MESSAGE FROM THE CHAIR

Prof. Fillia Makedon

As we start 2009, there are many things we are proud of and wish to share with you. With six new excellent tenure-track faculty who joined our department since January 2007, an increase in the quality of our graduate students and an impressive increase in research funding, especially from the National Science Foundation (NSF), we are one step closer to our mission of becoming a top tier department within the next 6-10 years.

As we embark into new achievements, we are reaching out to you, our larger family of friends, alumni and industrial advisory board members, and invite your input and participation in the strategic mapping of our future. We want to keep you updated on our successes, new programs we are planning, interdisciplinary courses, and awards that our faculty and students have received.

This year we will continue to recruit star-quality faculty and offer them resources to enable them to reach their maximum potential. Through active faculty involvement, we will make special efforts to attract more students from Texas schools and colleges as well as from other states in the nation. We are currently studying new interdisciplinary programs in application areas such as health and the arts. We want to build closer ties and develop sustainable partnerships with local industry.

Please send us your news, and any questions you might have and even photos of weddings, new jobs, prizes and your photo. At the end of this newsletter we have a form that may help you win an iPod. The raffle is open to CSE alumni and friends. Finally, we invite you to browse our website (http://www.cse.uta.edu/) and send us feedback or corrections.

With our best wishes for 2009,
Fillia Makedon
NEW BUILDING FOR CSE COMING IN 2011

Construction on the Engineering Research Building (ERB), the new home of the CSE department, is well underway. When completed in the beginning of 2011, ERB will house nearly all the labs and offices of CSE in approximately 60,000 sq. ft. of space in the 6-story, 140,000 sq. ft. building. An additional 20,000 sq. ft. of other space (classrooms, conference rooms, etc.) will be shared by all building occupants. The building, which has three wings, will also house the Biomedical Engineering Department, as well as several laboratories and staff from the College of Science to foster inter-disciplinary research. CSE laboratories and offices will be housed in the 5-story West Wing of ERB, as well as occupy most of the top three floors of the Central Wing. The 4-story East Wing will contain wet labs of biomedical engineering and science.

Temporary new laboratories and offices are under construction as part of the Engineering Lab Building (ELB) expansion, which is scheduled to be ready by the end of 2009. Four CSE research laboratories and three offices are part of this construction. Most of these labs will be moved to the new ERB building when it is completed in 2011.

FACULTY NEWS AND EVENTS

RECENT HIRES

In Fall of 2008, we had two hires. Dr. Christoph Csallner was hired as Assistant Professor in the CSE Department. Dr. Csallner is an expert who has built tools that find software bugs automatically or automatically infer program invariants. He is author of several research papers, for which he has received two ACM SIGSOFT Distinguished Paper Awards, one at ISSTA 2006 (the ACM SIGSOFT International Symposium on Software Testing and Analysis) and another one at ASE 2007 (the IEEE/ACM International Conference on Automated Software Engineering). He is a student of Yannis Smaragdakis and has also worked on software engineering issues for Google and Microsoft Research.

We also hired Dr. Darin Brezeale as senior lecturer and Graduate Advisor. Dr. Brezeale is a CSE alumnus. He graduated with his Ph.D. in CSE in 2007; he also received his MS in CSE, an MA in Economics, and his BS in EE all from the University of Texas Arlington. He also has professional experience as an engineer working for an electric company and as a Unix System administrator for a telecom company.

The Department hired Todd McDaniel as software systems specialist. He comes from U. of Michigan where he held a similar position. Todd works with Bito Irie and the rest of the team that provides technical support for the department. We are very pleased to have Todd with us.
Dr. Ishfaq Ahmad became IEEE Fellow: Dr. Ahmad, a full professor in CSE and a Senior Member of the IEEE, was recently recognized for his contributions to scheduling techniques in parallel and distributed computing systems. Recognition as a Fellow by the IEEE signifies an individual's accomplishments and contributions to the advancement of engineering, science and technology, that also bring value to society. "I am honored to have received this recognition," said Dr. Ahmad. "It is not only personally satisfying, but it also helps the ranking of the university, the college and the department." The award was presented at ISCAS in May 2008. Professor Ahmad is director of the Multimedia Lab (http://ranger.uta.edu/~medialab) and Director of the IRIS Security center: http://www.iris.uta.edu/.

