



University of Missouri - Rolla

Department of Computer Science

Spring 2008 Newsletter

<http://cs.mst.edu> email: csdept@mst.edu

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On Jan. 1, UMR will become Missouri University of Science and Technology - (Missouri S&T). The name reflects our mission as one of the world's top technological universities -- a campus where discovery, innovation and creativity are the norm.



Jennifer Leopold UMR's 2007 Woman of the Year

Dr. Jennifer Leopold, assistant professor of computer science at the University of Missouri-Rolla, was named UMR's 2007 Woman of the Year.

UMR Chancellor John F. Carney III presented Leopold with the award during the Woman of the Year luncheon April 18, 2007 at the Havener

Center on campus. The luncheon was part of UMR's Women Advance Excellence Day, an event designed to celebrate the accomplishments of women associated with the university.

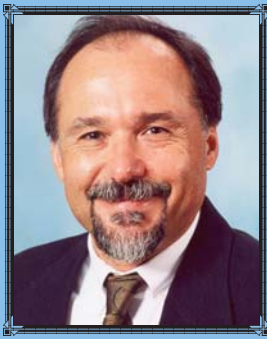
In addition to her teaching responsibilities in the computer science department, Leopold is an investigator at UMR's Environmental Research Center. Her research interests include bioinformatics, scientific visualization, and data mining. Leopold is collaborating with other UMR scientists to create a web-based, 3D library that could revolutionize the way anatomy is examined.

After earning her bachelor's degree in mathematics at the University of Kansas in 1981, Leopold completed a master's degree in computer science (1986) and a Ph.D. in computer science (1999) at KU. She joined the faculty at UMR in 2002 and proceeded to win numerous teaching awards.

The Woman of the Year award is given to an outstanding female faculty member who has helped to improve the campus climate for women and has served as a role model for other faculty and students through her research, scholarship, and service.

This was the 11th year for the Woman of the Year award, which is funded by UMR graduate Cindy Tang, winner of the 2007 Alumnae of the Year award and founder of Insight Industries Inc., one of the largest software engineering companies in Wisconsin. Tang earned a bachelor's degree in economics from UMR in 1985 and a master's of business administration degree from Drury College in 1987.

Kristen Loesch, winner of UMR's 2007 Woman Student of the Year award, is a senior in computer science from St. Louis. She participates in a National Science Foundation project to develop an interactive recruitment program showing social relevance of computer science to children, especially girls. She has also helped with UMR's annual Expanding Your Horizons Conference, which introduces junior high girls to possible careers in science, math, engineering, and technology.



CHAIR'S MESSAGE

Greetings from the Computer Science Department, Missouri S&T (formerly UMR) and welcome to the Spring 2008 Edition of our Newsletter. We hope that you had a wonderful holiday season!

We had many new developments in the Department last year. We have hired five new people including a new department chair. In this newsletter, you will read about the newcomers to the Department, new awards and honors, recent research grants, ongoing research projects in the Department, CS Academy, and Advisory Board meetings, and much more.

News Briefs from the Department

- Dr. Ali Hurson joins the CS Department as the new department chair starting in January 2008. Prior to his new appointment, he has been a professor in the Department of Computer Science and Engineering, at Pennsylvania State University.
- Dr. Thomas Weigert of Motorola has joined the Department as our first endowed chair professor. He filled the Daniel St. Clair Endowed Chair position starting Fall 2007. As you may recall, this position is funded through generous contributions from alumni, friends, and faculty.
- Dr. Sriram Chellappan joins Department as a tenure track assistant professor. He received his Ph.D. from Ohio State University. His areas of interest are computer networks and security.
- Matt Buechler, one of our alumni, became a full-time lecturer in the Department. Matt received his M.S. degree from the UMR Computer Science Department in 2005.
- Dawn Davis is the new Senior. Secretary for the Department. Prior to joining us, she was a secretary in the UMR Chemistry Department
- Research productivity, in terms of publications and funded research continues to grow in the Department.

This year, a number of CS faculty received research funding from National Science Foundation (NSF), DOE, Air Force, Toshiba Co., and Computing Research Association.

Awards and Honors

The Computer Science faculty continues to receive recognition for their outstanding teaching, research, and service. We congratulate Frank Liu for his promotion to full Professor; Jennifer Leopold for receiving the prestigious UMR Women of the Year Award, and Jennifer Leopold, Daniel Tauritz, and Ralph Wilkerson were awarded the Outstanding Teaching Award from UMR. This year again, Jennifer Leopold, Clayton Price, and Ralph Wilkerson were awarded the College of Arts and Sciences Excellence in Teaching Awards. Bruce McMillin was selected to serve as the co-Program Chair for IEEE Computers, Software, and Applications conference (COMPSAC'07) in Beijing, China (one of the IEEE-CS flagship conferences). Frank Liu will serve as the co-Program Chair for COMPSAC'08 which will take place in Turku, Finland, July 28 - August 1, 2008. Sanjay Madria served as the Workshop General Chair for the First International Workshop on Mobile and Ubiquitous Context Aware Systems and Applications (MUBICA 2007), workshop chair for ICDCIT'06 and PDMST'06, and guest editor for the special issue on XML Schema and Data Management, Data and Knowledge Engineering Journal. This is quite an honor for Bruce, Frank, and Sanjay, and great publicity for the Department. Sanjay was also selected to be an IEEE Distinguished Visitor during 2007-09 and as a Fellow Scientist by the Japanese Society for Promotion of Science and spent 2 months conducting research and giving talks in Japan. **Congratulations to all!**

Alumni and Friends

Three outstanding alumni: Marcus Smith, Herb Krasner, and Donald Gaitros were inducted into the Academy of Computer Science (ACS) during the annual ACS meeting on April 19, 2007. We would like to extend our congratulations to these distinguished alumni! The CS Advisory Board held its annual meeting on April 27, 2007. (You may read about the details of ACS and CS Advisory Board meetings in this newsletter.) We wish to thank all of you, individuals and corporations, for your continued support in many ways, including scholarships and endowments, donations to the CS Development Fund, and telling others about the Missouri University of Science and Technology (formerly UMR). As always, we are eager to hear from our alumni. Please take a moment to complete the Alumni Survey at: http://campus.umn.edu/irinfo/computer_science_survey_2004.htm. If you are an employer of our graduates, we would be pleased if you could fill out the Alumni Survey at:

http://campus.mst.edu/irinfo/Perseus_Surveys/2004/CS_2004_Employer_Survey.htm

Three inducted into UMR Academy of Computer Science

Three computer science alumni of the University of Missouri-Rolla were inducted as members into the UMR Academy of Computer Science during the group's banquet and induction ceremony in Rolla on April 19.

The academy honors outstanding computer scientists for their contributions to the profession and their involvement with UMR students and faculty. The academy also serves as an advisory group to the computer science department. The web site for the UMR Academy is: <http://web.mst.edu/~csacdmv/>

New members are:



Marcus L. Smith, director of information technology at Pabst Brewing Company, earned a bachelor of science degree in computer science and a master of science degree in engineering management from UMR. He is responsible for all IT operating areas for the fourth largest brewer in the United States. Smith directs strategic planning, technology development and procurement, and vendor management activities and ensures business and technology plan alignment.

Prior to joining Pabst in 2004, Smith served in senior IT management positions for OmniAlert and Mallinckrodt and has more than 10 years of executive-level consulting experience. He has published seven books and was recently cited in the Jan. 1, 2007, edition of CIO Magazine as an example of the "Turnaround CIO."

Smith and his wife, Barbara, reside in San Antonio, Texas, and have two children, Christopher and Jonathan. He is involved in several volunteer organizations, including the Alamo Area Council, and the Boy Scouts of America.



Dr. Herb Krasner, a senior lecturer at the University of Texas at Austin and president of Krasner Consulting, earned bachelor of science, master of science and Ph.D., degrees in computer science from UMR. He is founder, chair and former director of the University of Texas Software Quality Institute. Krasner teaches undergraduate and graduate classes in software engineering, data structures, database engineering, agile methods and software process improvement. His research interests include the science of design, the economics of software engineering, and software quality and process improvement. He has published more than 55 papers, articles and book sections in peer-reviewed literature and has spoken at many professional conferences and meetings.

Krasner serves on the UMR Computer Science Department Advisory Board. He is a book series editor for the IEEE Computer Society Press and a member of its publications board. He is active in both the ACM and IEEE Computer Society, and his professional awards include the ACM Distinguished Service Award and

ASQ Golden Quill Award.

From 1974 to 1979 Krasner was a research/teaching assistant and then lecturer in computer science at UMR. After leaving UMR, he held various positions at Clemson University, Harris Corp., MCC, Lockheed and SAIC.

Krasner and his wife, Judy, live on Lake Travis in Spicewood, Texas. They have two children and one granddaughter.



Dr. Donald L. Gaitros, chair of computer science at Baylor University, received a master of science degree in computer science in 1966 and a Ph.D. in mathematics in 1972, both from UMR. He also holds a bachelor of science degree in mathematics from Western Illinois State University. Gaitros has led Baylor's computer science department since its inception and has taught at the university since 1973. In 1986, Gaitros worked to achieve accreditation for the computer science department at Baylor, one of only 50 accredited programs in the nation at the time.

