have a new home, the advanced Science Education and Research Center, which opened in September.

In 2014, CIS faculty received 10 new grants from the National Science Foundation, the U.S. Air Force and the U.S. Army Research Office, including Professor Haibin Ling’s prestigious NSF CAREER grant. The department has 25 active NSF grants, making us Temple University’s top department in the number of grants, and number two in total dollar value.

CIS faculty members continue to garner national and international awards and recognition. This year faculty served on prestigious international conference organizations and panels, gave distinguished lectures, delivered keynote addresses and chaired and hosted two major conferences in Philadelphia: ACM MobiHoc, which I chaired, and SIAM SDM, which Professor Zoran Obradovic chaired.

With the continued dedication of the CIS faculty, staff and students and the strong support of the Temple administration, I am confident that CIS will continue to reach even higher levels of excellence in the coming years.

Jie Wu
Chair and Laura H. Carnell Professor

Krishna Kant Awarded NSF Data and Storage Centers Grant

Since joining CIS last spring, Professor Krishna Kant has won multiple National Science Foundation grants, including a recent NSF grant titled “Software Defined Energy Adaptation in Large Scale Data Centers.”

The goal of the research is to devise a flexible, policy-based mechanism that can handle the complexities of coordinating competing data center energy management needs—including computing, storage, networking and cooling—for a wide variety of workloads and applications. The project will specifically consider adapting workloads and infrastructures to power and thermal constraints. These constraints include inadequate or reduced power/thermal design margins, reliance upon local renewable energy sources and ambient cooling.

The software-defined approach is expected to enable flexibility in choosing the intended data center configurations, enable tradeoffs between energy efficiency and performance, and allow graceful performance degradation when power requirements cannot be met due to inadequate energy availability.

Kant and Jie Wu, department chair, also received approval from the NSF to start a Temple University “node” of a very successful existing industry-university cooperative research center (IUCRC) located at the University of Minnesota (UM): the Center for Intelligence Storage (CRIS). The Temple node will expand CRIS’s scope to data center issues beyond storage. Initially, it will focus on energy management and a variety of related data center and cloud resource management issues.

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Krishna Kant, Professor
Krishna Kant served as a program director in the Computer & Information Science & Engineering/Computer & Network Systems division of the National Science Foundation from 2008 to 2013. He also was a research professor at the Center for Secure Information Systems at George Mason University from 2010 to 2013. His current areas of research include sustainability and energy issues in data centers, robustness in the Internet and cloud computing security. Recently he coedited a handbook on securing cyberphysical infrastructures and advances in cloud computing security. This year he was elevated to a fellow of the IEEE. Kant earned his PhD in mathematical sciences from the University of Texas at Dallas.

Bo Ji, Assistant Professor
Bo Ji's research interests include the modeling, analysis, control and optimization of complex information system networks. The native of China recently published three papers at IEEE INFOCOM, a leading conference for CIS research, and is particularly interested in optimization and queuing theory in wireless networks and cloud computing. Ji received his PhD in electrical and computer engineering from The Ohio State University in 2012.

Avinash Srinivasan, Associate Professor/Instructional
Avinash Srinivasan most recently was a faculty member in the Department of Computer Science at George Mason University. His research interests span the areas of security and digital forensics, with primary focus in network security and forensics, forensic file carving, cloud security and forensics, mobile device forensics, malware characterization and reverse engineering, information hiding and antiforensics. He has published refereed papers in scholarly conferences and journals, including IEEE INFOCOM, ACM SAC, IEEE ICC, IEEE ICDCS Workshop and IEEE MALWARE, and won the Best Paper Award at ICITST 2012, London. Srinivasan earned his PhD in computer security and forensics in 2008 from Florida Atlantic University.

Karl Morris, Assistant Professor/Instructional
Karl Morris received his PhD in computer science in 2014 from Florida International University. His research there focused on software engineering, with an emphasis on model-driven development, middleware and adaptable systems. His current research interests include mobile computing and cyber-physical systems. Previously, he was a project manager and consultant, application developer and systems analyst. He has a strong interest in mobile applications and is the co-founder of an app development company.

Christopher Biehl, Instructor
The main professional interest of Christopher Biehl BS '98, MBA '01, is incorporating technology in the classroom and making it an integral part of the learning process. Other interests include ethics in technology, information security, web design and social media trends. He is interested in engaging diverse groups of students in technology and curriculum development.

Faculty Notes
Associate Professor Rolf Lakaemper (above) received the Christian R. and Mary F. Lindback Foundation Award for Distinguished Teaching. The award honors faculty whose work in teaching and research has benefited the lives of Temple students.

Professor Haibin Ling received the prestigious NSF CAREER grant on High-order Tensor Analysis for Groupwise Correspondence: Theory, Algorithms, and Applications. This five-year, $479,691 grant began in February 2014.

Professor Zoran Obradovic has been appointed Laura H. Carnell Professor of Data Analytics. Established in 1985 by the Temple University Board of Trustees, Laura Carnell professorships recognize faculty who have distinguished themselves in research, scholarship, the creative arts and teaching.

Addresses and Conferences
Jie Wu, Chair and Laura H. Carnell Professor, delivered the keynote address, “Algorithmic Crowdsourcing and Its Application in Big Data,” at the CSU-Intel Summit on Transparent Computing. The summit was held in Changsha, China, in July. Wu served as general chair of the 15th ACM International Symposium on Mobile Ad Hoc Networking and Computing held in Philadelphia in August. MobiHoc is the premier international symposium dedicated to addressing challenges emerging from wireless ad hoc networking and computing.

