Greetings from the CSE Chairman

After eight years as the Chair, I am stepping down at the end of Summer 2009. I want to focus on the new NSF Industry/University Cooperative Research Center for Net-Centric Software and Systems and spend more time on my personal research and teaching. I am also exploring the possibility of spending a semester at the National Chiao-Tung University in Taiwan to establish stronger collaborations with faculty and industry there.

The CSE Department has made significant progress over the past several years, including growth of the degree programs, new and innovative programs, ABET Accreditation for Computer Science and Computer Engineering degrees, substantial increase in our graduate enrollments, nearly 10 fold increase in faculty research funding and publications.

The Dean of the College of Engineering will announce an interim Chair for 2009-2010 and launch a national search for a permanent Chair by Fall 2010. I want to thank you for your support and participation in CSE activities and I hope you will continue to help the next Chair and the CSE department.

Krishna M. Kavi

Net-Centric Software and Systems Center Seeks Industry Partners

The Net-Centric Software and Systems Center hosted a kickoff meeting of its NSF Industry University Cooperative Research Center (IUCRC) in February 2009. These research centers aim to promote cooperative research between industry and universities and are funded primarily through industrial memberships. The main objectives of the centers are:

- To pursue fundamental engineering and scientific research having industrial relevance.

- To produce graduates who have a broad, industry-oriented perspective of their research and practice.

- To accelerate and promote the transfer of knowledge and technology between university and industry.

The Center is seeking more industrial partners in addition to Boeing, Cisco, Codekko, EDS/HP, Fujitsu, GlobeRanger, Hall Financials, Lockheed Martin Aero, Raytheon, Texas Instruments and T-System. Academic members are the University of North Texas, the University of Texas at Dallas, and Southern Methodist University. For more information, go to http://netcentric.cse.unt.edu/.

UNT Approves New Centers

On April 1, the Provost and the Deans' Council approved the establishment of the **Net-Centric Software and Systems Center** and the Center for Computational Epidemiology and Response Analysis. Dr. Krishna Kavi proposed the Net-Centric Software and Systems Center to create cutting-edge software accessible over electronic networks. For more information, go to http://netcentric.cse.unt.edu/.

The Center for Computational Epidemiology and Response Analysis (CeCERA) will bring together the Departments of Geography, Computer Science and Engineering, and Biology, and the UNT Health Science Center's Department of Biostatistics. Dr. Armin Mikler, Associate Professor in the CSE Department, is Director of CeCERA. In 2005, Dr. Mikler founded CERL (Computational Epidemiology Research Laboratory) which was the seed for the CeCERA. For more information on this new center, go to http://cerl.unt.edu/.

Robocamps Offered in Summer 2009

The popular summer program, Robocamp, is entering its fifth year with new offerings and more camps than ever before. The Introductory Robocamp lasts five days with 2.5 days spent directly on Robotics and the remaining time spent on engineering design, critical thinking and programming topics—all with numerous hands-on activities and experiments. Four Robocamps are open-enrollment and an additional two Robocamps will be closed enrollment for students in the Carrollton ISD. The group will also conduct a two week camp for underprivileged middle and high school students at the Stewpot in downtown Dallas. Students who have previously attended Robocamp can attend a three day Advanced Robotics camp. A two day Robocamp will also be held for counselors and teachers.
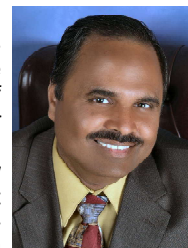
New this year is an Xbox Game Development camp. The Texas Higher Education Coordinating Board awarded $11,111 to add a pilot one-week game design and programming Robocamp. The camp will be organized around team, project-oriented activities that utilize a number of resources, including laptops, XNA Framework (which is provided by Microsoft), and Xbox 360 gaming consoles.
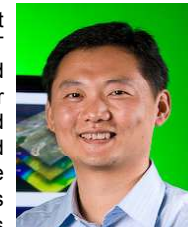
All camps are free, thanks to the Texas Workforce Commission Youth in Technology Program and the Texas Higher Education Coordinating Board. Other grants have been received from Motorola and the Dallas Women's Foundation. For more information and a complete listing of Robocamps for summer 2009 please visit:http://www.cse.unt.edu/robocamp.