Gaitros coached and sponsored the Baylor programming team that placed fifth and first in the International Programming Contest in 1980 and 1982, respectively. He was recognized for outstanding teaching by the Baylor Mortar Board in 1979 and 1999 and he received the Outstanding Faculty Award from Baylor in 2000.

Prior to his university employment, Gaitros was a scientific programmer/analyst for TRW Systems where he was responsible for developing environmental control systems simulation models for NASA's Apollo spacecraft. He and his wife live in Waco, Texas, and have nine children and 15 grandchildren.

Computer Science Advisory Board meeting was held in April 27th, 2007

This year, the traditional CS Awards banquet and the Advisory Board meeting were held during April 26-27, 2007. During the banquet, many scholarships and a number of door prizes were awarded to students. We wish to extend thanks to our Advisory Board members and other alumni and corporations for sponsoring tables and providing scholarships and door prizes for this event.



2007 New Advisory Member John Stone


This year, a new member, John Stone, was inducted into the CS Advisory Board. John is on the staff of The Theoretical and Computational Biophysics group, Beckman Institute, University of Illinois at Urbana-Champaign. He received his B.S. and M.S. from the UMR Computer Science Department in 1995 and 1997, respectively.

This year again, the Board had a full agenda and the discussion topics included: (i) the Endowed Chair and the CS Department Chair searches, (ii) how to increase enrollment in CS, especially women and minorities; (iii) marketing the new Distance Education M.S. degree and Graduate Certificate Programs, (iv) interdisciplinary degree programs (Masters in Bioinformatics and Professional Science Masters); and (v) curriculum changes. During the meeting, Dr. Daniel Tauritz and his advisees, Kristen Loesch and Laura Woodard made a presentation about their project “CS Recruitment 21”. The goal of this project is to attract more female and minorities into the computer science discipline. The board members made many practical suggestions to improve the CS curriculum and graduate programs and to increase enrollment, especially women and minorities. We appreciate the time and dedication of the Board members in contributing to our continuous efforts to improve the quality of education in the Department. Their perspectives provide valuable insights to the Department as we develop and revise our academic and research programs. If you are interested in serving on the CS Advisory Board, please send us an e-mail at csdept@mst.edu, along with a short bio.

CS Advisory Board Members (2007-08): Bob Perrey (MasterCard International), Curt Schroeder (Lockheed Martin), David Schade (SBC), Herb Krasner (Krasner Consulting & ECE at U. of Texas), Jeff Herzog (Maryville Technologies), Jim Lahm (Accenture), Jim Leonard (Boeing), John Hock (IBM), John M. Brown (Purina), John Stone (UIUC), Juan Vargas (Microsoft), Ken Brenneke (Boeing), Robert Byrne (Boeing) and Karen Squires (Pearson Educational Measurement (PEM)).

The Advisory board website is: <http://cs.mst.edu/alumnicorporationsandpartners/industryadvisorycomm.html>

PHONATHON DATES:
Feb.
4,5,6,7,10,
11,12,13,14



Software Engineering students Ben Murrell, Michael Scalise, Colin Stagner, Sarah Garofalo, and Kevin Howe brainstorm project ideas

New Department Chair in Computer Science Department



Dr. Ali Hurson, professor of computer science and engineering at Pennsylvania State University, has been named chair of the computer science department at the University of Missouri-Rolla. The appointment will take effect Jan. 1, 2008.

Hurson was hired following a national search chaired by Dr. Bruce McMillin, professor of computer science at UMR. Hurson will take over the position from Dr. Fikret Ercal, professor of computer science, who has served as interim chair since 2005.

“Dr. Hurson brings to UMR a wealth of experience in computer science from a highly respected program at Penn State,” says UMR Provost Warren K. Wray. “His enthusiasm and his research and teaching vision will help strengthen what is already an outstanding department and I look forward to working with him.”

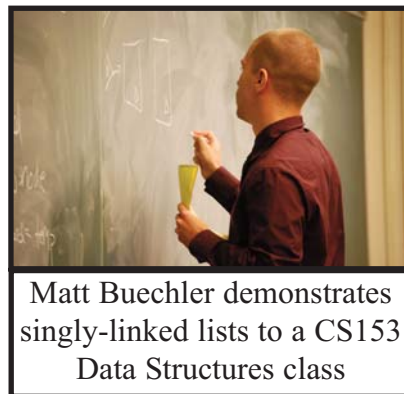
“Recent structural changes at UMR and the collegial atmosphere of the computer science department drew me to this position,” Hurson explains. “My goal is to improve the quality of teaching and research and to increase the department’s national recognition.”

Hurson began his academic career as an assistant professor of computer science at the University of Central Florida before joining the faculty of the University of Oklahoma. In 1985, he joined the electrical engineering department at Penn State as part of a team to set up the university’s computer engineering program. The program was later merged with the computer science department to form the computer science and engineering department.

For the past 25 years, Hurson’s research has focused on the design and analysis of computer architectures, multidatabases, application of mobile agent technology, mobile databases, mobile and pervasive computing and global information sharing environments.

An active member of the Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM), Hurson has served as guest editor of several trade journals. He is also co-founder of the IEEE Symposium on Parallel and Distributed Processing and the IEEE Conference on Pervasive Computing and Communications.

Hurson earned a Ph.D. in computer science from the University of Central Florida in 1980. He is the first Ph.D. graduate from the University of Central Florida and the first recipient of a Ph.D. in computer science from the state of Florida. He also earned a master of science degree from the University of Iowa in 1978.



Motorola VP named St. Clair Chair of Computer Science at UMR



Dr. Thomas Weigert, Motorola Fellow and vice president of the company's Global Software Group, has been named the first Daniel C. St. Clair Chair of computer science at the University of Missouri-Rolla.

Weigert was selected following a nationwide search led by Dr. Bruce McMillin, professor of computer science at UMR.

“We are very pleased that Dr. Weigert has accepted the position of St. Clair Chair of computer science at UMR,” McMillin says. “He was selected from a pool of top internationally known candidates. His appointment brings tremendous strength to the research and educational faculty of the department.”

“Dr. Weigert brings a terrific sense of the importance of computer science, and software engineering in particular, to the department,” says John Lovitt, president of the UMR Academy of Computer Science and a 1970 UMR graduate. “He also has a very strong sense of the industrial application of advanced computer science and I think that will strengthen the academic side of the department, but it will enormously strengthen the industry connection. We are very happy with Dr. Weigert's selection.”

At UMR, Weigert hopes to strengthen the impact of computer science research on industrial practice by establishing joint research laboratories with corporations.

One of only 12 Motorola Fellows, Weigert has created innovative software development tools that are used to build a wide variety of Motorola telecommunications products, like network elements or cellular telephones, by leveraging advances from basic computer science research.

Weigert is the author of a textbook titled “Knowledge-Based Software Development for Real-Time Distributed Systems,” published by World Scientific Publishers in 1993 and is the author of many journal publications, book chapters and conference papers focused on the application of artificial intelligence techniques and formal methods to the development of product software, in particular for real-time distributed systems.

His research contributions have been in the areas of modeling languages and design methods, the derivation of efficient programs from abstract models and the use of automated theorem proving in program generation and verification. He holds leadership positions in international standards organizations focusing on software development notations.

Weigert earned a master of arts degree in philosophy in 1984, a master of science degree in electrical engineering and computer science in 1988, and a Ph.D. in philosophy in 1989, all from the University of Illinois in Chicago. In 1999, Weigert earned a master's degree in business administration from Northwestern University's Kellogg Graduate School of Management. Before joining Motorola, he was assistant professor of mathematics at the Johannes Kepler University in Linz, Austria, and held visiting positions at the Electrotechnical Laboratory in Tsukuba, Japan, and the Argonne National Laboratory in Argonne, Illinois.

The chair is named for Dr. Daniel C. St. Clair, former chair of computer science at UMR, who died in 2006.

Funding for the chair was provided by an endowment raised in large part by the UMR Academy of Computer Science, UMR computer science faculty members and alumni, including significant gifts from Carol and Brian Matthews and Cynthia Tang. Matching funds from the Missouri Endowed Chair and Professorship Program and from UMR graduate and Sprint chairman and CEO Gary Forsee brought the total endowment to \$2.2 million.

“Dan St. Clair had a vision for strengthening and improving the department,” Lovitt says, “and I think for a lot of us who gave, it was from a commitment to help realize that vision.” The endowment was made possible through a combined effort between the faculty, staff, and alumni, who all came together and united behind the vision of a stronger research presence in computer science at UMR.

“Seeing the faculty come together and be committed to this was very important,” Lovitt adds.

NEWCOMERS TO THE DEPARTMENT



Dawn Davis is the new Sr. Secretary for the Department. She is a Missouri native and prior to joining the department in March, 2007, she was the Secretary for the Chemistry Department here at UMR. Dawn is enjoying her new position and the challenges each day and says that she really enjoys working with the faculty, students, and everyone on the UMR campus. In her spare time (what spare time) she enjoys spending time with her husband, Rick, and her daughter, Kayla, camping, fishing, hunting, gardening, and being outdoors.



