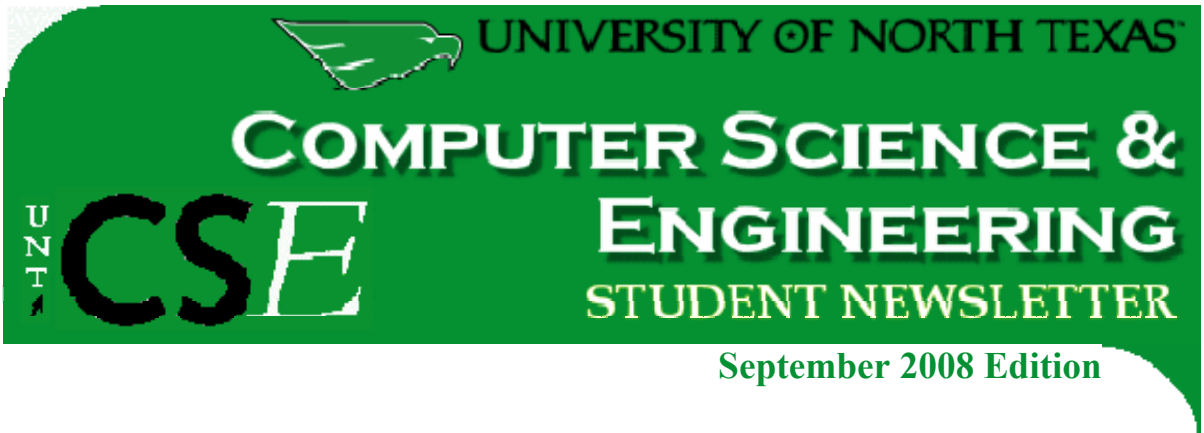|	
From:	owner-lecturers@cs.unt.edu on behalf of newsletter@cse.unt.edu
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UNIVERSITY OF NORTH TEXAS

COMPUTER SCIENCE & ENGINEERING

STUDENT NEWSLETTER

September 2008 Edition

Department of Computer Science and Engineering News

Student News

College of Engineering News

Greetings from the CSE Chairman

Dear CSE Students,

I am pleased to begin this year by sharing with you that our B.S. in Computer Engineering has been accredited through 2014. It is very rare that a new program receives full accreditation. I think we should be proud of this achievement. You can read about this and other department news below. Robocamp was a big success this year and plans are being made for next summer. Congratulations to Robert Akl, Ram Dantu, and Rada Mihalcea: all received tenure and were promoted to Associate Professor for this academic year.

Our Department of Computer Science and Engineering is growing.
While our enrollment is holding steady with about 632 undergraduates and 167 graduate students, our new B.A. in Information Technology program has added over 30 new students to our department. This program was initiated by our CSE Advisory Board and developed by our faculty over the past two years so we are excited to welcome these new students to our CSE family.

I invite you to get involved in CSE and participate in our many activities. In the Advisor's Corner below, you can read about the many ways to join in. You can try out for a CSE programming team. There are many organizations sponsored by the department and the College of Engineering that you can take an active part in. We want you to enjoy the benefits of being a student at UNT.

I hope you have a good semester and I look forward to seeing you around the CSE department.

Krishna M. Kavi
Professor and Chair

Department of Computer Science and Engineering News

B.S. in Computer Engineering Receives Full Accreditation

ABET (Accreditation Board for Engineering and Technology) has notified us that our B.S. in Computer Engineering program has received accreditation through 2014 and that we will be evaluated again in 2013 to extend the accreditation. It is very rare that a new program that started in 2003 and graduated its first class in 2007 receives full NGR. Next General Review means that there were no deficiencies or weaknesses in our B.S. in Computer Engineering program.