UNT Research features three CSE faculty members

The research of **Dr. Ram Dantu**, Associate Professor, is featured on the cover of the Spring 2009 edition of *UNT Research*. "Computer Scientists Overhaul 911 System to keep up with new Technology" is about Dr. Dantu's work with a multi-university team experimenting on the next generation of 911 services which will address the challenges presented by Internet-based phones and other emerging technology.

Dr. Xiaohui Yuan, Assistant Professor, was one of two UNT faculty members who received the 2008 Ralph E. Powe Junior Faculty Enhancement Award from Oak Ridge Associated Universities. Dr. Yuan was one of only 30 faculty members nationwide to receive this award, which is aimed at enriching the research and professional growth of young faculty. Read more about Dr. Yuan in the awards section in *UNT Research*.

Assistant Professor **Dr. Saraju Mohanty's** three-year NSF grant for "A Comprehensive Methodology for Early Power-Performance Estimation of Nano-CMOS Digital Systems" will study the power and performance of digital systems through computer-aided design modeling. You can read these articles about our CSE professors in *UNT Research* at http://www.unt.edu/untresearch.

BA in IT Nominated for Award

The new **BA in Information Technology** is off to a great start with over 50 students this year. The program was nominated for one of the STEP (Successful Transfer Enhancement Programs) Awards and received the Silver award in the area of Curricular Development. This recognition for this new program is due to the efforts of our undergraduate advisors, Dr. Kavi, and our Advisory Council for their vision in moving the CSE department into this new growth area with such success. Mr. David Keathly deserves recognition for expanding on the courses that can be transferred to this program

We expect the enrollments in this program to grow quickly as it is already popular at the area community colleges. Currently a large number of new students at the UNT Dallas Campus are enrolling in this new program and attending classes with their Denton counterparts via video conference.

CSE Research Lab News

The **VLSI Design and CAD Laboratory** (VDCL) had its first Ph.D. graduate with VLSI specialization. Dr. Dhruva Ghai graduated in May 2009 with a Ph.D. in Computer Science and Engineering. Dr. Ghai defended his dissertation, "Variability Aware Low Power Techniques for Nanoscale Mixed Signal Circuits" in February 2009.

Dr. Dhruva Ghai (center) following his graduation with Dr. Kougianos (left) and Dr. Mohanty (right)

Dr. Saraju Mohanty served as the "publication chair" of IEEE Computer Society Annual Symposium on VLSI (ISVLSI) held in Tampa, Florida, in May 2009. Dr. Mohanty was session chair at the 10th IEEE International Symposium on Quality Electronic Design (ISQED) in San Jose, CA in March 2009.

Dr. Saraju Mohanty presented an invited talk titled "Unified Challenges in Nano-CMOS High-Level Synthesis" at the 22nd IEEE International Conference on VLSI Design held in New Delhi, India, in January 2009. In addition, he presented a paper titled "Single Ended Static Random Access Memory for Low-Vdd, High-Speed Embedded Systems" in the same conference.

VDCL also had two presentations at the 27th IEEE International Conference on Consumer Electronics held January 2009 in Las Vegas. Ph.D. graduate, Dhruva Ghai, presented these two papers. Dr. Mohanty and Dr. Ghai presented several papers at ISQED 2009. During May 2009, Dr. Ghai presented his last paper as a UNT student at 19th ACM/IEEE Great Lakes Symposium on VLSI (GLSVLSI) in Boston.

For more news about the VDCL, go to: http://vdcl.cse.unt.edu/.

