COMPUTERBYTES

NMSU COMPUTER SCIENCE



Students showing their CS pride!

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Regents

Enrico Pontelli Awarded Regents Professorship

For Outstanding Contributions to NMSU's Mission

By Tiffany Acosta

New Mexico State University honored faculty and staff at the 2014 spring convocation ceremony on Jan. 14, at NMSU's Center for the Arts. Every fall and spring, convocation is held to honor excellence on campus.

"Convocation is an important time of the year when we set the course for the start of the semester," said Executive Vice President and Provost Dan Howard. "As our academic enterprise gets underway for 2014, it is an appropriate time to recognize the efforts of some of our top faculty members. This semester, I am especially proud to focus our attention on three exemplary professors who are being named Regents Professors in recognition of their dedication, achievements and leadership as members of the faculty."

Three Regents Professorships were awarded to Cynthia Bejarano, criminal justice; Enrico Pontelli, computer science; and John "Jack" Wright, geography.

The NMSU Board of Regents established the Regents Professorship in 2001, which recognizes faculty who have made outstanding contributions to the university's mission and to honor contributions in areas of education, research, extension education and public service.

In his 15-year career as a faculty member in the College of Arts and Sciences, Pontelli has received many honors. He won the National Science Foundation Career Award in 1999, only two years after earning his Ph.D. Pontelli was a recipient of the Donald C. Roush Excellence in Teaching Award. He was named the S.P. and Margaret Manasse Scholar in 2012 and a year later was named distinguished achievement professor.

A panel of Regents Professors evaluates faculty-



submitted nominations throughout the university, and the committee meets to determine the awards. The recognition receives a \$12,500 annual stipend.



CS and EE Researchers Receive NSF CREST Grant

iCREDITS: An Epicenter for Research and Training in Smart Grids

By Isabel A. Rodriguez

Professor Enrico Pontelli has received a \$5 million, five-year grant from the National Science Foundation's Center for Research Excellence in Science and Technology (CREST) to launch research that will focus on intelligent technologies for smart grids and develop a broad culture of smart grids at New Mexico State University.

Pontelli is partnering with Satish Ranade, electrical and computer engineering department head, and other colleagues in disciplines across the university to study the development and use of smart grids. Like solar panels, smart grids allow consumers to be producers of energy as well as users. They utilize digital data and communications technology to predict patterns and operate automatically – thus promoting sustainability.

"Smart grids represent the future of the electrical generation and distribution infrastructure, and present a number of challenges that the research community is trying to address," Pontelli said, adding that he hopes to create a broad culture of smart grids at NMSU. "Smart grids try to make a directional relationship between power plants and customers by predicting when customers need electricity. If they had that information, production would be more efficient."

"We want NMSU to become known as a hub of knowledge and we realized if we want to make a difference, we had to have an epicenter of research and training in smart grids. We have a great amount of talent at NMSU that can contribute to advancing the state-of-theart in smart grid technologies."



"Smart grids represent the future of the electrical generation and distribution infrastructure."

Enrico Pontelli

The Interdisciplinary Center of Research Excellence in Design of Intelligent Technologies for Smart Grids (iCREDITS) brings together a coalition of experts in electrical engineering, computer sciences, mathematics, management and education.

Pontelli and Ranade will act as codirectors of the iCREDITS Center, with a faculty steering committee consisting of Sukumar Brahma, electrical engineering; Jay Misra, computer science; William Yeoh, computer science, Huiping Cao, computer science; Son Tran, computer science; and Susan Brown, director of the NMSU STEM outreach center.

The center will focus its efforts on energy, communication, coordination and monitoring. One of its core goals is to increase the number of trained scientists and engineers in smart grid technologies. The staff is in the process of establishing an undergraduate minor and a master's of science in smart grid technologies.

The College of Engineering is researching how to best manage, control and protect electricity grids.

"This technology allows you to use what you have smarter," Ranade explained.