In 2007, ABET reviewed our Self-Study. Last Fall, ABET visitors came to our CSE department to review our program, including all course materials for undergraduate classes. They also met with faculty, alumni, and students about the new program. Thanks to everyone who participated in these discussions. At the end of their time here, the visitors found no deficiencies or weaknesses. They had only three minor concerns for the program that have

already been addressed. During the summer, ABET approved the visitors' recommendations that our program receive full NGR.

Now the CSE Department must prepare for our accreditation review for the B.S. in Computer Science. Faculty will be collecting materials from classes this year. A Self-Study for Computer Science will be written in Spring 2008. Dr. Robert Akl is the new Chair of the Undergraduate Studies Committee and he will be leading this effort for reaccreditation of our B.S. in Computer Science program. ↑

UNT Receives $473,000 Grant for New Center

The University of North Texas has been awarded a $473,000 grant from the U.S. Department of Health and Human Services to establish the Center for Computational Epidemiology. The Computational Epidemiology Research Laboratory (CERL) directed by **Dr. Armin Mikler**, Associate Professor in the Department of Computer Science and Engineering, will provide the computational backbone for the Center. The new Center will be led by Dr. Sam Atkinson, Director of the Institute of Applied Sciences, Dr. Mikler, and Dr. Joseph Oppong, Professor of Geography, and other collaborators at the UNT Health Sciences Center.

This grant will fund the construction of a simulation chamber that will be used to develop models and to train students and public health officials. A computer cluster will be installed at UNT's Discovery Park to run the simulation chambers. In addition, CERL will utilize a portable visualization system that can be used for research and demonstration purposes.

For more information on this new Center, please see this UNT press release. You can also visit CERL's website at http://www.cerl.unt.edu/index.html. ↑

Robocamp Completes 4th year and Receives 2nd Grant from Motorola Foundation

The CSE Robocamp program, administrated by **Dr. Robert Akl** and **David Keathly**, has received a second $30,000 grant from the Motorola Foundation. This grant, coupled with the second year funding from the Texas Workforce Commission Youth in Technology grant awarded in 2007, has assured that a full complement of camps in Denton, Dallas and surrounding communities will be held in the Summer of 2009.

In the Summer of 2008, a record number of camps were held, including ten youth camps and two adult camps for counselors and teachers. 2008 also marked the first year that camps were held for young men as well as young women. Robocamp has served over 400 young people since the program began in 2005.

The programs in the summer of 2009 will complete the fifth consecutive year for the program. Recent surveys of students who attended Robocamp and have subsequently graduated high school have shown a high percentage attending college in Science or Engineering disciplines, at least partly influenced by their camp experience. A detailed report

will be released during the Fall 2008 semester.

For more information about Robocamp 2009 and to see the picture gallery and music videos from Summer 2008, see our Robocamp website at http://www.cse.unt.edu/robocamp. ↑

Dr. Robert Akl Receives Professionalism Award

Dr. Robert Akl received the IEEE Fort Worth Professionalism Award at the MetroCon conference in August 2008. The Fort Worth Section IEEE recognized Dr. Akl for his efforts to promote the engineering profession through the UNT Robocamps.

Also, in May 2008, Dr. Akl received tenure and was promoted to the rank of Associate Professor. Congratulations to Dr. Akl on being promoted and receiving the Professionalism Award! ↑

Dr. Ram Dantu Named a Finalist

Dr. Ram Dantu has been named a finalist for the Innovator Award for the 2008 Tech Titan Awards given by the Metroplex Technology Business Council (MTBC). The Innovator Award recognizes the pioneering accomplishments of a person, team or group responsible for the creation of breakthrough ideas, processes or products which have advanced the discipline(s) of the arts, education, electronics, energy, engineering, environment, medicine, and/or science.

The MTBC is an association of technology companies dedicated to the development of the high-tech industry in North Texas. The Tech Titans Awards will be given out on Friday, September 26, 2008. For more information see this MTBC Finalists website.