Matt Buechler is a Lecture for the department. Matt hails from St. Louis, Missouri where he attended high school at Oakville Senior High. Following his high school graduation in the year 2000, Matt began his university studies at UMR. Initially Matt started out as a Computer Engineering undergraduate, but subsequent to taking the introductory Computer Science course taught by Clayton Price, Matt switched majors to Computer Science. After graduating with his Bachelor's in 2003, Matt continued his studies under Dr. Michael Hilgers. It was during this time that Matt first discovered his love for teaching. Matt is very thankful that he was able to continue teaching through the completion of his thesis and his full-time employment at the University as an instructional software developer. When a lecturer position opened up in the CS department, Matt knew he had to apply. Matt is very happy to be joining the faculty this fall and is looking forward to carrying on their tradition of excellence.



Sriram Chellappan is an Assistant Professor in the department. Sriram received the BS degree in Instrumentation and Control Engineering from the University of Madras, and the MS and PhD degrees in Computer Science and Engineering from Ohio-State University. His current research interests are in network security, distributed systems, and wireless networks. He has also taught courses in Introductory Computer Science for more than 2 years at Ohio-State. He is very excited to join the faculty at UMR, and hopes to inspire students to reach excellence in their academics and research. Besides, Sriram loves college football and is quite active in social dancing.

2007 Research Grants Awarded

In April of 2007 Jennifer Leopold was awarded a 3-year \$1,116, 697 NSF grant to create an ontology of amphibian morphology by enlisting a blend of manual and semi-automated approaches to mine electronic media for instances of potential concepts and properties. This research will be carried out jointly with the University of Arkansas. The ontology will enable disassociated research groups to overcome differences in three commonly used anatomical lexicons derived from research on each distinct order. The resulting ontology will be accessed through the web and through an application programming interface. An advisory board and outreach workshops will be organized to promote community engagement in the development and ultimate maintenance of the ontology. Because ontologies can be understood by both software agents and humans, they are an ideal vehicle for information exchange, creating the foundation for integrating knowledge from multiple disciplines. Currently, the development of most ontologies requires large amounts of manual effort. Semi-automated generation of ontologies will substantially decrease the amount of human effort required in the process. This project will demonstrate this approach in the domain of amphibian morphology with the expectation that it will be potentially applicable to many other domains. Because the meta-data inherent in ontologies allow for universal information exchange, expediting the process of ontology development will be instrumental to fully realizing a Semantic Web.

Secure and Adaptable Energy-efficient Sensor Networks for Monitoring Infrastructures GAANN Program at the Department of Computer Science, University of Missouri-Rolla **GAANN Program Director: Sanjay Madria, Associate Professor**

Wireless sensor networks are envisioned to consist of large numbers of motes, each capable of operating in an unattended mode with limited energy, computation and communication capability. Applications for detecting malfunctions, failures, and natural disasters require constant real-time monitoring against malicious and hostile activities. Since communication over the radio is un-secure and energy-consuming, it needs to be optimized. The technical challenge is to detect and determine events that interfere with safe operations of critical infrastructure monitoring such as observing water resources or patient monitoring in the health care industry.

The four PhD students hired under this GAANN grant will pursue research in the emerging area of sensor-based secure and adaptable networked system with applications in structural health monitoring of military and civil infrastructure, real-time tracking of water quality, and patient health monitoring in hospitals.

Our work will contribute to the following areas in sensor system research:

A. Power-aware and Survivable Sensor Networking Architecture We propose survivable and adaptable network architecture for large-scale sensor networks. The technical research goal is that the single failure of certain sensor should not affect the accuracy of system sensing; the connectivity failure along one path should not prevent the information to be sent correctly. The fault-tolerant methods of proposed architecture will detect and circumvent the failures and achieve robustness. The overall design goals of the protocols will be low energy operation, optimized for the common case of infrequent failures, but capable of tolerating faults from a wide fault model.

B. Secure Route Discovery and Data Forwarding against Attacks: Sensor systems are deployed for monitor-

ing critical applications as discussed earlier. Therefore, it is desired to build a secure route against different types of attacks such as black and worm holes. We will design energy efficient secure route discovery protocols against collaborative attacks.

C. Secure Data Aggregation of Continuous Data Streams Aggregation is a main factor in reducing energy consumption. This is accomplished by eliminating data redundancy and reducing communication overhead. In addition, data aggregation produces more accurate and reliable data. We are particularly interested in providing a secure data processing environment which is lightweight in computational and time complexity to allow for fast processing of data, yet still provides a reasonable amount of protection against a variety of attacks, such as changing data in midstream and overhearing transmissions of packets. To this end, we propose data security techniques which serve the purpose of providing both data confidentiality and data integrity in one phase.

D. Data Management for Sensor Networks Databases: This “flow” of data readings from the sensor pushed farther into the network is called a “data stream”, which can be thought of as an append-only collection of tuples. These tuples of sensor readings may get lost or corrupted or arrive late due to various reasons, such as sensors' power exhaustion, networking nature and involved routing protocols, and interferences caused by mobile radio devices, microwaves or broken "line-of-sight path". To be able to process queries continuously over data streams without having to wait for the tuples of late/missing sensor readings to arrive, this research proposes a power-aware solution to estimate these tuples in an environment of multiple and possibly related data streams using data mining techniques. This research will derive solutions for both centralized and distributed wireless sensor networks where transmissions can be single hops or multiple hops, and sensors/servers can be static or mobile. This research will conduct performance evaluations by comparing the technique with statistical approaches.

Madria named IEEE distinguished speaker



Dr. Sanjay Madria, associate professor of computer science at the University of Missouri-Rolla, has been selected as a speaker in the IEEE Computer Society's Distinguished Visitors Program. Madria will serve a three-year term in the society's North America region.

Through 2009, Madria will be invited to conduct seminars on his research in local IEEE chapters throughout North America.

A member of the UMR faculty since 2000, Madria specializes in web and mobile data management and teaches courses on database systems, web data management and XML, and mobile computing. He is co-author of “Web Data Management: A Warehouse Approach,” published in 2003 by scientific publishing company Springer as part of its Professional Computing series. It is the first book to focus on the warehouse approach to web data management.

In 2006, Madria served as a visiting scientist with the Japan Society for the Promotion of Science, the Japanese equivalent of the National Science Foundation. He has published more than 120 journal and conference papers in the areas of mobile and sensor computing, XML data management, web data warehousing, nested transaction management and performance issues. His research is supported by grants from the National Science Foundation, Department of Education and the University of Missouri Research Board, among others. He is a senior member of IEEE.

Madria received a Ph.D. in computer science from Indian Institute of Technology in Delhi, India, in 1995.

Founded in 1946, the IEEE Computer Society is the world's leading organization of computer professionals. It is the largest of the 39 societies that make up IEEE, which was formerly known as the Institute of Electrical and Electronics Engineers. IEEE is a non-profit professional association dedicated to the advancement of technology.

Missouri's first NSA-designated University for Cyber-Security Education

Students at the University of Missouri-Rolla will soon be eligible for new scholarships and grants related to securing the nation's information systems, thanks to the university's designation as a National Center of Academic Excellence in Information Assurance Education (CAEIAE).

The designation is offered jointly by the U.S. National Security Agency and Department of Homeland Security. When the designation officially occurs on June 5, UMR will join an elite group of universities that meet the federal government's criteria for providing educational and research opportunities in cyber-security. UMR will also become the first Missouri university to receive the designation.

The CAEIAE program is designed to reduce vulnerabilities in the national information infrastructure by promoting the study of "information assurance" in U.S. colleges and universities. The program also is designed to promote information assurance expertise in various disciplines.

Dr. Bruce McMillin, professor of computer science and UMR's coordinator for the new center, notes that UMR's focus on protecting the nation's power and transportation systems from terrorist attack offers graduate and undergraduate students unique educational and research opportunities.

"UMR offers a unique contribution to the information assurance field with our focus on developing ways to protect the nation's electric power grid, oil, gas and water distribution systems, and transportation systems from terrorist attack," McMillin says. Much of that research occurs through UMR's Center for Critical Infrastructure Protection (<http://ccip.mst.edu/>).

"UMR's designation as a center of academic excellence makes us eligible to apply for scholarships to recruit students to become trained professionals in the information assurance and computer security fields," says Dr. Ann Miller, the Cynthia Tang Missouri Professor of Computer Engineering and director of the CCIP. Miller will work with McMillin in the new center.

The scholarships will be available through the National Science Foundation's Federal Cyber Service: Scholarship for Service program and the Defense Department's Information Assurance Scholarship Program.

In addition, Dr. Daniel Tauritz, assistant professor of computer science, says "students have the opportunity to participate in summer internships with national laboratories, building on UMR's strong relationship with Sandia National Laboratories in Albuquerque, N.M." Tauritz serves as UMR node coordinator for Sandia's Center for Cyber Defenders.