Laura H. Carnell Professor Zoran Obradovic co-chaired the 2014 SIAM International Conference on Data Mining (SDM) in Philadelphia. A record number of data miners attended, including 22 Temple CIS PhD students and faculty. SDM is one of the top data mining conferences, with the second highest number of citations per publication of conferences in the field.

Professor Obradovic is also the 2014-15 elected chair for the SIAM Activity Group on Data Mining and Analytics (SIAG/DMA).
New Funded Research
The following external grants were awarded to CIS faculty members between January and September 2014.

Xiaojiang Du
- Air Force Weather Mobile Application, Kalos Technologies Inc.

Xiaojiang Du and Jie Wu
- A Test-bed of Secure Mobile Cloud Computing for Military Applications, Army Research Office

Yuhong Guo
- Improving Multi-label Classifiers by Learning Output Representations, NSF

Krishna Kant
- Collaborative Research: Software Defined Energy Adaptation in Large Scale Data Centers, NSF
- EAGER: Quality of Configuration in Large Scale Data Centers, NSF

Krishna Kant and Jie Wu
- I/UCRC Phase II: Center on Intelligent Storage, NSF

Eugene Kwatny
- Collaborative Research: EAGER: From Computer Networks to Food Networks, NSF

Haibin Ling
- CAREER: High-order Tensor Analysis for Groupwise Correspondence: Theory, Algorithms, and Applications, NSF
- SCH: EXP: Cost Efficient Osteoporosis Analysis using Dental Data, NSF

Jie Wu, Eugene Kwatny, Haibin Ling and Chiu C. Tan
- US Ignite: Mobility-Enhanced Public Safety Surveillance System Using 3D Cameras and High Speed Broadband Networks, NSF

Scholarships Enable Students to Attend the Grace Hopper Conference
Thanks to The Vanguard Group, three students—Sandra Trinh, Molly Yochum and Kelly Haberstadt—received $1,000 scholarships to attend the Grace Hopper Celebration of Women in Computing conference this October in Phoenix, Arizona.

Through Owlcrowd, a crowd-funding activity organized by Temple, a fourth $1,000 scholarship was awarded to Andrea Chang. Swati Shrivastava also was awarded a scholarship from the conference itself. In addition, CIS Instructor Claudia Pine-Simon received a partial Anita Borg Institute faculty scholarship to the conference.

Kant Awarded NSF Grant continued from page 1
The node will also work closely with UM on storage systems, emerging NVRAM and other storage technologies. The IUCRC program allows academia and industry to collaborate and makes possible industry-funded academic research on specific issues. The Temple node will work closely with the UM node to deliver cutting-edge research on energy and resource management in data centers and elsewhere. It also will continue to seek new industry partnerships in order to expand its research scope.

News Briefs
Students Helping Students
Forty-two students thus far have participated in the newly established departmental student-to-student mentoring program.

Future of Computing Competition
Come back to campus to witness the CIS Future of Computing Competition, which showcases the remarkable work of high school and college students. The competition is scheduled for Saturday, April 11, 2015.

Distinguished Lecture Series
The department’s Distinguished Lecture Series brings to campus some of the brightest minds in their fields, including ACM Turing Award Laureates. All alumni are welcome. For a schedule of lectures, go to cis.temple.edu.

For more news, please go to www.temple.edu/cis.
John Nosek Wins Be Your Own Boss Bowl

Guiding Technologies (GT), a startup company founded by CIS Professor John Nosek, won the $125,000 grand prize at the 16th annual Be Your Own Boss Bowl, Temple’s university-wide business plan competition. GT is focused on improving outcomes and quality of life for autistic children through GAINS™ (Guidance, Assessment and Information System), software that simplifies the way complex Applied Behavioral Analysis therapy—the gold standard of autism treatment—is delivered.

Nosek was the first-ever faculty member to win the grand prize of the contest, which is open to Temple students, faculty, alumni and staff. “Winning the BYOB means that development and field testing of GAINS™ will be accelerated,” says Nosek. “This will translate into helping individuals with autism and their families sooner—what a great outcome from this competition.”

Nosek’s mobile technology platform allows anyone with a smartphone or tablet to be coached step-by-step in real time to provide high-quality therapy.

New Home for the Department of Computer & Information Sciences

Temple’s Science Education and Research Center opened for students in September, and an official building dedication took place on October 10 during Temple’s Homecoming Weekend.

SERC’s third floor is now the new home for the Department of Computer & Information Sciences, featuring labs, offices and meeting spaces as well as space for the Center for Networked Computing and the Center for Data Analytics and Biomedical Informatics.

The Science Education and Research Center is a once-in-a-lifetime opportunity to transform the College of Science and Technology, enabling the college to expand scientific exploration, attract additional research funding and bring new discoveries to market.

SERC contains leading-edge labs and classrooms to attract talented scholars and to provide students with abundant opportunities for exploration and investigation. To fully support the movement of scientific breakthroughs from the lab to the real world, SERC contains the latest communications, safety, HVAC and other technologies.

For more on SERC and the grand opening celebration, go to temple.edu/SERC.