"It allows you to design things in a smarter way, and the ultimate promise is whether or not customers wants to do something with the information, it would be nice to know that when they're using electricity at a premium time and the cost is high."

Ranade added that in the last six months, companies, including electric co-ops, have already begun to express interest in the research.

The center will also focus on education of K-12 students, including recruitment, training and retention of female and Hispanic students. Brown said the STEM Outreach Center already extends to thousands of students annually and its programs will incorporate this research and create excitement about smart grid technologies.

Pontelli pointed out that it is also imperative to keep those students in Las Cruces and NMSU. "We're ambitious," he said. "I think this has a lot of potential and could create new job opportunities in the state." The team is also creating partnerships at the local, national and international level.

To learn more about the research center, visit http://icredits.nmsu.edu.



"There is a tremendous need for students who understand data analysis, and they need access to computational resources and instruments like Photo Credit: Darren Phillips

Jonathan Cook

this."

CS Faculty Members Receive NSF MRI Grant

Towards Irregularly Parallel Big Data Research

By Isabel A. Rodriguez

The Computer Science Department will soon see the arrival of an instrument for research in irregularly parallel big data computation, thanks to CS faculty members Jonathon Cook, Enrico Pontelli, Mingzhou (Joe) Song, and Huiping Cao, and ECE faculty member Jeannie Cook. The project will be funded by the National Science Foundation's Major Research Instrumentation grant.

The 224,000 NSF grant will help acquire a computational instrument designed to support data-driven graph computations.

"It's for big data research," Cook said. "My area of interest is software engineering: what's it's doing, how it's behaving and how it can improve. I generate lots of data. The instrument has computation nodes that have large amounts of memory, with whole hosts of memory capacity at each node to handle that data and to allow the computation fast access to the data."

The type of analytical work Cook and his colleagues do is complimentary to traditional computer science studies. The device will also be used as a learning tool for students.

"There is a tremendous need for students who understand data analysis, and they need access to computational resources and instruments like this," he said. "We are already introducing a big data analysis graduate course this year. The instrument will provide a platform to deploy what we've learned into a bigger environment. This is really a research machine; it's not a machine that's big enough to, for example, process a large corporation's amount of data." Cook's research could potentially improve software and improve the performance of anything from scientific application software to video games.

"Even improving the software performance of video games could have an economic impact," he said. "We get sample applications that represent some type of software we want to analyze. Then we bring those in-house and collect data from them.

"I think the most fascinating part is the amount of data we could actually process. It's hard to relate, because we throw out numbers like gigabyte or megabyte, and to really understand that number is really hard. The example I've used is that we generate 2.5 exabytes of data per day, worldwide. If you had one exa-millimeter, that would get you to Jupiter from the sun and back 500 times. It's incredible to visualize that number."



"Our goal was to understand, at a molecular level, gene interaction; how cells duplicate and how they can cause tumor tissues to grow uncontrollably."

Joe Song

Joe Song and Yang Zhang Scored First in International Competition

Making a Difference in Cancer Research

By Isabel A. Rodriguez

Outperforming 80 teams from around the world, Joe Song and his student, Yang Zhang, scored first place in one of three challenges in a computer science competition that encourages researchers to develop software systems that could help understand how cell reproduction leads to breast cancer.

Sponsored by Synapse, the Heritage Provider Network-Dialogue of Reverse Engineering Assessment of Methods Breast Cancer Network Inference challenges participants to create predictive algorithms in various competitions.

Song, who teaches computer sciences, explained that the goal was to develop a software system that can be broadly used for studying biological systems, although breast cancer was used as a testing platform to evaluate performance of computational methods within the challenges. "Breast cancer is considered a disease contributed to by many genes," Song said. "We aim at using computers to depict how genes work together as a network in a cancer cell. Overall, our goal was to understand, at a molecular level, gene interaction; how cells duplicate and how they can cause tumor tissues to grow uncontrollably. We want to know what's leading to this cell proliferation."