The picture shows Professor Ahmad and his former student who is an administrator for a telecom company.

FACULTY AWARDS AND DISTINCTIONS

Professor Yonghe Liu received the College of Engineering Outstanding Young Faculty Award. This is a great distinction for Dr. Liu and for our department.

Professor Bharam Khalili has received a $20,000 gift from QINVEST for his exceptional consulting services and distinguished research contributions. Dr. Khalili decided to have this given to the CSE department and helped cover the tuition of current and new graduate students with scholarships coming from this gift. This gift has also made it possible to get matching tuition funds from the graduate dean's office.

Professor Chris Ding received a $1 million STARS award in 2008 from the state of Texas to build his lab infrastructure. He has shared this precious funding with several faculties in CSE and other departments. Prof. Ding received this award for his groundbreaking work in building bioinformatics algorithms.

RECENT HIRES

In the Fall of 2007, our department hired the following new faculty:

Dr. Chris Ding, as full professor, coming from Lawrence Berkeley Labs and bringing a distinguished career and accomplishments in different areas: machine learning and bioinformatics.

Dr. Vassilis Athitsos who received his Ph.D. at Boston University and also spent a year as a postdoc there. He was hired as an Assistant Professor.

Dr. Chengkai Li who received his Ph.D. at the University of Illinois, Urbana Champaign and was hired as an Assistant Professor.

Dr. Gutemberg Guerra-Filho, who completed his Ph.D. at the University of Maryland and was hired as an assistant professor.

In January of 2007 we hired Assistant Professor Heng Huang who received his Ph.D. from Dartmouth College.

Professor Yassine Athitsos
Professor Sajal Das has been selected (Feb 2009) for an IEEE Computer Society 2009 Technical Achievement Award for pioneering contributions to Sensor Networks. This prestigious award recognizes outstanding and innovative contributions to the fields of computer and information science and engineering or computer technology. The IEEE Computer Society sponsors a robust program of awards designed to recognize both technical achievement and service to the society and the profession. Professor Sajal Das was awarded the "IEEE Engineer of the Year Award" by the IEEE Ft. Worth Section during the Metrocom 2007 Conference held in Arlington. This award recognizes the recipient's leadership and technical contributions in engineering, community and societal activities.

Professor Sharma Chakravarthy, received the College of Engineering Excellence in Research Award, presented to a distinguished faculty member who has demonstrated superior scholarship by advancing the state of knowledge in his or her chosen field of research.

Professor Manfred Huber, received the Lockheed Martin Aeronautics Excellence in Teaching Award. Recipients of this award are distinguished educators who have demonstrated their dedication to the teaching profession by their superior classroom instruction and exceptional interactions with students.

Prof. Fillia Makedon received a $500K STARS award in 2007 from the State of Texas to build her lab, the HERACLEIA Human Centered Computing Laboratory (http://heracleia.uta.edu), which she shares with several faculty, including Professors Huang, Guerra and Ding. The photograph is showing the assistive apartment that is part of the HERACLEIA Lab and is used by its researchers to study pervasive technologies and security issues in dealing with human activity monitoring. Associate with the lab are also faculty from Nursing, Mechanical Engineering and Electrical Engineering, as well as experts from UNT Health Science Center, Dartmouth Medical School and Harvard Medical School.

Professor Ramez Elmasri is working on the 6th Edition of his widely used database textbook, “Fundamentals of Database Systems”, published by Addison-Wesley. His other textbook, “Operating Systems: A Spiral Approach”, has been finished with major contributions from Gil Carrick, a retired CSE lecturer, and is in the final stages of publication by McGraw-Hill. The latter book has been in the works for 2 decades.