In addition, Dr. Dantu received tenure and was promoted to the rank of Associate Professor in May 2008. Congratulations to Dr. Dantu! ↑

Mr. Keathly Receives Sub-Award from Convergence Technology Center at Collin College

David Keathly, Lecturer and Advisor in CSE, has received an award of approximately $11,000 for one year from the Convergence Technology Center at Collin College as part of their NSF grant that seeks to sponsor and promote Convergence Technology education in Texas and other regions of the United States.

As part of this award, Keathly has joined the Center's Leadership Council to provide input and direction on curriculum, policy and related issues. He will also be working with Center faculty to develop custom degree programs and transfer agreements to streamline the process for students to transfer from Collin College, and other program schools, to UNT in the new B.A. in Information Technology degree.

Keathly says "the Convergence students are a perfect fit for our new degree program, and they are able to bring a much larger percentage of their class credits into that degree than any other program available." Keathly will also participate in a number of conferences and workshops as a speaker and presenter on transfer issues and IT curriculum.

The Center is currently seeking a three year follow-on award for their programs, which will include continued involvement by UNT CSE and Mr. Keathly. ↑

News from the VLSI Design and CAD Laboratory
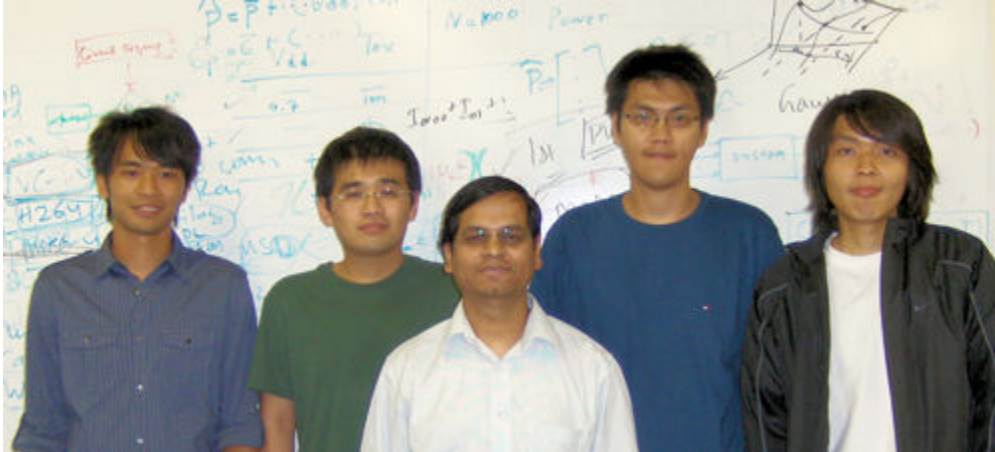
(L-R) Shu-Song Chen, Li-Te Lee, Dr. Mohanty, Yu-Ting Pai, and Jih-Chieh Hsu

The **VLSI Design and CAD Laboratory** (VDCL, http://vdcl.cse.unt.edu) has reported that **Dr. Saraju P. Mohanty** was elevated to senior member of IEEE in May 2008. Senior member status is awarded to members who have at least 10 years of contributions to the profession. Only 8.1% of approximately 376,000 IEEE members have received this status.

Dr. Saraju Mohanty has published a book, *Low-Power High-Level Synthesis for Nanoscale CMOS Circuits*, along with co-authors Nagarajan Ranganathan, Elias Kougianos, and Priyadarshan Patra. This book addresses the need for analysis, characterization, estimation, and optimization of the various forms of power dissipation in the presence of process variations of nano-CMOS technologies. The authors show very large-scale integration (VLSI) researchers and engineers how to minimize the different types of power consumption of digital circuits.

The material deals primarily with high-level (architectural or behavioral) energy dissipation because the behavioral level is not as highly abstracted as the system level nor is it as complex as the gate/transistor level. At the behavioral level there is a balanced degree of freedom to explore power reduction mechanisms, the power reduction opportunities are greater, and it can cost- effectively help in investigating lower power design alternatives prior to actual circuit layout or silicon implementation.