"Our results have revealed which genes may cause tumors to grow unchecked, and how they may have responded to environmental stimuli. This allows biologists to gain a deeper insight to cell proliferation and to eventually identify those underlying proteins not functioning properly as drug targets."

"We developed a novel functional chisquare testing approach from our methods used in previous DREAM challenges," Song said. "The current method is a result of years of research efforts by our lab. Our work reduces the assumptions made in previous work."

The algorithm developed by Song and Zhang can analyze gene expression data to hunt complex interaction patterns more accurately and quickly than the human eye, they explained. Their method goes beyond correlations and aims to determine causality and changes at the protein level. The software is not restricted to biological systems, and could potentially apply to other types of networks.

Zhang said he was drawn to computational biology because it is a relatively new discipline that offers many opportunities for breakthroughs. "There are many life science problems (such as treating HIV and breast cancer) that don't have a satisfactory solution yet," he said. "With the power of computers, we are trying to approach those genetic markers that may reveal where a goldmine may be located."

Enrico Pontelli and Son Tran Receive Interim Appointments

Interim Associate Dean and Interim Department Head

By Minerva Baumann

Enrico Pontelli, computer science professor and department head, will take the position of interim associate dean in New Mexico State University's College of Arts and Sciences.

"Enrico Pontelli has been an outstanding department head, who is noted for his extensive research collaborations across disciplines," said Christa Slaton, dean of NMSU's College of Arts and Sciences. "His ability to be attentive to administrative details while also understanding the big picture is an important quality that will make him an effective member of the leadership team in our large and diverse college."

"The College of Arts and Sciences is a complex and large entity, whose administration and operation present great challenges and opportunities," Pontelli said. "When Dean Slaton approached me with the idea of stepping up as interim associate dean she convinced me that this would provide an opportunity to learn new skills and grow in my understanding of university administration."

Pontelli's new duties will include coordinating the College Advising Center as well as assisting the

"Enrico Pontelli has been an outstanding department head, who is noted for his extensive research collaborations across disciplines."

Christa Slaton, Dean of NMSU's College of Arts and Sciences

dean with enrollment management, instructional resources, promotion and tenure processing and strategic planning.

"I am looking forward working with the director of the Advising Center to continue exploring ways of maintaining an effective communication with students, helping them to stay on track with their degrees and aiding in identifying as early as possible difficult situations that require special interventions," he said.

"It is a distinct honor to have the opportunity to work with a group of people that is so talented – I believe I have a lot to learn from them."

Son Tran, computer science professor, will replace Pontelli as interim department head of the Computer Science department.

<image>

Photo Credit: Darren Phillips

Courtesy Photo



Prof. Toups (left), Dr. Bonny (right), and Ms. Leitner (center) play the Team Coordination Game while connected to a 64-channel EEG. Photo Credit: Joseph J. Bullinger, III

Summer Vacation at the Office of Naval Research

How Two Junior Faculty Members Spent Their Summer

By Yuho Jin and Zachary O. Toups

While for many, summer is a time to kick back, relax, and maybe take a short vacation, the NMSU CS faculty continue to work hard. Two junior faculty members — Yuho Jin and Zach Toups — spent the summer working with the Office of Naval Research on fellowship-funded projects on opposite coasts.

Prof. Jin spent 10 weeks for his summer research project at SPAWAR (Space and Naval Warfare Systems Center) - Pacific. The overarching goal of this project is to design and evaluate text compression schemes targeted for chat texts for bandwidth conservation in the D-DIL (Disrupted, Disconnected, Intermittent, and Limited bandwidth) network. Widely used text compression algorithms (Huffman, LZW) are applied to real chat corpus to find optimal compression parameters such as compression unit granularity, dictionary size, and dictionary synchronization frequency.

