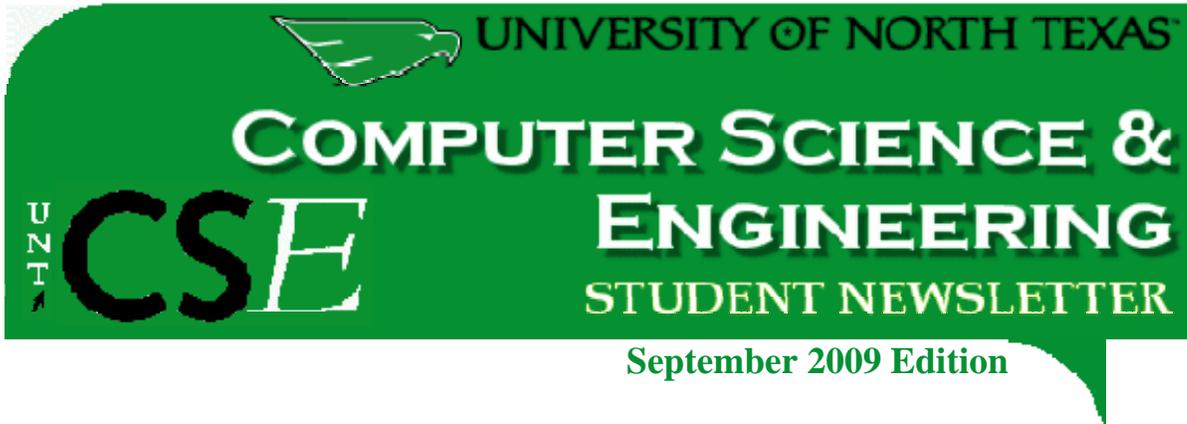


Mohanty, Saraju

From: csnewsletter@unt.edu
Sent: Tuesday, September 22, 2009 10:52 AM
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Department of Computer Science and Engineering News

Rada Mihalcea wins national award
Another Record Summer for UNT CSE RoboCamp Program
B.S. in Computer Science Accreditation Upcoming
Welcome Dr. Gomathisankaran
Yan Huang and Phil Sweany receive tenure
College and University Establish Career Track for Lecturers — CSE Faculty Members Promoted
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Advisor's Corner - Professional and Honor Societies
ACM Meeting on September 25
Students can get help at the CSE Help Lab
SWE Invites You to Join

College of Engineering News

Meet the Associate Dean for Undergraduate Studies, Dr. Vijay Vaidyanathan
Dr. Kuruvilla John named Associate Dean of Research and Graduate Studies
CENG Career Fair on September 24

Greetings from the CSE Interim Chair

Principal lecturers may hold up to five-year appointment contracts, which are renewed annually.

Congratulations to all of our outstanding lecturers! ↑

Net-Centric I/UCRC Meeting on October 8-9

The **Net-Centric Industry/University Cooperative Research Center** administration has announced that its next Industrial Advisory Board meeting will be held October 8-9, 2009. The meeting will be held at the Courtyard by Marriott at Legacy, 6840 North Dallas Parkway, Plano, TX 75024.



Industry/University Cooperative Center concept, meet current members, hear about current research projects undertaken by the center, and meet students and faculty researchers working on these projects. There is no registration fee to attend the meeting, but registration is required. Please register at <http://netcentric.cse.unt.edu/register/>.

Dr. Krishna Kavi, Professor in the Department of Computer Science and Engineering, is one of the founders of this NSF supported center. More information is available at <http://netcentric.cse.unt.edu/>. ↑

Dr. Saraju P. Mohanty receives multiple research grants from NSF and SRC for his Low-Power Research

Dr. Saraju P. Mohanty, received a NSF (National Science Foundation) research grant to support his research in nanoscale CMOS device and architecture modeling. The project titled "Infrastructure Acquisition for Statistical Power, Leakage, and Timing Modeling Towards Realization of Robust Complex Nanoelectronic Circuits" received funding of \$249,265 and will span over 2009-2012. Accurate modeling of power, leakage, and timing while accounting for process variations is crucial for the manufacturable design of nanoscale CMOS integrated circuits. Thus, there is a pressing need for statistical models that allow design engineers to make fast architectural or system level design space exploration without resorting to a complete design iteration, from system to physical level.



The research is applicable in everything from mobile phones to laptop computers to PDAs to automobiles in which battery life or energy cost is critical. While the new NSF grant deals with "nano-CMOS modeling," the other active NSF grant of Dr. Mohanty (titled "A Comprehensive Methodology for Early Power-Performance Estimation of Nano-CMOS Digital Systems") deals with "nano-CMOS estimation". In addition, Dr. Mohanty internationally collaborates with the University of Bristol in a closely related project titled "Process Variation Aware Synthesis of Nano-CMOS Circuits", funded by Engineering and Physical Sciences Research Council (EPSRC), UK which deals with "nano-CMOS synthesis".