The book is a self-contained low-power, high-level synthesis text for Nanoscale VLSI design engineers and researchers. Each chapter has simple relevant examples for a better grasp of the principles presented. Several algorithms are given to provide a better understanding of the underlying concepts.

The initial chapters deal with the basics of high-level synthesis, power dissipation mechanisms, and power estimation. In subsequent parts of the text, a detailed discussion of

methodologies for the reduction of different types of power is presented including:

- Power Reduction Fundamentals
- Energy or Average Power Reduction
- Peak Power Reduction
- Transient Power Reduction
- Leakage Power Reduction

Low-Power High-Level Synthesis for Nanoscale CMOS Circuits provides a valuable resource for the design of low-power CMOS circuits. It was written for Nanoscale VLSI design engineers and researchers; for students from senior undergraduate onwards in Computer Engineering, Electrical Engineering, and Computer Science interested in low-power VLSI.

Finally, we welcome a team of four researchers, Shu-Song Chen, Li-Te Lee, Yu-Ting Pai, and Jih-Chieh Hsu, who are here at UNT visiting VDCL. They are with the research group of Professor Shanq-Jang Ruan from National Taiwan University of Science and Technology. They have been funded by their university for up to a year to conduct research at VDCL in the areas of low-power digital design and digital watermarking. ↑

LIT Group News

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 Technology (http://lit.csci.unt.edu) group had an active summer. Among their accomplishments:

Carmen Banea, Rada Mihalcea, Janyce Wiebe from the University of Pittsburgh and Samer Hassan's work on machine translation for multilingual subjectivity analysis has been accepted for publication in the Conference on Empirical Methods for Natural Language Processing. Carmen and Samer will attend the conference this fall in Honolulu, Hawaii.

Kino Coursey will attend the American Society for Information Science and Technology in Columbus, Ohio, to present his work (joint with Rada Mihalcea and William Moen) on keyword extraction for learning object repositories.

Andras Csomai (now at Google, Inc.) and Rada Mihalcea's work on linking documents to

encyclopedic knowledge has been accepted for publication in the IEEE journal of Intelligent Systems, for a special issue on "Natural Language Processing for the Web."

Paul Tarau and Brenda Luderman's work on combinational logic synthesis has been published in the ACM conference on Computing Frontiers. Paul presented the paper this summer in Ischia, Italy.

Dragomir Radev from the University of Michigan and Rada Mihalcea's paper on networks and natural language processing will appear this fall in the journal of Artificial Intelligence.

In other news, Hakan Ceylan has completed an interesting summer internship at Yahoo! in Sunnyvale, California. The LIT group welcomes back Ben Leong. After completing a Masters degree at the University of Delaware, Ben came back to UNT to work on his Ph.D. He is the recipient of a Ph.D. fellowship from the Graduate School.

Rada Mihalcea has recently received an NSF grant to support a research project to explore the relation between words senses and subjectivity analysis. In addition, she also received tenure and was promoted to Associate Professor. ↑

New Faces in the CSE Department

Richard Goodrum is working on his Ph.D. in Computer Science and Engineering at Southern Methodist University with a research interest in Concurrent Flow (Graph Theory with applications in Social Networks). He received his B.S. and M.S. in Mathematics from the University of Houston.

Mr. Goodrum has been an Adjunct Professor for Southern Methodist University where he taught a course on Digital Computer Design. He has mentored numerous customers and colleagues in many different aspects of computing and taught industry courses on programming languages and operating systems including courses at the Naval Research Institute. Additionally, he taught several industry courses including a course on High Performance FORTRAN at the University of Singapore.

Mr. Goodrum spent over thirty years working in industry (Petroleum Exploration, Computer, Defense and Aviation) where he worked for Control Data Corporation, Compagnie Générale de Géophysique, HNSX Supercomputers, Alliant Computer Systems, MasPar Computer Corporation, Adaptive Solutions, Andrew SciComm, Lynx Real Time Systems, Alaiki, DNA Computing Solutions, and Sierra Nevada Corporation/PMI Business Unit.