His project demonstrated that word-level compression reduces the bandwidth for

chat message transmission by 37% -66%, on average, with a dictionary having 16 - 16K words, while characterlevel compression reduces the bandwidth by 36%. This observation stresses an important role of the word-level dictionary in chat text compression. 4Kword dictionary achieves the best compression rate in Ubuntu Chat Corpus. Two dictionary synchronization frequencies are evaluated: per-text and per-day. Per-text scheme incorporates a high dictionary overhead (i.e., 50% increase of message) due to dictionary exchange for each message, while perday scheme completely amortizes the dictionary overhead.

Prof. Toups worked with Dr. Justin Bonny and Sarah Lietner at the Space and Naval Warfare Systems Center -Atlantic at the Naval Weapons Station in Charleston, SC to study neural synchrony in team coordination. The summer project involved having participants play Prof. Toups's Team Coordination Game while connected to a 64-channel electroencephalogram (EEG) machine. While participants played the game, communicating with each other, they recorded the EEG signals.

The hypothesis is that, as team members become effective at communicating and coordinating, their brain waves will synchronize. Normally, determining how good a team is requires listening to and determining the content of all of the communication from the team. This is an intense process, requiring many person-hours for even a short team game.

While data collection and analysis are ongoing, the research team hopes that this project will reveal new ways of analyzing team coordination. If the EEG study shows good results, it will be possible to perform team performance analysis using EEG, which has numerous applications. The machines are expensive, but in the long run, the results could be very cost-effective.



YWiC 2014 summer camp participants post for a group picture. **Dourtesy Photo**

NMSU Expands with Targeted Direction for YWiC Program

By Minerva Baumann and Isabel Rodriguez

Only 15 percent of college students across the country pursuing degrees in computer science are women, but a program at New Mexico State University is reversing that trend. The Young Women in Computing outreach in the College of Arts and Sciences has more than doubled the numbers of young women going into computer science at NMSU.

"In the last 8 years we have reached out to more than 7,000 students," said Rebecca Galves, program coordinator. "Just 250 in summer camps and more than 60 percent are going into STEM fields. Our own enrollment in computer science at NMSU has gone from 8 percent women to 23 percent."

The success of the YWiC program has inspired an expansion, a targeted outreach called Young Women Growing Up Thinking Computationally. Activities explore different aspects of computing, such as robotics programs, coding concepts, app development and interactive development environments to create video games, stories, animated movies and more.

"YO-GUTC is the new direction for YWiC, which was approved for the Presidential Award fund this year," Galves said. "We want to bring the expansion of integrating true computational thinking into our lesson planning and curriculum design starting this summer, moving beyond just computing." In particular, "YO-GUTC explores the importance of mastery preparation and social capital in engaging and retaining young women in computing-related training programs," said Enrico Pontelli, interim associate dean of the College of Arts and Sciences, and director and founder of YWiC and YO-GUTC.

The new program is receiving \$92,000 over three years from NMSU President Garrey Carruthers' Performance Fund. Part of the program, focusing on Hispanic girls, will continue to receive targeted growth plans as before, but with new approaches.

"Hispanic/Latina communities have very strong family values," Galves said. "Introducing careers in computing may be a new, misunderstood concept for many students, fearing that you have to leave the family support environment, yet it could actually be an ideal direction. Computing careers often allow computer scientists to make their own schedules, be in control of their own time and make really good money ... all things that complement a culture where family comes first.

"YO-GUTC is intended to help take YWiC to the next level," Galves said. "Now that we know more and have more experience, we can utilize what we have learned to broaden the participation even further."

What makes the program work is that young women are teaching the classes themselves and learning from each other. High school students who attend a summer camp return to teach middle school students. There are NMSU graduate students who went through the YWiC program and are now teaching younger girls about computing.

Year-round outreach events have included career fairs, Science & Math Nights and statewide competitions, including a third place finish in the New Mexico Supercomputing Challenge this spring – a first for any team from southern New Mexico. In addition to summer camps and year-round workshops, facilitators have organized after-school clubs that allow students to learn more about the various platforms.

