

Greetings from the CSE Interim Chair

My second and final year as the CSE Interim Chair is ending. As you can see on the right, Dr. Barrett Bryant has been named the new Chair of the Department beginning August 1, 2011.



We are proud that Dr. Armin Mikler received the 'Fessor Graham Award at the UNT Honors Day Convocation on April 8, 2011. Only one faculty member is recognized each year by UNT students and this is the first time a CSE faculty member has received this award.

We are also proud that our Robocamp for Girls won the Tech Titan of the Future-University Level Award in August 2010. In this tight economy, we are glad that the state of Texas has once again decided to support our program which will allow us to offer seven camps in Summer 2011.

When Dr. Bryant takes over as Chair, please continue your support to help us become the best Department of Computer Science and Engineering in North Texas.

Ian Parberry
Professor and Interim Chair

New CSE Faculty

Dr. Song Fu joined the CSE Department as an assistant professor in Fall 2010. He is the director of the Dependable Computing Systems Lab (DCS - <http://dcslab.cse.unt.edu/>). Before coming to UNT, he was an assistant professor in the Department of Computer Science and Engineering at New Mexico Institute of Mining and Technology from August 2008 to July 2010.



Dr. Fu earned the Ph.D. degree in Computer Engineering in 2008 from Wayne State University in Detroit, Michigan. He received B.S. and M.S. degrees in Computer Science from Nanjing University and Nanjing University of Aeronautics and Astronautics in 1999 and 2002, respectively. He worked as a System Engineer at the Nanjing Automation Research Institute in 2002.

Dr. Fu's research interest is primarily in distributed, parallel, and networked computer systems, including architecture, runtime support, operating systems, and algorithms. His research has been supported in part by funding from the National Science Foundation and Los Alamos National Laboratory.

Mikler receives 'Fessor Graham Award

Dr. Armin R. Mikler, associate professor, received the 'Fessor Graham Award at the UNT Honors Day Convocation on April 8, 2011.



This award is the highest honor bestowed by the student body at UNT. This marks the first time a faculty member in the Department of Computer Science and Engineering has received this prestigious award.

The 'Fessor Graham Award recognizes one faculty member each year for outstanding and unselfish service beyond the call of duty to students. It is named for the late Professor Floyd Graham, who taught at UNT for more than 40 years. In 1958, the North Texas student body honored Professor Graham with this award and established the tradition of recognizing one faculty member each year on Honors Day.

For pictures of the ceremony, please see this media gallery page at <http://www.cse.unt.edu/site/node/332>.

Robocamp wins Tech Titan Award

UNT's Department of Computer Science and Engineering won the Tech Titan of the Future-University Level Award for its Robocamp for Girls. Robert Akl and David Keathly, co-directors of Robocamp, received this award in August 2010. The Tech Titan Award-University Level award recognizes higher education institutions that encourage students to choose engineering and technology-related disciplines. The Tech Titan Awards are presented by the Metroplex Technology Business Council, the largest technology trade non-profit organization in Texas.



The Summer 2011 Robocamp sessions are coming up soon. There will be two Robocamps for boys and two Robocamps for girls and three coed Xbox camps this summer. Students must be at least 14 years of age and not graduated from high school in order to participate. More details about Robocamp can be found at <http://www.cse.unt.edu/robocamp>.

New CSE Chair named

The Dean of the College of Engineering, Costas Tsatsoulis, has announced that Dr. Barrett Bryant, Professor of Computer and Information Sciences at the University of Alabama at Birmingham, will be the next Chair of the Computer Science and Engineering Department. Dr. Bryant will join us on August 1, 2011.



Dr. Bryant received his Ph.D. in Computer Science from Northwestern University in 1983. He served as Associate Chair at UAB since 1996, and has been the undergraduate program director since 1998.

He was an ACM Distinguished Lecturer twice, has received two University-wide teaching awards, and was nominated for three Dean's teaching awards. He has advised 14 Ph.D. and 36 M.S. students, has published over 130 refereed articles in books, journals, and conferences, and has been PI or co-PI on research grants totaling over \$9.3 million.

Two CSE Faculty Members take Voluntary Separation

Dr. Robert Brazile and Dr. Tom Jacob, two long-time faculty members, have taken UNT's Voluntary Separation Plan and will leave the Department of Computer Science and Engineering at the end of Spring 2011.