Students attending UMR may also achieve graduate certificates in computer security with the Committee on National Security Systems National Standards 4011 and 4014E. Completion of those programs certify students for information systems security professionals and for information systems security officers, respectively.

"These course offerings have a strong practical component," says Brian Buege, former interim chief information officer for UMR. "One of our practicing IT professionals, Karl Lutzen, offered one of these certificate courses for the fall 2007 semester."

The center designation is for five years. On June 5, McMillin, Miller and Dr. Warren K. Wray, UMR's provost, received the designation during an awards ceremony at Boston University.

For more information about the certification, visit the UMR CAEIAE website at <http://cae.mst.edu/>.

Alumni News

Jayne Christenson CS '00 married August 16, 2006 now Jayme Lowe.

Patrick Hammond CS'05 married Tinay Pankey on January 9, 2007 in Maui. They currently reside in Cincinnati.

Karen Ludwig CS '79 She and Mike had a big year as both of their daughters married in 2006. Mike is now head of Test and Evaluation at Boeing in St. Louis.

Keith Scherer CS '82 celebrated 25 years at Purina in April. Our daughter is a sophomore biochemistry major at Valparaiso University. Our son is a freshman at Lutheran High School North in St. Louis.

Jeff Hedgpeth CS '96 married Jessica Richard on May 6, 2006 in Los Angeles, CA. They reside in St. Louis, MO.

Janice Breidert CS '73 "My son Stephen Breidert and Sarah were married in Peoria, IL on June 17, 2006. Both are employed by the US Air Force at Scott AFB, IL."

Paul Craven CS '96 recently retired from managing a large software development project at Wells Fargo Mortgage. "I now teach Computer Science at Simpson College."

Stephen Tebo CS '68 was honored with the Alumni Achievement Award at Fort Hays State University.

Randy Kerns CS '74 was appointed chief technology officer for ProStor Systems.

Cory Demieville CS '06 married Fiorella Giana June 10, 2006. The couple lives in New Mexico.

Steve Kane CS '86 retired from the Army and moved from St. Louis back to Georgia. He is the interim associate chief information operator for application development and integration for the University of Georgia in Athens.

Colby Kinser CS '88 continues to pastor a small congregation in Dublin, GA, at Dublin Bible Church. He began working on his doctorate of ministry in October, 2006. My wife **Lynn (Denney) Kinser SC '92** works as a civilian employee at Warner Robins Air Force Base, writing software for defense systems.



2008 Computer Science Phonathon



This year's phonathon will be held February 4, 5, 6, 7, 10, 11, 12, 13, & 14, 2008. We will begin calling our alumni on February 4, 2008. When the phone rings, please take a moment to share some of your Rolla experiences with a current student. Taxpayer support accounts for **40%** of the university's revenue, making your contribution a vital ingredient in the revenue pie. Any amount you give will be appreciated.

Make your contribution today to help our students.

2007 SCHOLARSHIP RECIPIENTS

Accenture Scholarship

Thomas Roth
Stuart Sanchez
Eddie Wiegers IV

Howard & Lois Cook Scholarship

Timothy Olson

John W. Hamblen Computer Science Scholarship

Jasmine Bowles

Ellen M. Hodges Memorial Scholarship

Annelise Smith
Janeen Roberson

Rex Widmer - RWS - Software Archaeology Computer Science Scholar

Gary Steelman
Jacob Alyea

Daniel C. St. Clair Scholars & Fellows

Scott Follmer

Mark X. Stratman Scholarship

Ben Andelin
Phillip Ponzer
Joshua Woods

Garmin International Scholarship

Thomas Szalapski
Benjamin Stauffer

CS Alumni Scholarships

Daniel Welty
Joshua Eads
Michael Vanhorn
Cory Crowe
Clayton Harper
Evan Wright
Chris Lincoln
Matthew Entrekin
Steven Mues

Incoming Freshman

Jason Littleton
Dale Twombly
Dennis Holt II

Thomas Virag
Ryan Smith
Adam Birk
James Brannan

The Boeing Company Scholarship

Sarah Garofalo
Lisa Guntly
Valerie Houseman
Janeen Roberson
Charissa Mathis
Laura Vale
Annelise Smith
Joanna Gonzalez
Andrea Samuel
Jessica Williams
Roberto Murillo
Jonathan Huelman
Brein Smith-Martinez
Logan Crisafulli
Jessica Randall
Bryan Williams



2007 Special Award Recipients

CS Service Award
Bill Siever

CS Leadership
Kate Smorodkina

CS Mentor
Valerie Houseman

CS Ambassador
Adam Nichols

Outstanding CS Graduate Assistant
Julia Albath

CS Academic Achievement Freshman:

Jennifer Beman
Michael Vanhorn

Sophomore:
Joshua Bohde
Cory Crowe
Matthew Entrekin
Janet Guntly
Kenneth Richardson
George Rush

Junior:
Joshua Eads
Clayton Harper

Stephen Mues
Timothy Olson

Senior:
Nathan Alfermann
Thomas Szalapski
Evan Wright

Masters:
Xuan Gong
Charles Huber
Travis Service
Simrit Singh

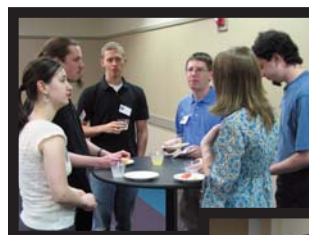
Ph.D.:
Ekaterina Smorodkina
Yan Sun

COMPUTER SCIENCE AWARDS BANQUET

The Sixth Annual UMR Computer Science Department Awards Banquet held on April 26, 2007 brought students, faculty, staff, alumni, and friends together for an evening of food, fun, and awards. A short reception preceded the banquet. Following a delicious meal, Mr. Jim Lahm, Accenture, a CS alum and a member of the department's Advisory Board, presented a talk entitled "Outsourcing and the Impact to IT Careers". The evening concluded with the distribution of fabulous door prizes donated by several of the banquet sponsors. In addition to door prizes, banquet sponsors purchased tables for the event. The money from table purchases made it possible for all CS majors to attend the banquet free of charge. The 2008 Computer Science Awards Banquet is scheduled for April 24, 2008. If you are in the area, we would be delighted to have you join us. If you and/or your company would like to participate in the 2008 banquet, please contact Rhonda Grayson at rhondag@mst.edu or Dawn Davis at dawnd@mst.edu. Additional information about the banquet can be found at csweb1.cs.mst.edu/cs_dept/banquet

Sponsors for the event included:

Accenture	Maryville Technologies
Alex's Pizza	Panera Bread
Applebee's	Pearson Education
Blossom Basket	Pizza Hut
Cerner Corporation	Pizza Inn
Coachlite Lanes	Purina
Dairy Queen	Shoney's
Dominos' Pizza	Sirloin Stockade
Garmin International	Slice of Pie
General Motors	Something Special Florist
Granny's Sawmill Café	Sonic
Huddle House	Steak 'n Shake
IEEE	Sunny Wall Florist
Imo's Pizza	The Boeing Company
Kent Jewelry	Triad Office City
Lambiel Jewelry	UMR Bookstore
Lee's Famous Recipe	West of Italy
Chicken	Zeno's Steakhouse &
Maid Rite	Motel



PHONATHON DATES:



Feb.

**4,5,6,7,10,
11,12,13,14**

KEEPING IN TOUCH

Dr. Maggie Cheng resurrected CS 385 in Fall 2007; it has not been offered for many years. She enjoys teaching this class very much. With a new NSF-funded project, her schedule is busier than ever. She has been invited to speak at Old Dominion University and serve for NSF as a panelist.

Dr. Fikret Ercal has served as the interim chair of the department until January 2008. During this time, he continued with his teaching and doing research in Bioinformatics. He also serves as an associate editor for an international journal. Currently, Dr. Ercal is collaborating with faculty from Biological Sciences and conducting research in the area of 'gene family identification in soybean'. Several proposals are submitted to federal and state agencies to obtain funding for this line of research. Recently, a GAANN proposal in another area (Secure and Adaptable Energy-efficient Sensor Networks for Infrastructure Monitoring) is funded by DOE where Dr. Ercal is a co-PI.

Dr. Jennifer Leopold will be teaching the Programming Languages and Translators, and Compiler Construction courses this year. She also is continuing her research in Bioinformatics, and recently received a \$1.1 million NSF grant to use information retrieval methods to semi-automatically construct ontology for amphibian anatomy.

Dr. Frank Liu is working on an innovative consensus building and conflict resolution method based on intelligent computational argumentation technique. He has developed a web-based collaborative engineering design system based on this method. It may find applications in other domains, such as collaborative software development. In addition to conducting research, he teaches software testing and quality assurance, software requirements engineering, and advanced software engineering classes.

Dr. Sanjay Madria is directing the W2C (Web and Wireless Computing) Lab, and is currently busy hiring four additional PhD students from his DOE funded GAANN research project on secure sensor networks. He is supervising five PhD and Master students for their thesis and graduated two PhD students last year. He continues to teach 300/400 level classes in the area of DBMS, web and wireless computing which received overwhelming response from graduate and undergraduate students. He has been invited to Netherlands this year to give invited seminars under the International Speakers series in the two universities. He spent 4 weeks in Japan in the summer for the collaborative research project.