For more information on the program, contact Galves at *ywic@cs.nmsu.edu*.



Recent Ph.D. Graduates Onwards to Make a Difference in the World!

Please join us in congratulating, from left to right in picture above, Drs. Gholamali Rahnavard, Nahid Ebrahimi Majd, Nancy Alajarmeh, and Hadi Sharifi, who successfully defended their Ph.D. dissertations in the previous 2013-2014 academic year.

Dr. Rahnavard's dissertation is on "An Aspect Oriented Programming Framework for Runtime Monitoring and Dynamic Analysis." He is advised by Dr. Jonathan Cook and has taken up a postdoctoral position at Harvard University.

Dr. Majd's dissertation is on "Algorithms for optimized node and data placement in wireless sensor and ad hoc networks." She is advised by Dr. Jay Misra and will continue in academia as an Assistant Professor in California State University at San Marcos.

Dr. Alajarmeh's dissertation is on "Enhancing Non-Visual Accessibility to the Doing of Mathematics for Elementary School Students in Inclusive Education." She is advised by Dr. Enrico Pontelli and has returned to her home country of Jordan to serve in in Tafila Technical University as an Assistant Professor. Dr. Sharifi's dissertation is on "Monitoring Scientific Applications in HPC Systems for Better Production Observability and Control." He is advised by Dr. Jonathan Cook and is currently at Intel as a software engineer.

When asked for his advise to current graduate students, Rahnavard shared, "I believe a PhD student should design an accurate plan of study and discuss it with his/her advisor and then work hard to follow it."

"Utilize your time wisely, have goals and work to achieve them, enjoy the little the time you have, and apply the research methodology in your daily life," Sharifi similarly echoed.

Alajarmeh added, "You will have to read a lot, discuss with your advisor and colleagues, and focus on several tasks at a time. Be organized and move forward."

Finally, Majd enthusiastically chipped in, "Believe in yourself. Find something you truly want to do. Never doubt yourself. You are the one who creates your world!" "I believe a PhD student should design an accurate plan of study and discuss it with his/her advisor and then work hard to follow it."

Gholamali Rahnavard

"Utilize your time wisely, have goals and work to achieve them, enjoy the little time that you have, and apply the research methodology in your life."

Hadi Sharifi

"You will have to read a lot, discuss with your advisor and colleagues, and focus on several tasks at a time. Be organized and move forward."

Nancy Alajarmeh

"Believe in yourself. Find something you truly want to do. Never doubt yourself. You are the one who creates your world!"

Nahid Ebrahimi Majd

Faculty Position Opening

Database Management, Data Mining, Machine Learning, Big Data Software Engineering, Programming Languages, Compilers, Operating Systems

The Computer Science

Department at New Mexico State University invites applications for two tenure-track positions at the Assistant Professor level, with appointment starting in the Fall 2015 semester. We are seeking strong candidates with research expertise that can effectively complement the research foci of the department. We are particularly interested in candidates with expertise in areas related to

- Data management and analysis, preferably but not exclusively, in
 Database Management, Data
 Mining, Machine Learning, and/ or Big Data. Applicants must apply online at https://jobs.nmsu.edu/ postings/19212.
- Software Engineering, Programming Languages, and/or Compilers. Applicants must apply online at https://jobs.nmsu.edu/ postings/19305.

Applications from women, members of traditionally under-represented groups, and other individuals interested in contributing to the diversity and excellence of the academic community are strongly encouraged. Salary and start-up package will be competitive.

The minimum qualifications are a Ph.D. degree in Computer Science, or in a closely-related discipline, by the time of appointment, along with evidence of excellence in research and teaching. We particularly solicit applications from candidates with attitude for collaborative research, whose research interests can complement and expand the existing expertise in the department.