Dr. Sae Hwang who has been working as a post-doc for the **Multimedia Information Group** (MIG) got a faculty position at University of Illinois at Springfield. The MIG (http://mig.cse.unt.edu/) have had its first Ph.D. students, Ruwan Dharshana Nawarathna and Jayantha Kumara Muthukudage as research assistants. Two MS students, Avnish Malik Rajbal, and Venkata Praveen Karri, have successfully completed their master theses, and will graduate this summer.

Dr. JungHwan Oh served on program committees for the 2nd International Workshop on Ontologies and Information Systems for the Semantic Web (ONISW 2008) in conjunction with ACM 17th Conference on Information and Knowledge Management (CIKM 2008), Napa Valley Marriott Hotel & Spa: Napa Valley, California, October 26-30, 2008. Also, he served as session chair for International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Vancouver, British Columbia, Canada, August, 2008.

In this past year, MIG have published one journal and three conference papers as follows; "Measuring Objective Quality of Colonoscopy" in IEEE Transactions on Biomedical Engineering (accepted for publication), "Stool Detection in Colonoscopy Videos" in Proc. of International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Vancouver, British Columbia, Canada, August, 2008, "Edge Cross-Section Features for Detection of Appendiceal Orifice Appearance in Colonoscopy Videos" in Proc. Of International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Vancouver, British Columbia, Canada, August, 2008, and "Bleeding Detection from Capsule Endoscopy Videos" in Proc. of International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Vancouver, British Columbia, Canada, August, 2008.

Three new grants have been funded from the National Science Foundation, Texas ARP/ATP, and University of Bridgeport in Connecticut as follows; "Video Analysis Techniques for Computer-Aided Quality Control for Colonoscopy" from NSF STTR (University partner), "Computer-aided Diagnosis for Gastrointestinal Bleeding using Wireless Capsule Endoscopy" from Texas ARP/ATP, and "Developing Smart View Module in Wireless Capsule Endoscopy Videos" from University of Bridgeport.

Back row (L-R): Ravi Sinha, Hakan Ceylan, Samer Hassan, Ben Leong, Naveen Kovelamudi, Michael Mohler
Middle row: Carmen Banea, Rada Mihalcea, Tze-I Yang
Front row: Miguel Ruiz, Kino Coursey, Paul Tarau

The **Language and Information Technologies** group (LIT) is co-organizing several research events, including the conference on "Empirical Methods in Natural Language Processing" (Rada Mihalcea, co-chair), "TextGraphs-4: Graph-based Methods for Natural Language Processing" (Samer Hassan, co-chair), and "User-contributed Knowledge and Artificial Intelligence: an Evolving Synergy," (Rada Mihalcea, co-chair). Several publications by the members of the LIT group have recently been accepted for publication:

• Kino Coursey and Rada Mihalcea's paper "Using Encyclopedic Knowledge for Automatic Topic Identification," will appear in the Proceedings of the Conference on Natural Language Learning (CONLL 2009).

• Rada Mihalcea and Ben Leong's paper "Toward Communicating Simple Sentences using Pictorial Representations," will appear in the Journal of Machine Translation, published by Springer.

• In joint work with Diana McCarthy (U. Sussex), Ravi Sinha and Rada Mihalcea's paper on "SemEval-2010 Task 2: Cross-Lingual Lexical Substitution," will appear in Proceedings of the NAACL Workshop on Semantic Evaluations (SEW 2009).

• In joint work with Yaw Gyamfi, Janyce Wiebe, and Cem Akkaya (U. Pittsburgh), Rada Mihalcea's paper on "Integrating Knowledge for Subjectivity Sense Labeling," will appear in Proceedings of the North American Chapter of the Association for Computational Linguistics (NAACL 2009).

For more information about the LIT group, go to: http://lit.csci.unt.edu.