Dr. Bruce McMillin led successful searches last year for our St. Clair Endowed Professor (Thomas Weigert) and our new Department Chair (Ali Hurson) (see articles) as well as led the establishment of the NSA Center for Academic Excellence in Information Assurance Education at UMR. He currently serves on the University of Missouri Research Board which awards research investment funds to the UM system faculty. He is starting as a UMR Faculty Recruitment Group member that interacts directly with prospective freshman.

Dave Mentis continues to teach CS 74 (Introduction to Programming in C++) and is in the process of making major changes to CS 158 (Discrete Math). He and his family are still living on their farm and have multiple projects in progress. The addition of a grandson in November, 2006 has been an unending source of joy, and has led to speculation that grandpa is a soft touch.

Dr. Ann Miller, Cynthia Tang Missouri Distinguished Professor of Computer Engineering, holds a joint appointment with CS. Dr. Miller's Trustworthy Systems Laboratory gives students hands-on experience with high-speed routers, switches, and hubs in order to configure networks and subnets. The stand-alone network also allows students to work in attacker-defender teams. She is also Director of UMR's Center for Critical Infrastructure Protection and Associate Director of UMR's Systems Engineering Program. She continues to serve on several NATO committees and task groups which provide opportunities for international travel; on a personal note, the travel allows her the opportunity to savor many different cuisines.

Clayton Price is thrilled that the new academic year promises exciting changes for the department with the addition of several new faculty bringing new research and teaching perspectives, energy, and experiences. To keep us all busy, we have a large increase in our freshmen class. Teaching Cs 53 is always fun when he has the excellent help of very capable graduate students. A new experience in teaching, Cs 153, has given him new insights into the curriculum and proved to be a very successful experience indeed. The continued offering of Object-Oriented Numerical Modeling I (Cs 328) keeps him on his toes with new challenges every semester.

Clayton has celebrated his 5th wedding anniversary this year. His wife, Tulin, has taken a post-doc position in St. Louis and spends three days each week there. The only sadness in his life this year is the passing of his 18 year companion, his dog Jenny.

Dr. Chaman Sabharwal continues to teach Data Structures II (CS 253), Java GUI, Visualization (CS 342), Graphics (CS 343), and Analysis of Algorithms (CS 355). In the spring of 2007, he taught a new course: Modular Software Systems Design and Development (CS 332). He is the Multimedia & Visualization track Chair of ACM Symposium on Applied Computing 2008 in Brazil. Dr. Sabharwal still commutes back and forth from St. Louis.

Dr. Daniel Tauritz is a few steps further than last year in the process of splitting his advanced graduate course on Evolutionary Computing (CS448) into a permanent two-course sequence (CS348 and CS448) to also give undergraduates the opportunity to learn the fundamentals of Evolutionary Computing and free up time to cover more advanced topics in the second course of the sequence. His new introductory course was offered for the first time in spring semester 2007 and for the second time in fall semester 2007. He continues to polish his Artificial Intelligence course and is again sponsoring the Artificial Intelligence Tournament held each semester since spring semester 2003 (see article). He is enjoying his sixth year as the UMR ACM Student Chapter SIG Security advisor (see article). Since December 2004 he has been the UMR coordinator for Sandia National Laboratories' Center for Cyber Defenders (CCD); during summer 2005 he brought a team of outstanding UMR students (three from CS, one from CpE) to the CCD as summer interns, and sent new teams in summer 2006 and summer 2007. On the research front, Dr. Tauritz continues to lead and expand the Natural Computation Laboratory (NC-LAB) whose main focus is developing novel evolutionary algorithms and applying them to real-world problems from a diverse set of domains including Critical Infrastructure Protection, Automated Software Engineering, Intrusion Detection Systems, and Inverse Diffusion Analysis. He was co-advisor for three Ph.D. students who successfully defended their dissertations in 2007 and is currently advisor for a fourth Ph.D. student and nine Master thesis students. For a second year he received a CREU grant from the CRA-W for his Computer Science Recruitment for the 21st Century project (see article) and this year also received a MRO-W grant from the CRA-W for a multidisciplinary Indoor Air Quality Simulator project.

Dr. Donald Wunsch, the Mary K. Finley Missouri Distinguished Professor and Director of the Applied Computational Intelligence Lab, was elected in August 2007 as Fellow of the International Neural Networks Society (INNS). He was subsequently elected the Senior Fellow, serving as leader of the INNS College of Fellows.

He has been active in the society for two decades. He played a part in reshaping the annual meeting, increasing membership and reorganizing its leadership structure. Wunsch and his collaborators have contributed research in many areas including: optical neural networks, aerospace applications, fuzzy regression and fuzzy risk assessment, approximate dynamic programming, accelerating heuristics for the Traveling Salesman Problem (TSP), time-series prediction, bioinformatics and clustering.

This is the second society to honor Wunsch with Fellow status. The Institute of Electrical and Electronics Engineers (IEEE) selected him as a Fellow in 2005.

He has produced over 250 publications, 13 Ph.D. graduates and attracted \$5,810,313 in research funding to date. Among new projects funded in Summer 2007 are a three-year NSF grant to study computational intelligence approaches to the Game of Go, a Boeing contract to apply generalized TSP heuristics to heterogeneous robotic search problems, and a contract with 21st Century Systems to use clustering for data mining from suspected terrorist web sites.

Wunsch serves as Chair of the Information Technology & Computing Committee, Chair of the Computer Security Task Force, and Chair of the CIO Search Committee.

Wunsch earned a Bachelor of Science degree in applied mathematics from the University of New Mexico in 1984 before obtaining a Master of Science degree in applied mathematics from the University of Washington in 1987. He received a Ph.D. in electrical engineering from the University of Washington in 1991, and completed an Executive MBA at Washington University in St. Louis in 2006.

Rhonda Grayson is beginning her 5th year with the Computer Science Department and with it has come some good changes. She has been promoted to Administrative Assistant and is enjoying the challenges that come with her new position. Rhonda's son, Coy (19), is currently attending college in Iowa, where he is a member of the college rodeo team.

Association for Computing Machinery

UMR's student chapter of the Association for Computing Machinery is gearing up for a big year. The student officers, Josh Eads (President), Ben Murrell (Vice-President), Richard Allen (Librarian), Derin Phelps II (Treasurer), and Zach Zeman (Secretary) are working hard to setup a years worth of professional, social, and competitive events.

Currently ACM is scheduled to...

- Host a Computer Science Extra-curricular Expo that is composed of interdisciplinary student organizations that need computer science student help.
- Host a talk with notable CS Alum and inventor of Seek42, Ryan Albarelli
- Co-host a symposium with ACM-W, UPE, and ACM-SIG Security that features four world-class members of the Computer Science Academy, Jean Holley, John Lovitt, Karen Squires, and Kim Tracy.
- Send at least two teams to attend the University of Illinois – Urbana Champagne Reflections Projections Conference and defend UMR's returning champion position in the MechMania AI programming competition.
- Host the North Central North America division of the official ACM International Collegiate Programming Competition.
- Host the ACM Night of Gaming which hopes to gather up to one-hundred students in a day of socializing and competition games competition.
- Co-host a GPS treasure hunt with Garmin International in the Patty Creek Wilderness Area part of the Mark Twain National Forest.

ACM is always looking for new ideas for Special Interest Groups, social events, professional guests, and sponsorships. If you are interested in participating with ACM in anyway please do not hesitate to contact the faculty and staff advisors.

Matt Buechler
buechler@mst.edu

Eric Sigler
esigler@mst.edu



ACM President, Josh Eads, introduces a project group at the Extra-curricular Expo

Association for Computing Machinery-Women (ACM-W)

The ACM-W had a very successful year. We started the school year with a general meeting in an effort to attract new members. As always the department supported our efforts by helping us provide refreshments (pizza and soda) to the crowd. The following month the ACM-W held a peer advising event. Peer advising give students an opportunity to talk to other students about which classes are helpful; having such information can be very useful when deciding between two or more classes. To start the Spring semester 2007, the ACM-W hosted a casino night. We offered roulette, black jack, and poker. Several professors were recruited to act as dealers during the "ACM-W Casino" in order to foster friendly interactions between professors and students. As the evening progressed, roles reversed and students stepped up as dealers to give the professors a chance to play. Another peer advising event was hosted during the spring semester, along with a graduate school panel. For the graduate school panel, we invited professors from Mizzou, Washington University in St. Louis, and, of course, UMR to talk about the benefits of going to graduate school for an advanced degree, what doing research is like, who should consider going to graduate school, and how to figure out where to go. At all the ACM-W events we had excellent turnout and we look forward to another successful year with ACM-W at UMR.