Mr. Goodrum works with embedded, mini, mainframe and supercomputers. His experience includes scalar, vector, parallel and distributed computers. The vector computers had vector lengths from 64 to 65535 elements. The parallel computers had from 2 to 16,000 processors. These systems were SISD, SIMD and MIMD.

He is teaching CSCE 3030, Parallel Programming; CSCE 3612, Embedded Systems Design; and CSCE 4620, Real-Time Operating Systems for the CSE Department.

John Taber joins our CSE Department as an adjunct professor. Dr. Taber holds a B.S. in Civil Engineering from Lafayette College, an M.S. in Engineering from Princeton University and a Ph.D. in Engineering from Utah State University where his research concentrated in decision support systems.

Dr. Taber has taught as an adjunct professor at Lafayette College, Lehigh University, Penn State University, Brigham Young University, and Utah State University. Meanwhile, he runs a consulting engineering firm and a software development company that specializes in applying intelligent systems to highway and city planning. Research interests include expert systems, artificial intelligence, and GIS. Dr. Taber is also active in the open source software community.

This semester Dr. Taber is teaching CSCE 2050. Dr. Taber's website is located at http://www.cse.unt.edu/~jtaber/. ↑

Student News

Two Ph.D. Graduates in Computer Science

Andras Csomai received his Ph.D. in Computer Science at the Spring 2008 UNT graduation. Rada Mihalcea was his major professor and advised his dissertation: "Keyword in the Mist: Automated Keyword Extraction for Very Large Documents and Back of the Book Indexing." on Friday, March 28, 2008. Andras is now working for Google in Mountain View, CA.
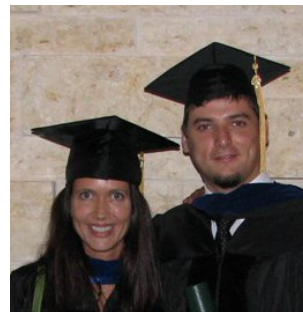
Rada Mihalcea and
Andras Csomai at graduation

Vandana Gunupudi received her Ph.D. in Computer Science in May 2008 at the UNT graduation. Stephen R. Tate was her major professor. The title of her dissertation was "Exploring Trusted Platform Module Capabilities: A Theoretical and Experimental Study." Vandana has accepted a position as a Software Design Engineer for Microsoft in the Seattle, WA area. ↑

Dr. Armin Mikler with
Vandana Gunupudi

Santi Phithakkitnukoon Receives Award

Santi Phithakkitnukoon, a CSE doctoral student, has received one of the Toulouse School of Graduate Studies Thesis and Dissertation awards for support to begin in Fall 2008. The Thesis and Dissertation awards support outstanding masters or doctoral students who have achieved candidacy and are in the last year of actively working on their thesis or dissertation research and writing. Congratulations, Santi, on receiving this award! ↑

ACM Regional Contest Approaching

The time is fast approaching for the ACM Regional Programming Competition. Last year the team from UNT CSE placed first and qualified for a trip to the world finals in Banff, Alberta, Canada. We are now looking for students interested in participating on teams for this year to defend our title. We typically take about three teams to the competition. Each team is composed of three members, who also receive complimentary one year student memberships in ACM, as well as an all-expense paid trip to the regional contest.

The regional contest is in mid-October, so we need to form teams quickly. We would like about nine students for three teams. If more are interested, we will hold try-out testing to select the final team members. Please contact Dr Ryan Garlick (ryan.garlick@unt.edu) or David Keathly (david.keathly@unt.edu) if you are interested.