UNT CSE Alumni on Facebook

The UNT Computer Science Department now has a presence on **Facebook** (http://www.facebook.com). You can visit our Facebook page and become an alumni friend by visiting:

http://www.facebook.com/group.php?gid=72667678766

The department doesn't have a lot out there yet, but we're trying to grow. Let us know what you think we should add to the site. Facebook has several other UNT Alumni pages, including the UNT Alumni Association. You can visit their page at http://www.facebook.com/pages/Denton-TX/UNT-Alumni-Association/41451208451. Meet old friends by joining the CSE Alumni Facebook now!

UNT's **Laboratory for Recreational Computing** (LARC), directed by Professor Ian Parberry (right), is now in its 16th year of operation. With the news that Christopher Jantze landed a game programming job at Zynga developing games for Facebook and Myspace, LARC now has had 50 alumni get jobs in the game industry. For a full list of LARC alumni in the game industry, see http://larc.unt.edu/alumni.html.

For the sixth consecutive year, Microsoft has named Dr. Ian Parberry its Most Valuable Professional (MVP) in the Windows-XNA/DirectX category. In April 2009, Dr. Parberry attended FDG '09, the International Conference on the Foundations of Digital Games. Dr. Parberry was

named Associate Editor of two new academic journals, *Entertainment Computing IEEE Transactions on Computational Intelligence and AI in Games*.

In Spring 2009, a Master's level track in game programming was approved. Beginning in Fall 2009, a Certificate in Game Programming will be offered to undergraduate students. For more details and all the news about the Laboratory for Recreational Computing, please go to: http://larc.unt.edu/.

Alumni Focus: Etta Clark

Etta attended UNT from 1978 to 1980. In addition to her coursework, Etta also worked as a student assistant to Dr. Jim Poirot and Don Retzlaff. After graduating with a Bachelor of Science in Computer Science she joined Texas Instruments. She worked as a systems analyst in the Equipment Group supporting cross-platform data conversions for printed wiring board manufacturing and design.

While the work at TI was intellectually challenging it lacked a "connection" to everyday life, so in 1983 she joined Frito-Lay to develop sales and food service applications. Soon she was involved in using satellite maps, onboard computers, and route engineering algorithms to improve efficiency and productivity in the route sales environment. She was a technical lead on Frito-Lay's first handheld computer project that eliminated paper-based ordering and delivery processes for over 10,000 sales associates. This project led to an interest in networks and assignments delivering distributed networks, VSAT, frame-relay, and LAN infrastructure projects for over 250 locations.

Etta represented Frito-Lay in Uniform Code Council (UCC) projects to develop and pilot DEX which enabled direct exchange of data between supplier and retailer's handheld devices and UCCNet, a data standard and protocol for the exchange of product data between manufacturers and retailers. Her team also delivered electronic commerce solutions and web services in the business to business (B2B) computing space.

Working in a business that is consumer driven and constantly changing, Etta has had the opportunity to participate in a number of key business initiatives including PepsiCo's consolidation of divisional IT departments into a shared services function, Tropicana and Quaker IT integration teams, international infrastructure and application deployments. She also contributed to the SAP business case analysis, application portfolio development, and corporate data strategy.

Etta is currently the Director of End User Services for PepsiCo. In this role she manages the technical helpdesk for the US and Canada, engineering and support for client computing devices, productivity software and world-wide directory and messaging services. The team is focused on leveraging new computing platforms, collaboration products, and cultural practices to accelerate innovation, enable broader engagement, and improve productivity.

In addition to her technical interests, Etta is a steering committee member for the Parkwood Women's Initiative Network and an active participant in mentoring and career development, Habitat for Humanity and Meadows Elementary Head Start programs. She is a member of the Cheesy Riders Cycling team that raises money in the fight against multiple sclerosis. She is a breast cancer survivor and advocate.

Etta has been married for 31 years to Cyrus Clark, an electrical engineer. They have two daughters, Rebecca (19), and Rachel (15). They live in Plano, Texas.