We thank Dr. Brazile and Dr. Jacob for their years of service and wish them the best of luck in the future.

CSE Students at Design Day 2011

Students from the College of Engineering, including CSE students, presented their research at the first Design Day on April 29, 2011. Five teams of computer engineering students and two teams of information technology students presented their team projects before an audience of faculty, peers, and invited members of industry. Students from other College of Engineering programs also presented research projects at Design Day. For pictures, go to <http://www.cse.unt.edu/site/node/338>.

CSE Research Lab News

Computer Systems Research Laboratory (CSRL)

under the direction of **Dr. Krishna Kavi** explores innovative ways of designing multicore processors and optimizing applications to take advantage of new processor designs. AMD is supporting Dr. Kavi's research in Computer Systems by providing an additional \$40K to support a student for one year. The student will conduct research on next generation memories for multicore AMD processors, and the impact on performance of applications using such memories.



Last year AMD provided \$40K to support Dr. Kavi's research on the development of program analysis tools so that programs can be analyzed to identify regions of the code that cause most memory related performance bottlenecks.

Dr. Kavi and his students also work with Oak Ridge National Laboratories in helping scientists to improve the performance of their applications on High Performance Computing systems such as Blue Gene and Jaguar (which are considered to be among the top 5 fastest computers). If you are interested in technologies and software tools to help in migrating your applications to multicore systems, contact Dr. Kavi.

The **Laboratory for Recreational Computing**, directed by **Dr. Ian Parberry**, will present two papers in Bordeaux, France in June 2011. Ph.D. student Jon Doran and Dr. Parberry have a paper "A Prototype Quest Generator Based on a Structural Analysis of Quests from Four MMORPGS" to appear in the Proceedings of the Second Workshop on Procedural Content Generation in Games. Ph.D. student Dhanyu Amarasinghe and Dr. Parberry have a paper "Towards Fast, Believable Real-Time Rendering of Burning Objects in Video Games" to appear in the Proceedings of the 2011 Foundations of Digital Games.

LARC alumni have been busy. At last count, four LARC alumni worked on Call of Duty: Black Ops, including Treyarch Director of Technology, Cesar Stastny. LARC alumni Carl Dieffenbach and Casey Westlund joined the QA team at Bioware in Austin. Dr. Parberry is proud that they are the 56th and 57th LARC alumni to join the game industry. For more news about Ian Parberry and LARC, go to <http://larc.unt.edu/ian/news/>.

The **Language and Information Technologies group** had several achievements during the 2010-2011 year.

Research in the group is now funded by two new grants awarded over the past year:

* **Rada Mihalcea** is the PI on a new NSF grant for a three-year project on "Building a Large Multilingual Semantic Network for Text Processing Application." The project, totaling \$500,000, is a collaboration with Ohio University, and it is devoted to building a large multilingual semantic network through the application of novel analysis techniques specifically targeted at the Wikipedia corpus.

* A new grant for \$50,000 from the National Endowment of Humanities (NEH), awarded to Andrew Torget (PI) from the Department of History and Rada Mihalcea. The grant is for a project on "Mapping Historical Texts: Combining Text-mining & Geo-visualization to Unlock the Research Potential of Historical Newspapers," targeting the development of search models combining text-mining and geospatial mapping to help scholars research collections of digitized historical newspapers.

Members of the group have received competitive awards and internships:

- Samer Hassan had received the competitive "Best Ph.D. Student" award. He received his award during the Honors Day on April 8, 2011.
- Ravi Sinha and Ben Leong have both received internship offers from Microsoft, Seattle, for Summer 2011.



From left to right: Ravi Sinha, Veronica Perez-Rosas, Michael Mohler, Tze-I Yang, Bharath Dandala, Carmen Banea, Samer Hassan, Gozde Ozbal, Chris Loza, Rada Mihalcea, Erwin Fernandez-Ordonez. Missing from the picture: Ben Leong, Miguel Ruiz, Paul Tarau, Chris Williams.