Students who compete are also eligible to compete on teams for other competitions. UNT teams have qualified for three years in a row for the Challenge24 contest in Budapest, Hungary. We also attend the SMU contest and several other online contests. The local student ACM chapter typically hosts a contest for high school teams, as well as hosting the UIL regional competition. All of these competitive programming activities are great opportunities to develop better programming, problem-solving and teamwork skills, as well as bringing recognition to yourself, your department and the university. Not to mention the great trips! ↑

UNT Career Center Sponsors Two Events for Students

On Thursday, September 25, 2008, the UNT Career Center will sponsor a Microsoft Information Session. Come and get information and meet recruiters from the Microsoft Corporation. The information session will begin at 5 p.m. and conclude at 8 p.m. in the Atrium outside the College of Engineering Dean's office.

On Thursday, October 2, 2008, the UNT Career Center will host a Career Fair from 10:00 until 2:00 p.m. in the halls of the College of Engineering at Discovery Park. Come and see what the career possibilities are for you! These events are brought to you by the UNT Career Center and the UNT Council of Engineering Organizations. ↑

Advisor's Corner - Professional and Honor Societies and Excess Credit

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.

- 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 of interest
- Exposure to new ideas from speakers, field trips, and professional publications
- Access to online resources such as books and self-paced training courses, as well as student-focused services such as resume reviews, job search and scholarship opportunities
- Exposure to students, faculty and programs in other departments across campus as you work with other student groups during activities such as Homecoming, National Engineers Week and others

Many of our Engineering faculty at UNT are extremely active in various professional organizations at the local, regional, and national levels which provides you as the student with exposure to new ideas and a very diverse experience as you learn and become more engaged in your profession.

Within the Computer Science and Engineering Department we have a number of existing organizations that you should consider:

- IEEE Computer Society
- UNT Robotics Society
- Association for Computing Machinery
- Linux User's Group
- Information Defense Society
- Computer Information Systems Organization

There are also a number of College-wide organizations:

- Society of Women Engineers
- National Society of Black Engineers

Soon we will also have a number of honor societies, including Tau Beta Pi, Eta Kappa Nu, and Upsilon Pi Epsilon. These will require you to be nominated for membership. Honor Societies are important not only to prospective employers, but also as a conduit for social networking and interaction with faculty and outstanding fellow students who may be future business colleagues and collaborators. All of these organizations are part of an umbrella group in the College of Engineering called the Council of Engineering Organizations (CEO). Working together, these groups put on a number of activities including the homecoming float, the Spring Engineering Banquet, the Fall Engineering Festival and the activities for National Engineering Week.

Please consider joining one of these organizations as an active member of a local chapter and also as a national member. Student membership fees are very low, and come with many outstanding benefits. Contact David Keathly for more information on these organizations at

or visit .

We also want to address the issue of excess credit hours. The state of Texas passed legislation in 2007 imposing penalties and limits on the number of credit hours a student may complete beyond those required for the major. This affects financial aid benefits and imposes fines on the credit hours taken beyond the limits. There are also now limits on the number of "W" grades on the transcript before these become penalty-producing entities as well. Details about the restrictions and how to check your personal status can be found at http://essc.unt.edu/registrar/Excesshours.htm ↑

Visit the CSE Help Lab in F205

Students in Computer Science and Engineering have a valuable tool available to them just down the hall — the CSE Help Lab. Located in Room F205 at the Discovery Park and open typically from 8 a.m. to 6 p.m., you will find a number of CSE Graduate and upper division students able to help you with a variety of problems and subjects. The Teaching Assistant or Grader for your CSE class will hold office hours in this lab at posted times to assist you with specific course assignments.

Other help lab staff can assist you in learning how to access and use the various computing resources available in the CSE department. A variety of different computer systems and a printer are also available for your use. Be sure to make the Help Lab a regular stop throughout the semester whether you need help with a particular class or just want to make the best use of the resources available to you. ↑

SWE Invites You to Join

Attendance at the first UNT SWE meeting on September 4, 2008.

The Society of Women Engineers invites you to join. SWE educates young adults about the many professions related to engineering and the importance of engineers in society. Engineering students, both female and male, in good academic standing can join SWE by applying online at http://societyofwomenengineers.swe.org/. Student membership fees are

$20 per year.