GRADUATE ADVISORS

The graduate advising team recently added Dr. Darin Brezeale to replace Dr. Ramesh Yerraballi on the advising staff. With three advisors, we have the ability to handle the course management and degree plan needs of our large population of graduate students. CSE graduate advisors also perform admissions processing for graduate applicants and handle other administrative duties associated with our large student population. Advisors are available Monday through Thursday during specified hours, and by appointment when available outside of those hours. CSE graduate students are not assigned to a specific advisor by name, but can see any advisor during their specified office hours. See http://www.cse.uta.edu/graduate/advising/ for advising hours and links to forms and other helpful information.
The HERACLEIA Human Centered Computing Laboratory focuses on applying basic algorithms and methods to the analysis of complex, dynamic, cyberphysical system environments where humans, devices, objects interact and are monitored. Data is converted to knowledge by using medical imaging methods, bioinformatics, sensor networks, robotics, security and privacy, computer-human interaction, and the development of smart devices to assist the human at home and at work. Applications include assistive environments for the aged, Alzheimer’s, novices in a new working environment, small children and other types of users. Lab faculty include, Fillia Makedon, Heng Huang, Zhengyi (Jennifer) Le, Gutemberg Guerra-Filho and Chris Ding. There is also one postdoc, seven graduate students and several faculty from other departments working together. Senior design classes also use the lab for projects. For more information about this lab, please visit: http://heracleia.uta.edu/. In the picture below, Eric Becker, Roman Arora, Vangelis Meci, Jyothi keshavan, are demonstrating their ideas on how to plan for "event identification" in the lab's simulation apartment of an aged home. Zhengyi Le, Yong Lin, Rong Zhang, are providing a critique.

Professor Vassilis Athitsos is the director of the Vision-Learning-Mining Research (VLM) Lab. At the VLM lab we are conducting research in the areas of computer vision, machine learning, and data mining. Areas of focus include sign language recognition, detection and tracking of complex shapes, large-scale multiclass recognition, and similarity-based retrieval and classification using large databases.

The Database Exploration Lab (DBXLAB), is directed by Prof. Gautam Das. DBXLAB seek to investigate fundamental research issues arising in the exploration and mining of structured repositories and relational databases. Our research encompasses diverse areas such as information retrieval, data uncertainty and probabilistic methods, approximate query processing, data summarization, data mining, and exploration of distributed and peer to peer databases. We hope to develop innovative techniques that will significantly extend the current data exploration capabilities of databases systems. Please visit http://dbxlab.uta.edu/ for more information.

Research in the Robotics and AI Laboratory centers around the development of technologies for intelligent service robots, assistive devices, and intelligent environments, as well as the investigation of models for the autonomous development of intelligent behavior and cognitive capabilities in artificial agents. Overarching all of these areas is here a focus on the development of autonomous learning capabilities and their integration into computer systems, and in particular into robots and intelligent devices, to provide them with the capabilities to adapt their behavior and data processing in order to adjust to the needs and preferences of the user and to optimize the system’s robustness and performance. Faculty associated with the laboratory include Manfred Huber, Farhad Kamangar, David Levine, and Gergely Zaruba as well as a number of collaborators from different fields, including nursing, social work, kinesiology, and psychology. For more information about the lab please visit http://ailab.uta.edu/.
ABOUT SOME CSE LABS

Professor Gutemberg Guerra-Filho has established the Sensory-Motor Intelligence (SMILE) Laboratory. The SMILE lab studies cognitive problems such as verification, identification, recognition, and categorization of objects, subjects, and in an environment. The environment is represented by multiple channels of sensory and motor information captured from heterogeneous sensors. This basic research will lead to the development of artificial cognitive systems capable of perceiving, reasoning about, and acting in the environment. This understanding of human activities and the interaction with the real world has applications to surveillance, robotics, and animation.

Professor Heng Huang is the director of the Biomedical Computing and Scientific Visualization (BIOVIZION) laboratory. His research focuses on bioinformatics, biomedical image analysis, computer vision, and pattern recognition. He has been collaborating with several labs at Harvard Medical School, Dartmouth Medical School, UT Southwestern Medical Center, Indiana Medical School, and Massachusetts General Hospital.

Professor Jean Gao is the director of the BioComputing and Vision Lab (BioVil) http://visionlab.uta.edu/ which focuses on developing efficient algorithms to solve computational problems in basic medicine and clinics, while making theoretical and fundamental contributions to statistical pattern recognition, machine learning, and computer vision. Professor Gao and some of her students are shown in the photograph below.

Professors Matthew Wright and Donggang Liu co-direct the Information Security Lab (iSec: http://isec.uta.edu) at UTA. iSec conducts research on securing computers and networks in a hostile world. With an emphasis on practical results, we seek to develop technologies to secure current and emerging applications. The group currently includes over ten graduate students. Dr. Zhengyi Le is also affiliated to iSec Research Group.