Over the past year, the group had many publications in international conferences:

- Carmen Banea, Rada Mihalcea, Janyce Wiebe, "Multilingual Subjectivity: Are More Languages Better?" Proceedings of the International Conference on Computational Linguistics (COLING 2010).
- Ben Leong, Rada Mihalcea, Samer Hassan, "Text Mining for Automatic Image Tagging," Proceedings of COLING 2010.
- Michael Mohler, Razvan Bunescu, Rada Mihalcea, "Learning to Grade Short Answer Questions Using Semantic Similarity Measures and Dependency Graph Alignments," Proceedings of the Association for Computational Linguistics (ACL 2011).
- Samer Hassan and Rada Mihalcea, "Semantic Relatedness Using Salient Semantic Analysis," Proceedings of the American Association for Artificial Intelligence (AAAI 2011).
- Carmen Banea and Rada Mihalcea, "Word Sense Disambiguation with Multilingual Features," Proceedings of IWCS 2011.
- Hakan Ceylan and Rada Mihalcea "An Efficient Indexer for Large N-Gram Corpora," Demo Session of ACL 2011.

- Ben Leong and Rada Mihalcea, "Measuring the semantic relatedness between words and images," Proceedings of the International Conference on Semantic Computing (IWCS 2011)

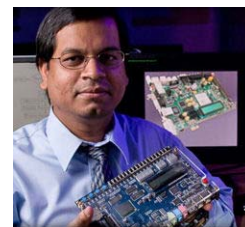
- Ravi Sinha and Rada Mihalcea, "Using Centrality Algorithms on Directed Graphs for Synonym Expansion," Proceedings of the Florida Artificial Intelligence Research Society.

- Rada Mihalcea, Carmen Banea, and Janyce Wiebe, "Multilingual Sentiment and Subjectivity," in Multilingual Natural Language Processing, editors Imed Zitouni and Dan Bikel, Prentice Hall, 2011.

Rada Mihalcea is the co-chair of this year's International Conference of the Association for Computational Linguistics (ACL), to be held in Portland in June. ACL is the main and largest conference in the field of computational linguistics, with a typical audience of 800-1000 people.

The NanoSystem Design Laboratory

reached a major milestone in UNT's cutting-edge research in nanoelectronics. **Dr. Saraju Mohanty's** research was featured in "Texas Innovator"



(<http://texasinnovator.org>) which is a publication of the Texas Comptroller. Dr. Mohanty's research was also highlighted in campus view point of The Chronicle of Higher Education (<http://chronicle.com/campusViewpointArticle/UNT-scientists-create-on-the/481/>) under a title "At one billionth of a meter, scientists create on the edge". Dr. Mohanty's research was also featured in the current version of UNT research magazine (<http://www.unt.edu/untresearch/2010-2011/>) under the title "Nanoelectronics of the Future".

NSDL produced UNT's first female Ph.D. with VLSI specialization, Garima Thakral. With Dr. Mohanty as her major professor, Garima defended her dissertation titled "Process-Voltage-Temperature Aware Nanoscale Circuit Optimization" which introduces several optimization algorithms for nanoscale circuit optimization. Her dissertation research resulted in six journal/conference publications and has been funded by grants from the National Science Foundation (NSF) and Semiconductor Research Corporation (SRC).

Another student member of NSDL, Okobiah Oghenekarho, defended his master's thesis titled "Exploring Process-Variation Tolerant Design of Nanoscale Sense Amplifier Circuits" which investigates ideas to build faster sense amplifiers. The sense amplifiers are the main components of DRAM which constitute the main memory of a computer. Karo was recognized as the best Computer Engineering Master's student at the UNT Honors Day celebration in Spring 2011.

In the last academic year NSDL members published 6 peer-reviews journal paper and 9 highly-selective conference papers. Most of these conferences follow double-blind review process with typical 30% acceptance ratio. Two papers with the titles "Nanocmos Mixed-Signal Circuit Metamodeling Techniques: A Comparative Study" and "Design of a Reconfigurable

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CSE Research Lab News

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Embedded Data Cache" were presented in ISED 2010 in Bhubaneswar, India. *ISED* provided major visibility to UNT in the eastern part of India.

Oleg Garitselov's presentation, "Fast Optimization of Nano-CMOS Mixed-Signal Circuits Through Accurate Metamodeling," received major attention at the International Symposium on Quality Electronic Design, which was well-attended by the semiconductor industry, in March in Santa Clara, CA.

NSF Net-Centric Software and Systems Industry/University Cooperative Research Center Industrial Advisory Board Meeting was held April 7-8, 2011 in Grapevine, TX. Faculty and students from UNT, UTD, SMU, ASU, as well as several scientists and engineers from 15 industrial members of the Center attended the meeting. NSF program managers were also present. Faculty and students made presentations about their current research projects.