The educational impact of the project is three-fold: impact on curricula at UNT, impact on curricula of other researchers who will use this infrastructure, and impact on the community colleges around the Dallas-Fort Worth metroplex. To conduct research on nanoscale CMOS modeling that can be used for realization of robust circuits, and to make the deliverables available to the VLSI and educational communities, the project utilizes the following infrastructure:

1. Specialized equipment: mixed-signal analyzer, probing station and arbitrary waveform generator for sample data collection, probing and analysis for model validation.
2. Computing resources: a high-end, 4 processor server with 16-GB local memory and 4-TB RAID5 storage to be used by two faculty members and 10 students for nanoscale data acquisition, control, analysis, and storage.
3. Research and development personnel to develop the models and libraries, to validate the methodology, and to maintain the infrastructure.

For further natural progression of his research from power to thermal aspects, Dr. Mohanty received a SRC (Semiconductor Research Corporation) research grant. The project titled "Fast PVT-Tolerant Physical Design of RF IC Components" received funding of \$105,000 and will span over 2009-2012. In this project, Dr. Mohanty will study the effect of temperature on Radio Frequency (RF) circuits which are present in all consumer appliances, such as mobile phones and remote controls.

For more information on VDCL, go to <http://www.cse.unt.edu/~smohanty/>. ↑

Multimedia Information Group receives NIH grant



Multimedia Information Group
(L-R) Jayantha Kumara, Praveen Karri, Dr. Junghwan Oh, Ruwan Nawarathna

Dr. JungHwan Oh is one of five PIs (from Mayo Clinic, Indiana University Hospital, Iowa State University and University of North Texas) to be awarded a National Institutes of Health (NIH) grant for a research project entitled "Improving Colonoscopy Quality Through Automated Monitoring." Dr. Oh's Multimedia Information Group will receive \$190,000 of a \$700,000 grant. Colorectal cancer is the second leading cause of cancer-related deaths in the United States, claiming more than 50,000 lives in 2006. Colonoscopy is currently the preferred screening modality for colorectal cancer. However,

Convergence Technology Center partnership extended by NSF Grant

UNT CSE's partnership was extended for three years as part of a recent NSF ATE Grant. The grant totaled \$994,000 of which UNT will receive approximately \$60,000 in direct funding during the new three year period, and benefit from almost \$300,000 in programming, curriculum development and conference opportunities available to member entities, including UNT CSE faculty and students. Co-PI **David Keathly** has been involved with the center under a previous supplemental award totaling about \$20,000.



The CTC promotes the development of careers paths and education in convergence technologies - technologies that bring together voice, data, video and other media in a single network or delivery medium - throughout the community college systems in the US via curriculum development and a unique mentoring program.

UNT joined the center to promote "convergence" of these programs with four year degrees such as the new BA in Information Technology. During the next three year period, the center will be promoting Green IT through a number of initiatives. UNT faculty will take the lead in developing curriculum for mobile device applications development, as well as their use in educational settings. ↑

Dr. Paul Tarau presents paper in Portugal

Dr. Paul Tarau has presented on September 7, 2009 in Coimbra, Portugal the paper "An Embedded Declarative Data Transformation Language" to appear in the "Proceedings of 11th International ACM SIGPLAN Symposium, PPDP 2009". This is part of a new research direction combining declarative programming languages and computational mathematics, that has resulted in two other recent paper presentations in July at the "Intelligent Computer Mathematics, 16th Symposium, Calculemus 2009" in Grand Bend, Canada and a paper at the "ACM Symposium on Applied Computing, SAC 2009" in Honolulu, Hawaii. ↑



Student News

Two Ph.D. Graduates in Computer Science and Engineering

Dhruva Ghai received his Ph.D. in Computer Science and Engineering at the Spring 2009 UNT graduation. Dr. Saraju Mohanty and Dr. Elias Kougianos were his major professors and advised his dissertation: "*Variability-Aware Low-Power Techniques for Nanoscale Mixed-Signal Circuits.*" He was the first Ph.D. graduate with VLSI specialization. Dr. Ghai is now working as an adjunct instructor for the Department of Computer Science and Engineering.



(L-R) Dr.Kougianos, Dr.DhruvaGhai and Dr.Mohanty



Dr.ArminMikler with CourtneyCorley

Courtney Corley received his Ph.D. in Computer Science and Engineering in August 2009 at the UNT Summer graduation. Dr. Armin R. Mikler was his major professor. The title of his dissertation was "*Social Network Simulation and Mining Social Media to Advance Epidemiology.*" Courtney is currently working as a research associate in the Knowledge Systems Group at Pacific Northwest National Laboratory located in Richland, WA. He is grateful

for the opportunities that UNT provided. He added many people he has met in Washington are familiar with UNT's research in various domains. ↑

Advisor's Corner - Professional and Honor Societies

The Fall semester once again brings the opportunity for students to become involved in a variety of professional societies, special interest groups and honor societies. These organizations can benefit you in a number of ways.



CSE Advisors DavidKeathly and RyanGarlick

- Provide an opportunity to meet students with similar interests to form study groups, project teams and friendships
- Gain experience as a leader which will benefit you in your future career
- Network with faculty and industry professionals in your own areas