For this years ACM-Mid-Central Regional Programming Competition held at UMR, the ACM-W competed with an all-girls team for the first time. Despite the fact that the team only started practicing five weeks prior to the competition, the team did rather well. The ACM-W team achieved fourth place for the UMR competition and 41st overall for the Mid-Central Region. We are very proud of the team and thankful to the coaches (Julia Albath and Kate Holdener) as well as Matt Buechler for organizing the competition.



From left to right: Valerie Houseman, Jasmine Bowles, Lisa Guntly, and Matt Buechler.

Upsilon Pi Epsilon (UPE)

Upsilon Pi Epsilon is a national honor society founded in 1967 to recognize the scholarship and professionalism in the Computer Sciences. The Missouri Alpha Chapter was chartered in 1973 at the University of Missouri-Rolla. Membership is limited to undergraduate and graduate students who can effectively achieve the original goals of the society: recognition of outstanding talent in the field of computing science, promotion of high scholarship in computing science, establishment and maintenance of high standards in computing science, representation of computing science in interdisciplinary communications, and encouragement of individual contributions to society through computing science.

Every semester, the Missouri Alpha Chapter accepts applications for membership into the chapter. In order to be inducted into the chapter, each pledge must perform service projects related to Computer Science. In the past, UPE pledges have dedicated their time and effort to projects such as:

- helping the department call incoming freshmen and high-school students who have expressed interest in the Computer Science program at UMR, to answer their questions about the department and the university
- greeting incoming freshmen at department events, such as the Computer Science Department Awards Banquet
- helping run department events, such as the ACM Programming Contest
- selling t-shirts for a charity fundraiser
- holding a computer science merit badge program for boy scouts

The current officers are Adam Nichols (President), Ryan Andrews (Vice President), Robert Vick (Treasurer), Aaron Jackson (Secretary), and John Jacques (Historian). Dr. Ercal, interim chair of the Computer Science Department, is the chapter advisor. For more information about the Missouri Alpha Chapter of Upsilon Pi Epsilon, please visit <http://web.mst.edu/~upe>.

Association for Computing Machinery (ACM) student branch Special Interest Group: Security (SIG Sec)

The UMR Association for Computing Machinery (ACM) student branch Special Interest Group: Security (SIG Sec) is a student group focused on computer & network security. Founded five years ago, the organization is now chaired by Zach Zeman and Bryan Williams, with Dr. Daniel Tauritz as faculty advisor. SIG Sec meetings are bi-weekly, featuring a wide variety of speakers on topics ranging from software vulnerabilities and real-world tools to security projects and research. The group also works on its own security projects, such as building cantennas (antennas made from soup, coffee or Pringles cans that increase the gain of wireless cards), wireless auditing (mapping open wireless access points so we can inform the owners), security auditing of student computers, and red team vs. blue team competition (controlled environment competition where each team defends their server from the attacks/attempted entry of the other team).

Highlights of the 2007-2008 academic year so far:

- 4th Annual Rolla Wireless Security Audit

Part 1: Cantenna Building Party led by the SIG Sec Officers
(see photo)

Part 2: Wireless Security Audit Competition

Total unique access points found:- 1474

Total unprotected access points found:

- 526 (36% vs. 38% last year and 44% the year before)



photo provided by
Missouri Miner

- Presentation on Advanced Malware Trends
Bob Hutchinson, manager of the Network Systems Survivability and Assurance Department and the Center for Cyber Defenders at Sandia National Laboratories, with the assistance of Alex Berry, a member of Bob's technical staff and a UMR alum (BS CpE '03, BS CS '03, and MS CS '04), gave a rousing presentation on Advanced Malware Trends for an enthusiastic audience of around sixty students, faculty and staff.
- Operation Fortify
During Operation Fortify, a joint event between ACM SIG Security and UMR IT, students, faculty and staff were invited to bring in their computers for a free security audit and assistance in resolving any identified security vulnerabilities by SIG Sec officers. UMR IT provided hardware support and free pizza & soda.

Artificial Intelligence Tournament

Winter Semester 2003 gave birth to a new UMR tradition: the Artificial Intelligence Tournament Series, created and organized by Dr. Daniel Tauritz and hosted by UMR's Department of Computer Science. This series follows a tradition of in-class tournaments in Computer Science course CS347 – Introduction to Artificial Intelligence, but aims to broaden that scope by inviting campus-wide participation in public tournaments and having formal awards ceremonies. Every semester this tournament gives students, faculty and staff a chance to test their skills in designing & implementing Artificial Intelligence by having their creations compete against each other and with human beings. Each academic year a new challenge, typically a board game, is chosen to be solved during that fall & spring tournament. Three winners are chosen each semester and presented with trophies & prizes. Each semester the name of the first place winner is engraved on a perpetual plaque and displayed in the glass trophee case on the second floor of the Computer Science Building.

In the spring of 2003 the game was Abalone and the winners were, first place: Christopher Walker, second place: Alex Berry, and third place: Brad Martin. The fall 2003 semester and spring 2004 semester challenged everyone with Stratego. The winners for fall 2003 were, first place: Brian Sea, second place: Matthew Allen, and third place: Rahul Maheshwary. Thanks to Microsoft for sponsoring the prizes this semester.

In spring 2004 the winners were, first place: John Jost, second place: Michael Thielker, and third place: Jason Godding. Thanks to Microsoft and UMR's CS Department for sponsoring the prizes this semester.

The 2004-2005 academic year featured chess, a classic challenge in Artificial Intelligence. The fall 2004 winners were, first place: Travis Service (human player), second place: Travis Service (his computer player!), and third place: David Cape (human player). Thanks to Microsoft for sponsoring the prizes that semester.

The winners in spring 2005 were, first place: Travis Service (again as a human player!), second place: Chad Deshon (computer player), and third place: Jimmy Townsend (human player). New in spring 2005 was the participation by a number of students from Rolla Public High School. Thanks to Network Appliance, Inc. in St. Louis for sponsoring the prizes that semester.

The 2005-2006 academic year challenge was the board game Othello (also known as Reversi). The fall 2005 winners were, first place: Raymond Myers (computer player), second place: Charles Huber (computer player), and third place: Mark Snyder (computer player). Thanks to UMR's CS Department for sponsoring the prizes this semester.

In spring 2006 the winners were, first place: Evan Wright (computer player), second place: Jeremy Dick (computer player), and third place: Charles Huber (computer player). Thanks to UMR's CS Department for sponsoring the prizes this semester.

In the fall of 2006 the game was Backgammon, a special challenge because of the stochastic element added through the use of dice. The winners were, first place: Mohammed Das (human player), second place: Nathan Alfermann (human player), and third place: Jason Cook (human player). Thanks to UMR's CS Department for sponsoring the prizes this semester.

The fall 2007 challenge is the board game Mancala. The tournament is scheduled for Saturday December 1st 2007. Additional information can be found at <http://web.mst.edu/~tauritzd/AI-Tournament/>.

NOTE: Dr. Tauritz is always looking for (corporate) sponsors for the Artificial Intelligence Tournament Series (great publicity!). For more information, E-mail him at: dtauritz@acm.org

Recruiting Future Computer Scientists – Part 2

The Facts

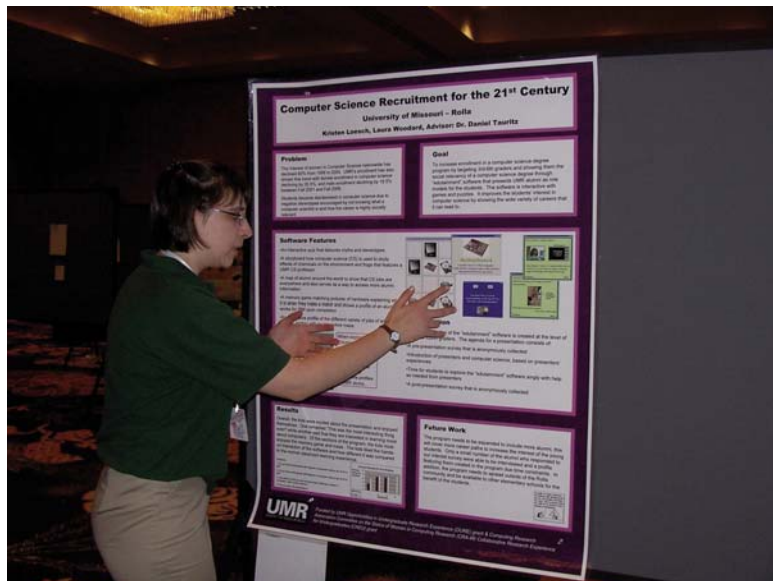


CSRecruit21 2007-2008 Team (from left to right: Lisa Guntly, Dr. Daniel Tauritz, Jessica Williams, Jasmine Bowles)

- According to UCLA's Higher Institution research, interest in computer science among women fell 80 percent between 1998 and 2004, and 93 percent since its peak in 1982.
- At UMR, from fall 2001 to fall 2006 the overall enrollment in computer science has fallen by 18.5% and female enrollment by 35.5%.
- The number of freshmen interested in computer science has dropped more than 60 percent in four years, and the proportion of computer science degrees awarded to women has fallen below 30 percent.
- Study after study show that many women are being turned off of Computer Science because they are more interested in the application of technology rather than the technology itself.