New Mexico State University is a comprehensive land-grant institution of higher learning accredited by the Higher Learning Commission of the North Central Association of Colleges and Universities. An active research university, NMSU anchors the southern end of New Mexico's Rio Grande Research Corridor, exceeding \$140 million in research and public service expenditures. NMSU is classified as a Hispanic-serving institution by the federal government with a total minority enrollment over 48%. Home to the state's NASA Space Grant Program, NMSU is located in Las Cruces, which features desert mesas, the farmlands of the Rio Grande Valley, and the Organ Mountains, an extension of the Rocky Mountain chain. The University is committed to building a cultural diverse educational environment. For more information, visit http://www.cs.nmsu.edu and http://www.nmsu.edu.

Applicants must apply online at the New Mexico State University Careers websites listed above. Applicants should submit a letter of intent, a complete curriculum vitae, a research and teaching statement, unofficial transcripts, and contact information for three references. Candidates selected will be required to provide official transcripts upon hire. For any questions, please contact the CS Faculty Search Chair, at cssearch@cs.nmsu.edu or calling 575-646-1038. The application deadline is 11/30/2014.

New Mexico State University is an EEO/AA Employer. All university positions are contingent upon availability of funding. All offers of employment, oral and written, are contingent on the university's verification of credentials and other information required by federal law, state law, and NMSU policies/ procedures, and may include the completion of a criminal history check.

OUTSTANDING STUDENT AND FACULTY AWARDS FOR 2013-2014

Outstanding Teaching Assistant Awards

Chuan Hu and Reza Tourani (*Spring 2014*) Ben Wright (*Fall 2013*)

Outstanding Research Assistant Awards

Ferdinando Fioretto and Yang Zhang (2013)

Outstanding Graduate Faculty Award in Teaching

Enrico Pontelli (2014)

Outstanding Graduate Faculty Award in Advising Jonathan Cook (2014)

Support NMSU CS

We Need You!

If you are an alumnus or alumna, current student, or just a friend of the NMSU CS Department, and you would like to support our activities and mission – Thank You! There are many different ways to give back to the department.

The simplest way is to make a donation. Your donation will support the students pursuing their educational dreams, through scholarships, renovation of equipment and acquisition of materials and supplies. You have also the option of supporting our faculty members, enabling them to be more effective in their research and educational efforts. In particular, we are launching a new campaign at creating new opportunities to help young women interested in pursuing studies in Computer Science.

Your donation is tax deductible and even a small contribution will make a big difference! Donations can be made using the online NMSU donations system at fndforms.nmsu.edu/giving.php.

The following are some of the funds that you can contribute to:

- Young Women in Computing (Supporting outreach efforts to attract women to computing)
- Mark Nesiba Memorial Endowed Scholarship for Women in Computing (Supporting a talented undergraduate woman in Computer Science)
- Richard H. Stark Scholarship (Supporting outstanding undergraduate CS students)
- Founders' Endowment Fund (Supporting faculty in the CS department)
- General Scholarships Fund (Supporting outstanding undergraduate and graduate CS students)
- Equipment and Maintenance Fund (Supporting the CS department in renovating its infrastructure)
- Software and Educational Materials Fund (Providing students with funds to acquire software and other educational materials)
- J. Mack Adams Fund (Supporting the establishment of an endowed professorship in CS)

DONATION TIERS

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\$256 - \$512	NMSU CS Sustainer
\$512 - \$1024	NMSU CS Champion
> \$1024	NMSU CS Hero

Donors will be acknowledged in the newsletter and on our website.