The **NCSS /UCRC** just completed its second year of operation. Current members include University of North Texas, University of Texas at Dallas, Southern Methodist University, Arizona State University, Boeing, Cisco Systems, Inc., Endometrics, HP Enterprise Services, GlobeRanger Corp., Intel Corp., Keane, Inc., Lockheed/Martin Aeronautics Company, National Instruments Corporation, Raytheon Company, Revere Security, and Texas Instruments, Inc. **Dr. Krishna Kavi**, Professor in the UNT CSE Department, is the director of the Center.

More CSE Research Centers and Labs at <http://www.cse.unt.edu/site/node/37>. Read about CSE in *UNT Research* at <http://www.unt.edu/untresearch/>.

Dr. Garlick releases Android App and is interviewed about codebreaking

Ryan Garlick has been teaching courses at UNT on developing for mobile devices for the past three semesters. Dr. Garlick's class now focuses on the Android platform, although students are free to create an app on the device of their choice. Students created apps this semester for iPhone, Android, and Windows Phone. Apps developed in class ranged from games to a baseball stats calculator and bus route tracker. To expose students to the entire development cycle from start to Marketplace, Dr. Garlick created "Mobile World Records" that is now available for free download in the Android Marketplace.



Several semesters ago, Professor Garlick and his students attempted to solve the Zodiac-340 cipher. Sent to the police in 1969 by the Zodiac, San Francisco's most notorious serial killer, the cipher is 340 symbols which Zodiac claimed would reveal his identity when decoded. Although the cipher has never been solved, the class received international attention, including a spot on the National Geographic Channel documentary "Codebreakers." Dr. Garlick was recently interviewed about the cipher and the techniques used by the class for an article on unsolved codes and ciphers in the May issue of *New Scientist*.

Alumni Focus: Michael Hall



Dr. Brazile presents Michael Hall with his Certificate for Professor for a Day. See more pictures at <http://www.cse.unt.edu/site/node/329>.

I came to UNT in 1976 pursuing a degree in Mathematics. However, during my first semester there I took an introductory course in Computer Science for BASIC programming. I was absolutely hooked and quickly changed my major to Computer Science. I loved writing code and making the computer react to it. I think the CS department was only 1 or 2 years old at the time.

I graduated in 1980 from UNT with a B.S. in Computer Science. I immediately continued my education and received my M.S. in Computer Science from UNT in 1981. I was fortunate to see the Computer Science department grow up during those early years as it moved from Marquis Hall to the newly constructed GAB. I was also fortunate to be taught and mentored by some excellent professors such as Jim Poirot, Tom Irby, Dan Scott, Chuck Adams, Darrell Ward, Philip Crews, Don Retzlaff, and Kathleen Swigger. My degrees at UNT positioned me for an interesting and successful career. I am very proud of the two degrees I received while at UNT.

While I was a graduate student, I taught introductory classes for both the Computer Science department and the Mathematics department. This was a great opportunity for me to get over my fear of public speaking and it helped groom me for success in business. During the 1980/1981 school year, I was also selected as the UNT Eagle mascot and enjoyed participating in the exciting football and basketball games during those years.

My first job out of college was with E-Systems in Garland. I developed software for top-secret satellite reconnaissance systems. This was a fantastic position right out of college.

In 1986, I joined Nortel Networks in Richardson Texas at the very beginning of the advent of wireless networks. I had a very rewarding 15-year career there, rising from the ranks of junior software engineer to senior technical manager. I worked with teams to develop the software systems for popular wireless telecommunication technologies of today such as GSM and CDMA.

After the demise of Nortel, I joined Samsung America in Richardson, again leading teams in the development of modern wireless technologies. It is at Samsung where I began studying Agile Methods as a new way of developing software in a more

Andy Borman is Professor for a Day

Andy Borman received his M.S. in Computer Science from UNT in 2006. Currently Andy works for Radiant Systems, a supplier of POS systems for the Hospitality industry (restaurants) in the Software Solutions Group, providing rapid bug fixes for high profile customers under intense time pressure. Andy came back to UNT to be a "Professor for a Day" in four classes in March 2011 and talked to undergraduate students about "Developing for Maintenance — The weekend you save may be your own." See more pictures at <http://www.cse.unt.edu/site/node/327>.



iterative and customer-focused manner. I now have 10 years of experience using Agile Methods, am a Certified ScrumMaster, and am CEO and founder of a leading company Three Beacons (www.threebeacons.com) specializing in Agile Methods training and consulting.