The team of Computer Science (CS) seniors Jasmine Bowles, Lisa Guntly, Jessica Williams, and faculty advisor Dr. Daniel Tauritz are continuing the Computer Science Recruitment for the 21st Century (CSRecruit21) project started in academic year 2006-2007 by CS seniors Kristen Loesch, Laura Woodard and faculty advisor Dr. Daniel Tauritz to create software to recruit more students, especially women, to the field of CS. They have received continued funding from UMR's Opportunities for Undergraduate Research Experience (OURE) program and a second Collaborative Research Experience for Undergraduates (CREU) grant provided by the Computer Research Association's Committee on the Status of Women in Computing Research (CRA-W), an organization focused on increasing the number of women participating in computer science and engineering research. They are creating 'Edutainment' software to showcase the relevancy of CS to real-world problems. The software consists of a series of highly visual games, interactive questions, and puzzles that illustrate CS careers and socially relevant research. The games & puzzles are associated with the careers of UMR CS alumni whose profiles and inspirational quotes are integrated into the software. An alpha version of the software was field-tested in spring 2007 at Rolla's Mark Twain Elementary School to a class of 3rd & 4th graders. Extensive field-testing of a beta version of the software is planned for spring 2008.

The first year of the CSRecruit21 project was very promising and received a lot of attention, including being aired on UMR's TechnoFiles and presented at the Undergraduate Research Day at the Capital, the UMR Undergraduate Research Conference, the Board of Trustee's Spouses, UMR's Advancing Excellence Campaign Student Highlights, the UMR CS Academy, the UMR CS Advisory Board, and most recently in both poster form and via a discussion forum at the 2007 Grace Hopper Celebration of Women in Computing conference.



Laura Woodard presenting a CSRecruit21 poster at the Grace Hopper Celebration of Women in Computing 2007 Conference

How Can You Help?

Our main goal is to dispel the stereotype that CS is boring, only for geeks, and not socially relevant. You can help us achieve this goal by filling out a simple questionnaire about your job, its social relevancy, and providing an optional photo or video clip. The information you provide along with the photo or video clip may be embedded in the recruitment software we are developing. It should only take a few minutes of your busy schedule and we would really appreciate the assistance. To fill out the questionnaire please visit our research website, <http://web.mst.edu/~csrec21/>, and click on the 'Take the Computer Science Job Survey' link near the bottom of the main page.

COMPUTER SCIENCE ANNUAL BOEING PIZZA PARTY

The Computer Science Department and The Boeing Company sponsored the annual "get acquainted" Pizza Party for all Computer Science majors on Wednesday, September 12, 2007. This was the ninth year for the Pizza Party. Door prizes were given away by the Computer Science Department. Approximately 150 computer science students, faculty, and staff attended the party.





Renovations of Computer Science 212 & 213. They are making a state of the art student lounge and computer Lab. Stay in touch for the final look at this new room for our CS students.



PHONATHON DATES:
Feb.
4,5,6,7,10,11,12,13,14

COMPUTER SCIENCE STUDENT AT WORK AND PLAY



CS 206



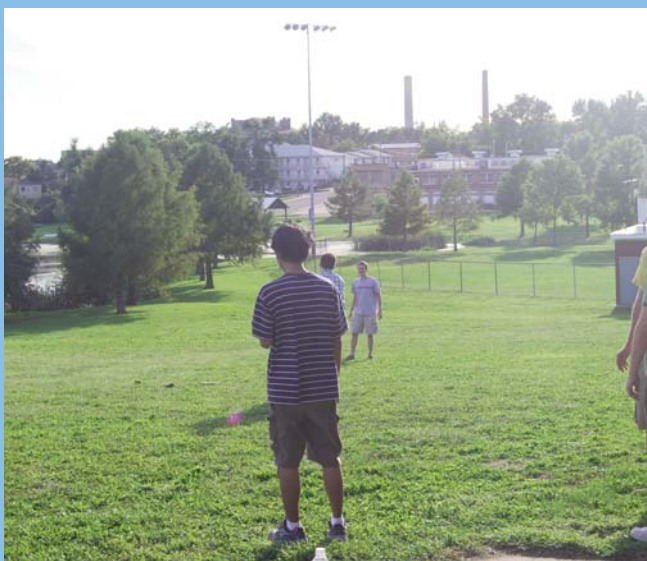
CS 153



CS 228



CS 54



[more 2007 Pizza Party pictures](#)

Donations From Alumni and Friends

Less than \$100

Abernathie, Dale	1991	Codespoti, Daniel J	1974	Goetting, Karla L	1984
Abraham, Steven	1995	Compton, Laura		Grotefendt, Judith R	1974
Alexander, Gary R	1970	Lynne	1990	Guntly, Stephen P	1978
Alexander, Mary C	1971	Cooper, Charles J	1971	Hall, John W	1981
Anderson, Glenn R	1973	Cordes, Glenn E	1960	Hammond, Patrick	
Ashwell, Tracey		Cothorn, Douglas K	1978	Lewis	2005
Dawn	1995	Court, Michael R	1973	Hankins, Judith A	1980
AuBuchon, F Joseph	1983	Cox, David Duane	1983	Harrington, Laura	1983
Baron, Timothy J	1979	Crane, Lynn Anne	1984	Hayden, Bruce	1983
Becker, Kathryn A	1976	Craven, Paul Vincent	1996	Hedgpeth, Jeffrey Joe	1996
Beckerle, Kelly Marie	1988	Dagestad, Pamela S	1978	Herold, Lawrence W	1974
Bennett, Carol Ann	1992	Daniel, Kathleen M	1979	Hickman, Lewis Lee	1996
Bier, Patrick K	1975	Danz, Steven William	1987	Hiebert, Gregory Lee	1982
Bilderback,		Daum, Marilyn S	1980	Hilleary, Alexander L	1976
Christopher	2002	Davis, Sherry L	1985	Hilleary, Cynthia S	1976
Birdsell, Clifford J	1982	Debner, David E	1968	Hillhouse, Michael D	1975
Bischel, Pat Oscar	1987	Drewes, Laurie Ann	1985	Horstmann, Paul W	1973
Bogener, Shawn	1996	Dunford, Randall B	1974	Jeffries, Matthew S	1985
Bohn, Ellen B	1974	Edwards, Harry K	1964	Johnson, Andrew J	1974
Booth, Brian David	1997	Ellis, Michael G	1985	Jones, Roger M	1971
Bowman, Charles S	1986	Erickson, Christina K	1975	Kemp, Russell W	1970
Brady, Amber	1983	Erickson, Rodney J	1983	Kleikamp, David	1986
Brand, Ann Maxine	1984	Farley, Mary Ann	1984	Kornfeld, Paula J	1979
Breidert, Janice E	1973	Farley, Stanton K	1978	Krasner, Herbert C	1973
Brown, Daniel J	1974	Fisher, Michael S	1971	Krishnamurthy,	
Bruhn, Kurtis	1987	Ford, Raymond F	1970	Bharadwaj	2003
Brunts, Barbara E	1981	Fox, Richard Keith	1986	Langan, Robert Paul	1986
Buckley, Jared Roger	1996	Frager, Alan R	1974	Langer, Richard B	1983
Buehler, Douglas P	1979	Francis, David H	1975	Laufman, Anne E	1983
Burgdorf, Erik D	1980	Freese, Asher Dean	2003	Leach, David Bruce	1996
Butler, Tracye Denton	1985	Gabbert, Angela	1987	Lenz, Richard G	1974
Byrd, Samuel Martin	1998	Gaitros, Donald L	1966	Lewin, Karl E	1989
Cameron, Jill Alison	1984	Galli, Donald H	1974	Lewis, Daniel Roy	2003
Clarkson, Ernest D	1974	Garrison, Gary Ralph	1989	Liao, Ruijia	1996
Clifton, Arlene K	1972	Gebhardt, Thomas V	1978	Lietz, Carol Ann	1982
		Geiger, Christopher	1986	Lindesmith, Stanley	1990