Research Lab News (continued)

Since the beginning of spring 2009, the members of our **Network Security Lab** have been involved in several activities including security competition and research studies. Our research area has recently expanded from Network Security and Privacy to Social computing and Ubiquitous computing. Our research is thus composed of an interdisciplinary blend of computational science, sociology, psychology, and statistics. We have worked with local collaborators such as Denco Area 9-1-1 District to overhaul 9-1-1 system, top hi-tech companies like British Telecommunications (UK) to develop new phone services, and privilege institutions like UT-Dallas, UC-Davis, Texas A&M, Columbia University, and MIT Media Lab. During spring 2009, we have "discovered the power of ideas" and accomplished the following:

• **Paul Sroufe** received Outstanding Graduate student in Computer Science award of 2009. He is currently working on developing a new framework for e-shape analysis. He presented his paper, "Email Shape Analysis for Botnet Detection," at IEEE CCNC'09 conference in January. Paul participated in the 2009 Collegiate Cyber Defense Competition at Texas A&M. He is expected to graduate in December 2009.

• **Santi Phithakkitnukoon** received Outstanding Ph.D. student in Computer Science and Engineering award and Who's Who award of 2009. He has research interest in Intelligence Computing, which involves applying state of the art techniques in artificial intelligence, cognitive science, and allied disciplines. In March, he presented his work entitled "Dimension-Reduction Framework for Human Behavioral Time Series Data" at Stanford University in AAAI 2009 symposium. In June, his work entitled "Defense against SPIT using Community Signals" will be presented at IEEE ISI 2009 conference in Dallas, TX.

• **Enkh-Amgalan Baatarjav**, a Ph. D. student in CSE, has been working on Protecting Privacy in Online Social Networking such as Facebook, MySpace, and Twitter. His paper proposing a new privacy management system for Facebook based on Bayesian Belief Net has been accepted and to be presented at IEEE ISI 2009 conference in June.

• **Vikram Chandrasekaran** is a Masters student in computer Science specializing in Computer Networks. His core areas of research are P2P Communication, VoIP, and LoST in emergency services. He has been working on "Hole Specifications for LoST boundary service" and setting up the stages for developing a LoST client in Android G1. He is planning for his graduation in spring 2010.

• **Huiqi Zhang**, a Ph.D. candidate, is working on social networks modeling and focusing on quantifying social relationships based on call detail records. His paper "Opt-in Detection based on Call Detail Records" has been published in IEEE CCNC 2009 conference. His paper "Change Point Detection based on Call Detail Records" will be presented at IEEE ISI 2009 conference, during June 8-11, 2009 in Dallas.

We have a new member, **Neeraj K. Gupta**, joining us this summer as a full-time Ph.D. student in CSE. Neeraj has worked in the telecom industry for about 23 years in AT&T Bell Labs, Lucent, and Alcatel and Dialogic. He has worked in several areas of telecom, including Call Processing, Real-Time Fault tolerant designs, protocol stacks etc for ISDN, SS7, and Wireless and VoIP technologies.

For more information about the Network Security Lab, go to http://nsl.unt.edu.

The **Global Software Development** team completed a project with students from Atilim University in Turkey, Technological University of Panama, and the University of North Texas. Students at UNT were the project team leaders, while students in Panama were responsible for creating a database for a bookstore inventory system and Turkish students created the interface.

Dr. Kathleen Swigger receives the Best Paper award on behalf of the Global Software Development team.

Recent publications by the group has resulted in a "best paper" award for their paper on "Interaction Patterns among Global Software Development Learning Teams," presented at the International Conference on Collaborative Technologies and Systems, and a "best paper nomination" for their paper on "Structural Factors that Affect Global Software Development Learning Team Performance," at ACM's Special Interest Conference on Group Management Systems.