Recent Publications

What Your NMSU CS Students And Faculty Members Have Been Up To

- W. Alhohlani, J. Cook, J. E. Cook. Accurate Statistical Performance Modeling and Validation of Out-of-Order Processors Using Monte Carlo Methods. International Performance Computing and Communications Conference, 2014.
- K. Arraki, K. Blair, T. Burgett, J. Greenling, J. Haebe, A. Peel, V. Szczepanski, S. Hug, E. Pontelli. DISSECT: An Experiment in Infusing Computational Thinking in K-12 Science Curricula. IEEE Frontiers in Education Conference, 2014.
- F. Campeotto, A. Dovier, F. Fioretto, E. Pontelli. A GPU Implementation of Large Neighborhood Search for Solving Constraint Optimization Problems. European Conference on Artificial Intelligence, 2014.
- O. Dahal, S. Brahma, **H. Cao**. Comprehensive Clustering of Disturbance Events Recorded by Phasor Measurement Units. IEEE Transactions on Power Delivery, 2013.
- A. Dal Palu, A. Dovier, A. Formisano, E. Pontelli. CUD@SAT: SAT Solving on GPUs. Journal of Experimental and Theoretical Artificial Intelligence, 2015.
- F. Fioretto, T. Le, W. Yeoh, E. Pontelli, T. C. Son. Improving DPOP with Branch Consistency for Solving Distributed Constraint Optimization Problems. International Conference on Principles and Practice of Constraint Programming, 2014.
- J. Han, K. Chen, Z. Ding, **H. Cao**. An Efficient Location Reporting and Indexing Framework for Urban Road Moving Objects. Distributed and Parallel Databases, 2014.
- P. Hou, W. Yeoh, T. C. Son. Solving Uncertain MDPs by Reusing State Information and Plans. AAAI Conference on Artificial Intelligence, 2014.

Contact Us

If you are an alumnus or alumna of the NMSU CS Department, we want to hear from you! Let us know what you are doing so we can share your successes.

Please join our Facebook page (facebook.com/NMSUCS) and follow us on Twitter (twitter.com/NMSUCS) and help us develop a community of NMSU CS Alumni and Friends. If you are in the neighborhood, please come by and visit! Or simply send us your ideas: your experience is valuable to assist with development, to help our students connect with alumni and potential employers, and to grow into a bigger and stronger department.

- P. Hou, W. Yeoh, P. Varakantham. *Revisiting Risk-Sensitive MDPs: New Algorithms and Results.* International Conference on Automated Planning and Scheduling, 2014.
- **C. Hu, H. Cao**, C. Ke. *Detecting Influence Relationships from Graphs.* SIAM Data Mining, 2014.
- **Y. Jin**, T. Pinkston. *AIS: Parallelism Aware Interconnect Scheduling*. ACM Transactions of Embedded Computing Systems, 2014.
- N. Majd, S. Misra, R. Tourani. Split-Cache: A Holistic Caching Framework for Improved Network Performance in Wireless Ad Hoc Networks. IEEE Global Communications Conference, Exhibition & Industry Forum, 2014.
- J. Obert, I. Pivkina, H. Huang, H. Cao: Dynamically Differentiated Multipath Security in Fixed Bandwidth Networks. Military Communications Conference, 2014.
- T. C. Son, E. Pontelli, N.-H. Nguyen, C. Sakama. Formalizing Negotiations Using Logic Programming. ACM Transactions on Computational Logic, 2014.
- T. C. Son, E. Pontelli, C. Baral, G. Gelfond: *Finitary S5-Theories*. European Conference on Logics in Artificial Intelligence, 2014.
- M. Song, Y. Zhang, A. J. Katzaroff, B. A. Edgar, L. Buttitta. Hunting Complex Differential Gene Interaction Patterns Across Molecular Contexts. Nucleic Acids Research, 2014.
- Z. Toups, J. Hammer, W. A. Hamilton, A. Jarrah, W. Graves,
 O. Garretson. A Framework for Cooperative Communication Game Mechanics from Grounded Theory. ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play, 2014.
- **Z. Toups**, I. Dolgov, E. M. Bonsignore. *A Theory of Game Mechanic Signaling for Interface Design*. ACM SIGCHI 2014 Annual Symposium on Computer-Human Interaction in Play, 2014.

Send your contact information, news, and suggestions to:

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