Several years ago, I was asked to join WorldLink in Frisco Texas as Vice President of Mobile Technology and build their mobile apps product development division from scratch. Since joining a little over 2 years ago, our team has grown from 1 employee (me) to 35 and landed several lucrative contracts for mobile apps from client companies. Our team at WorldLink develops mobile apps for iPhone, Android, BlackBerry, Symbian, and Windows Mobile. I was also the vision creator, designer, and co-developer of a very popular suite of iPhone apps called "iTalk to God". A recent ground-breaking music app called "Madjef's MusicLab" was also designed and developed by our team under my direction and with collaboration from Grammy award-winning music producer Jeff Taylor.

During my career, I have been blessed to be able to travel all over the world coordinating teams and helping drive business - Germany, Sweden, Korea, India, Canada, and France. I am also the co-author of 6 issued patents on wireless technologies.

I owe a debt of gratitude to the great University of North Texas and the department of Computer Science for preparing me with a foundational knowledge of software programming and computer science principles. At this point in my career, I am ready to start giving back and helping others whenever and however I can. I would like to issue a challenge to other UNT Computer Science alumni to also start "giving back" to the university that has helped make it all possible!

While at UNT living in Clark Hall, I met my wife, Kelly Miller Hall. We have been married for 26 years and have three children. Two of our children (Jeremy and Jessica) will graduate from UNT this summer. Our youngest, Joshua, attends Abilene Christian University. So, as you can see, I have a lot to be thankful for in thinking back to my time at North Texas!

Share your news with other alumni! Send an email to: csenewsletter@unt.edu.

CSE Outstanding Students for 2010-2011

William Armke is the **Outstanding Undergraduate Student in Computer Science**. William is getting a B.S. in Computer Science with a minor in Mathematics. He is interested in computer graphics, and spends some of his free time learning about graphics hardware and programming with DirectX and OpenGL.



Farica Mascarenhas is the **Outstanding Undergraduate Student in Computer Engineering**. Farica is a junior working towards a B.S. in Computer Engineering with a minor in Mathematics and Management. She enjoys programming but she plans to specialize in Wireless Networks and Communication. Farica is an Engineering Ambassador in the College of Engineering.



Ning Luo is the **Outstanding Master's Student in Computer Science**. She defended her master's thesis "A Wireless Traffic Surveillance System Using Video Analytics" in Spring 2011 and will graduate in May. She will be looking for a job in California so that she can be with her family.



Okobiah Oghenekarho is the **Outstanding Master's Student in Computer Engineering**. He defended his master's thesis "Exploring Process-Variation Tolerant Design of Nanoscale Sense Amplifier Circuits" in Fall 2010 and received his M.S. in Computer Engineering at Fall Commencement. He is now pursuing his Ph.D. in Computer Science and Engineering with Dr. Saraju Mohanty.



Samer Hassan is the **Outstanding Doctoral Student in Computer Science and Engineering**. Samer is pursuing his Ph.D. in Natural Language Processing under Rada Mihalcea. He has published 12 articles at top tier conferences and received the "Best Student Paper" award from the IEEE International Conference for Semantic Computing. As part of his academic services, he served as guest editor for the Speech and Language Journal and co-chair of the TextGraph-4 Workshop. Additionally he served as a program committee member/reviewer for 15 conferences and workshops.



In the summer of 2010, Samer did an internship at the Google headquarters in Mountain View, California, where he was awarded the Google Ph.D. Intern Scholarship for the 2010-2011 academic year, which is granted to the top Ph.D. interns at Google. During his internship, he was also chosen to serve as a Google Student Ambassador at UNT, where he subsequently founded the Google Student Chapter organization.

Sign up for the UNT Computer Science Alumni Facebook page at <http://www.facebook.com/group.php?gid=72667678766&ref=mf>



To receive our newsletter by email three times a year, please register at:

<http://www.cse.unt.edu/site/node/71>

To update your information, go to:

<http://www.cse.unt.edu/site/node/70>

To see our alumni newsletter archive, go to:

<http://www.cse.unt.edu/site/node/69>

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