Lindstrom, John A	1973	Peery, John W	1967	Stone, Barry N	1978
Lowe, Jayme Lynn	2000	Peetz, Bryan Dale	1983	Storms, Alexander J	1998
Ludwig, Karen S	1979	Pham, Peter	2001	Tadda, George P	1989
Martin, Bennie F	1986	Pile, Thomas N	1979	Taylor, Charles Ray	1973
Mayberry, Christopher		Post, Mark K	1978	Thomas, Gary W	1978
Martin	1998	Pritchett, Peggy Ann	1990	Thorsell, Carl W	1969
McAdams, Patricia A	1977	Puhl, Lisa Joan	1982	Timm, Gary A	1980
McBride, Gregory C	1975	Putz, Robert C	1964	Treptow, Eric B	1981
McClanahan, Ronald	1977	Queern, John	1981	Uebele, Cynthia A	1982
McCormick, C Craig	1968	Rafferty, Patrick V	1975	Umphreys, Ray E	1974
Messmer, Kevin		Reinhardt, Mary Jane	1986	Umstead, Christopher	1985
Michael	1988	Reini, Jennifer Ann	1987	Underwood, Diane E	1981
Midgley, Myles J	1979	Richesson, Jennifer	1994	Urban, Mark A	1980
Mills, Andy Ray	1989	Robertson, James	1967	Vandergriff, Matthew	
Mills, Edward L	1956	Rose, Jeffrey L	1975	Wayne	1998
Mitchell, Deborah	1984	Santos, Carmela Rosario		Veden, Leonard S	1973
Mitchell, John W	1983	Cobarrubias	1996	Verren, Theodore	
Monsees, Robert L	1970	Schaper, Gary E	1993	William	1999
Moore, Joseph R	1972	Schneider, Robert J	1971	Volkaitis, George L	1974
Moore, Robert L	1981	Schneider, Susan	1982	Vora, Chetan Bharat	1997
Mullen, Daniel	1972	Scholle, Kenneth E	1982	Wacker, Robert C	1977
Nagawiecki, Gregory		Schroeder, Curtis	1988	Walker, Rhonda A	1977
Edwin	1984	Schuehler, David	1993	Webb, Johnny S	1971
Nolde, Keith A	1974	Segura, Lynn		Wegman, John L	1975
O'Brennan, Gerald K	1986	Kathleen	1987	Wells, Curtis L	1970
O'Dell, Daniel G	1978	Serban, Cristina	1993	White, James J	1974
Oakes, Jack L	1990	Settle, Benjamin A	1983	Wieberg, Peggy A	1986
Oldroyd, Juanice E	1983	Simpson, John		Wilkins, Arthur T	1978
Olmstead, Sheila M	1985	Lawrence	1997	Winebright, George	
Omohundro, Warren	1975	Sisko, Bruce Peter	1987	Michael	1980
Ortbals, Robert J	1978	Smith, Brian Lynn	1987	Wolters, David J	1970
Osborne, Carol Jean	1985	Smith, Houstin G	1981	Work, Paul R	1990
Owensby, Roger	1986	Stager, Scott P	1970	Workman, J Douglas	1971
Pace, Gary Glen	1984	Stahl, Joseph W	1969	Wren, Frances K	1978
Panapakkam, Anitha	1994	Stalnaker, Kevin W	1979	Wynn, Scott Douglas	1989
Parish, Ryan Joseph	2005	Stamer, Paul Joseph	1997	Yarnall, Charles F	1976
Parrett, Minh T	1979	Starbuck, Jason Leon	1997	Ziaja, Kathryn Ann	1993
Parsons, Clyde T	1972	Steelman, Rhonda L	1984		
Parthasarathy, Murali	1995	Stelzleni, Ryan	2004		

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Abshier, John C	1983	Fischer, Thomas W	1976	Lahm, James L	1988
Adams, Steven	1982	Fitzgerald, Barton L	1993	Lindsey, Regulah M	1982
Adelsberger, Mark	1999	Freiberger, Keith	1984	Little, Russell D	1982
Altheide, Phyllis	1985	Ganofsky, John R	1978	Loesch, Janet L	1980
Androlewicz, Thomas	1977	Gavin, James	1987	Loesch, Terry L	1980
Bailey, Wayne P	1976	Gentry, Timothy W	1977	Lorenzen, Stanley D	1975
Bardsley, Jeannine M	1983	George, John Scott	1972	Lyon, James S	1972
Belk, Paul Shannon	1993	Giesecking, Paul E	1973	Magee, Michael W	1978
Bevans, Judy Kay	1985	Goertzen, Patrick H	1982	Maxwell, Shonie	
Boecker, Mark S	1974	Gordon, John Harrison	1988	Christine	1994
Bollinger, Terry B	1977	Graham, David Brian	1983	McBride, Sandra R	1970
Brandon, Dwight W	1983	Graves, Kyle Eugene	1991	McClenning, John C.	1991
Braun, Paul A	1981	Hall, Allyson Taylor	1997	McMahon, Thomas	
Bremehr, Dan	1983	Hall, Carla Cecilia	1994	Patrick	1995
Brenneke, Kenneth J	1978	Hayes, Kevin Brian	1988	Meier, Curtis P	1983
Brewer, David W	1969	Hellrich, James H	1973	Menke, Elaine A	1973
Buch, Brent Allen	2000	Herman, Bradley S	1981	Menkel, Phillip Louis	1998
Burke, Terence	1995	Herzog, Jeffrey Allen	1992	Mersinger, Rozann P	1981
Canis, Randy L	1997	Hicks, Richard Jay	1989	Minogue, David	1987
Carson, David J	1975	Hilgers, Michael G	1985	Mirly, David Michael	1989
Cholerton, Edward M	1986	Hilliard, Anthony	2000	Miskell, Lynn Rene	1983
Chrisman, George F	1969	Hirschbuehler, Danie	1980	Montague, Michael	1973
Coffman, Mary B	1978	Hojnowski, James G	1984	Muldoon, Mary Ellen	1991
Cook, Aaron L	1977	Holley, Thomas K	1975	Musial, Christopher	1982
Cook, Thomas	1985	Huff, Donald Leroy	1993	Nau, Steven N	1970
Cox, Steven George	1998	James, David Loren	1985	Neary, Brian Lewis	1991
Crume, James L	1981	Jones, David S	1964	Nekorchuk, Russell L	1970
DePauw, Thomas J	1973	Jones, James S	1974	Nemer-Preece, Nicole	
Denney, Stephen Kent	1994	Keep, Andrew	1999	Anne	1994
Dillon, Janet Elaine	1982	Kelley, David D	1977	Newcomer, John	1989
Doerr, Jerry W	1967	Kennedy, Kelly Ann	1986	Nichols, Byron K	1973
Drake, Sandra Jo	1993	Kerns, Randy G	1974	Oellig, Galen R	1988
Dupont, Steven J	1974	King, Janet M	1980	Oligschlaeger, Brian	
Eaton, William A	1970	Kinser, Colby Evan	1988	Joseph	1995
Estep, Ronald L	1971	Kleekamp, Kurt	1987	Ott, James W	1975
Feldmann, Robert C	1980	Klemmer, Susan H	1966	Peterson, Richard R	1985
Fellows, William	1998	Krall, William R	1969	Phipps, Neil Alan	2001
		Kuebler, Kenneth L	1970	Porter, David Bryan	1988

Potzmann, Kim J	1970	Watson, Lowell R	1979	Maritz Incorporated
Pratt, Michael L	1978	Watson-Hajjar, Susan		MasterCard International
Price, Clayton E	1980	Elaine	1983	Inc.
Pryor, Gary Alan	1995	Williams, Nelson	1972	McKesson Foundation, Inc.
Randazzo, Vincent A	1989	Windle, Daniel Ray	1998	Microsoft Corporation
Rehkop, Thomas G	1974	Wurtzler, Pamela H	1981	Monsanto Fund
Reinhardt, Mary Jane	1986	Wylie, James G	1969	Olin Corporation Charitable
Rider, Adam Clinton	1993	Yelton, Ken Stuart	1986	Trust
Roth, Michael G	1972	Zike, David Scott	1982	PPG Industries Foundation
Rothschild, Susan H	1974	Zlatic, Milton T	1971	Pepsi Co Foundation
Sage, Barry E	1980			RKF Custom Devices
Scherer, Keith W	1982			Raytheon Company
Scherer, Kenneth Paul	1982	Corporate		Reuters America Inc.
Shen, Chang	1997	AT&T Foundation		Shell Oil Company
Shu, Min-Chun Jenny	1982	Accenture Foundation, Inc.		Foundation
Sigman, Scott Lee	1999	Anheuser-Busch		TALX Corporation
Sinn, Elizabeth A	1976	Companies, Inc.		Tellabs
Sinn, Larry F	1975	Anheuser-Busch		Texas Instruments
Smith, Johanna Marie	1985	Foundation		Foundation
Smith, Neil S	1968	Avaya Communication		Union Pacific Corporation
Squires, Karen D.	1989	Boeing/McDonnell Douglas		United Services
St. Clair, Mrs. Daniel		Foundation		Automobile Assoc
(Jean) C.	1975	Caterpillar Foundation		Wells Fargo Foundation
Stanek, Craig Steven	2004	Cerner Corporation		
Stark, John Evan	1989	Citigroup Foundation		
Steffan, Cheryl A	1969	ConocoPhillips		
Stein, Michael S	1986	DST Systems Inc.		
Stocking, Terry Lee	1989	ExxonMobil Foundation		
Stone, John Edward	1994	Garmin International, Inc.		
Stout, Richard F	1985	General Motors		
Sullivan, Kevin	1995	Corporation		
Szygenda, Ralph	1970	Harris Foundation		
Taylor, Timothy	1987	IBM		
Thornton, Jeffrey A	1980	IEEE		
Toombs, Howard L	1976	Intel Foundation		
Uher, Donald L	1975	Lexmark International, Inc.		
Washburn, Ricky Lee	1979	Lockheed Martin		
Wasleski, Steven	1987	Corporation		

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