News from the **Information and Knowledge Management and Discovery Lab** -- Dr. Yan Huang is serving as the treasurer of The *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems* 2009. *ACM SIGSPATIAL* is the newly founded special interest group of the Association for Computing Machinery.

Ph.D. student Chengyang Zhang is going to Microsoft Research China for a summer research internship. He is going to work with the "Web Search and Mining" group on projects related to "*GeoLife: a location-based social-networking service on Microsoft Virtual Earth*". Chengyang also has a short paper titled "A Natural Language Interface for Crime-related Spatial Queries" to appear in the proceedings of the *IEEE Intelligence and Security Informatics* in Dallas in June 2009. This is a joint work with Dr. Yan Huang, Dr. Rada Mihalcea, and undergraduate student Hector Cuellar.

Master student Cai Chen successfully defended his master's thesis titled "Developing a Wildlife Tracking Extension For ARCGIS" and graduated this May.

Ph.D. student Roopa Vishwanathan will present a full paper titled "A Two-level Protocol to Answer Private Location-based Queries" at the *IEEE Intelligence and Security Informatics* in Dallas in June 2009.

A journal paper titled "Integration of Wireless Sensor Networks in Environmental Monitoring Cyber Infrastructure" as part of the TEO project (http://www.teo.unt.edu/) co-authored by Jue Yang, Chengyang Zhang, Xinrong Li, Yan Huang, Shengli Fu, and Miguel Acevedo has been recently accepted by the *Journal of Networks*.

Don Retzlaff Celebrates 30 Years

Don Retzlaff, lecturer in the Department of Computer Science and Engineering, is celebrating his thirtieth (that's 30th!) anniversary with the department and the university. Don was hired by the department's chairman, Dr. Jim Poirot, in 1978. Don has now been in the department longer than any other current faculty member.
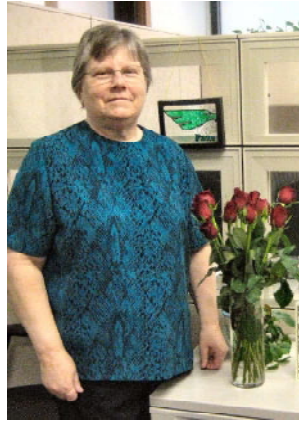
Over the years, Don has taught a variety of undergraduate courses. He is best known for teaching 4410/4420 (Software Development) and various programming language lab courses, including 1020, 2050, 3300, and 3410. In addition to his teaching duties, Don is the department's webmaster, a position he's held since the department has had a presence on the web, and he assists Genene Murphy with the creation and distribution of both the student and alumni newsletters.

His current plans are to retire as soon as financially possible (which may be a while due to the current economy) and continue teaching half-time under the university's Modified Service program.

When away from teaching, Don enjoys being with his wife Elisa, their four cats (their kids), writing, photography, and traveling.

Pam Vincent retires

Pam Vincent has been the Front Office Manager and Student Worker Supervisor for the Department since June 1990. She has worked with four chairs: Drs. Fisher, Godwin, Jacob, and Kavi. Pam has been a continuing force in the department through all these years.

Outside of UNT, Pam loves spending time working in her yard. In retirement, Pam will help her two older sisters, work on family history, travel to visit relatives, and perform volunteer work with the Humane Society and Habitat for Humanity. She also plans to go hiking and swimming with her nieces and nephews.

Thank you, Pam, for your service to our Department of Computer Science and Engineering! You can see pictures of Pam's retirement party in the Media Gallery on the CSE website.

David Keathly named IEEE Region 5 Chapter Activities Coordinator

David Keathly was nominated and accepted a position on the International IEEE Computer Society Chapter Activities Board as the Region 5 Chapter Activities Coordinator.

He will work with other regional coordinators from around the world to assist new chapter formation, ongoing chapter activities and professional development throughout our Region. Region 5 covers the Southwestern U.S. from Texas north to Kansas and Missouri and west to Colorado and the Dakotas and east to Louisiana.

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