Leticia Anaya, Lecturer in the Department of Engineering Technology, is the faculty advisor to SWE. She said the goal for UNT SWE is to get more students involved with the College of Engineering. Carol Bachman, Project Engineer for Peterbilt, is the UNT SWE professional advisor.

At the meeting on September 4, 2008, the group discussed attending the regional SWE meeting on Monday, September 15, 2008, at 6 p.m. It will be held at the Tucker Technology Center on W. Bowie Street at Texas Christian University in Fort Worth. The group is also making plans to attend the national SWE conference in Baltimore, MD, in November 2008. You can take advantage of all these opportunities by joining SWE at UNT. ↑

College of Engineering News

New Dean Joins the College of Engineering

Dr. Costas Tsatsoulis became the Dean of the UNT College of Engineering on August 1. Before his appointment, he was Chair of the Department of Electrical Engineering and Computer Science at the University of Kansas. "I am very happy to be joining UNT and the College of Engineering," Dr. Tsatsoulis said. "I am looking forward to developing new departments and programs, supporting the existing ones, growing our research and graduate programs and continuing our service to our students, the state of Texas and the nation. The College of Engineering at UNT is growing at a rapid pace and I am excited about the opportunity to help lead it forward."

As Chair at the University of Kansas, Dr. Tsatsoulis led the growth of the doctoral program oversaw an increase in research funding, including a $21 million award from the National Science Foundation for a Science and Technology Center in 2005; and implemented a new M.S. degree program in information technology, among other achievements.

Dr. Tsatsoulis will also hold a position as professor in the UNT Department of Computer Science and Engineering. He earned his degrees all from Purdue University — a doctoral degree in electrical engineering in 1987, a master of science degree in electrical engineering in 1984, a bachelor of arts degree in German in 1987, and a bachelor of science degree in electrical engineering in 1983.

For more information on Dr. Tsatsoulis, please see this UNT press release. ↑

Volunteers Needed for DC BEST and Texas BEST

The UNT College of Engineering will host the DC BEST (Denton County Boosting Engineering, Science, and Technology) local competition again in October 2008. Then for the first time, the College will host the state competition known as Texas BEST on November 14 and 15, 2008. More about this state tournament can be found in this UNT press release.

DC BEST is a nonprofit organization that provides annual robotics competition among the local high schools. One objective of this

competition is to promote and to motivate younger students to study science, engineering and technology. The other objective is to introduce the college concept to these younger students.

The organization is made up of local high school instructors as well as instructors from the UNT College of Engineering who volunteer their time to make this important competition possible. DC BEST relies on industry support to make the event possible and free to the local schools.

Volunteers are needed to help with the competition. Volunteers serve as judges, referees, and provide overall support to make this event possible. The Kickoff will be held here at Discovery Park on Saturday, September 13, from 8 a.m. to 12 noon. At the Kickoff, the rules of the game are explained, the gamefield is demonstrated, and the robotic supplies are given to the schools.

Mall Day is Saturday, October 18, from 8 a.m. to 5 p.m. The teams gather at the Golden Triangle Mall in Denton to test their homemade robot in the actual game field. This trial allows the teams to debug or correct problems before the actual Game Day.

Game Day is Saturday, October 25, 2008 at the UNT Coliseum. The teams gather for a robotics tournament that continues until a champion is declared through a process of point elimination.

If you would like to volunteer to help with DC BEST or Texas BEST, please contact Mr. Bill Stamm, DC BEST Director at w.stamm@verizon.net or Ms. Leticia Anaya, Assistant DC BEST Director at Lanaya@unt.edu. ↑

The CSE Student Email Newsletter was assembled and produced by Genene Murphy and Don Retzlaff. It is a publication of the UNT Computer Science and Engineering Department. Contact the department at newsletter@cse.unt.edu.

http://www.cse.unt.edu UNT Computer Science and Engineering Department - September 2008