Professors Dave Kung, Jeff Lei and Christoph Csallner are directors of the Software Engineering Research Center in CSE. The Software Engineering Research Center conducts basic and applied research to advance the knowledge and the state-of-the-art of software design, specification, analysis, verification, and testing. The Center currently focuses on automated software testing and debugging methods and tools that can be used to quickly detect and locate software faults in a program.

UNDERGRADUATE ADVISORS

The undergraduate advising team is back up to full strength, with the return of Ray Springston after a short health-related break. We made several changes to make things easier: (a) Each undergraduate advisor is available to work with all undergraduate CSE students, regardless of last name (this was a source of some confusion last year). (b) Each undergraduate advisor holds scheduled advising time for 6 hours per week. (c) A posting of the advisor’s current monthly advising schedule is posted on the CSE website at: http://www.cse.uta.edu/undergraduate/advisingcalendar/
CSE faculties are not only visible in traditional research journals and conferences, but also visible to the community and the nation. Some examples are given below.

**Professor Mohan Kumar** and his active team have been featured in the following: 1) *A Mobile Social Network could be India's 911* ([http://www.siliconindia.com/shownews/A_Mobile_Social_Network_could_very_well_be_India's_911-nid-50884.html](http://www.siliconindia.com/shownews/A_Mobile_Social_Network_could_very_well_be_India%27s_911-nid-50884.html)); 2) *Vargas to highlight American Indian observance* ([http://www.dcmilitary.com/stories/010809/southpotomac_28114.shtml](http://www.dcmilitary.com/stories/010809/southpotomac_28114.shtml)); 3) *Lewisville Lake Toll Bridge Provides Learning Opportunity for Area Students* ([http://www.neighborsgo.com/stories/28079](http://www.neighborsgo.com/stories/28079)).

Professor **Fillia Makedon** and her team at the HERACLEIA Human Centered Computing Lab ([http://heracleia.uta.edu/](http://heracleia.uta.edu/)) have had their work in assistive environments featured in numerous media all over the world, including the Dallas Morning News, Pharmacy Choice, MacroWorld Investor, TMC Net, Tech News Times, Engadget, Switched, Physorg.com, San Diego Union Tribune, Wichita (KS) Eagle, Lewiston (ME) SunJournal, Arkansas Democrat Gazette, Fort Wayne NewsSentinal, GreaterMilwaukeeToday, Free Lance-Star (Fredericksburg, VA), Columbia (MO) Tribune, Hawkeye (Burlington, IA), Boston Herald, Wichita (KS) Eagle, Western Australia Today (Perth) and many others. Above is a photo courtesy of the Dallas Morning News article that talks about the use of pervasive computing and robots to assist the elderly and enable them to have a longer and higher quality of life at home ([http://www.dallasnews.com/sharedcontent/dws/bus/ptech/stories/101408dnbusasinglab.3bee7b4.html](http://www.dallasnews.com/sharedcontent/dws/bus/ptech/stories/101408dnbusasinglab.3bee7b4.html)). Their work is now extending to tools and methods for assistive work environments which are a special case of "cyberphysical systems".

Professor **Vassilis Athitsos’** research on American Sign Language recognition was highlighted by an Associated Press story, published in numerous news outlets, including CNN and MSNBC. MIT's Technology Review magazine also had a recent piece on the same project, and additional articles have appeared in German and Russian news outlets. Links to some of these stories are given below: [http://www.msnbc.msn.com/id/24740303/](http://www.msnbc.msn.com/id/24740303/) [http://www.technologyreview.com/communications/21944/?a=f](http://www.technologyreview.com/communications/21944/?a=f) [http://www.heise.de/newsticker/Laptop-uebersetzt-Gebaerdensprache--/meldung/122872](http://www.heise.de/newsticker/Laptop-uebersetzt-Gebaerdensprache--/meldung/122872) [http://www.membrana.ru/lenta/?9015](http://www.membrana.ru/lenta/?9015).

Professor **Heng Huang** received an award for his project: "Toward a model of the average heart with the normal and abnormal variations" which provides an accurate and fast way to detect heart disease. This news appeared in the Medical research news on News-Medical.net, 2007: "UT Metroplex Institutions to Collaborate on Biomedical Research", which introduced the 3 collaborative biomedical research projects that have received the awards from UT Metroplex institutions, including Dr. Heng Huang's award was one of 3 UTA awards out of a total of about 50 proposals.

Professor **Heng Huang**'s work also appeared in the E-News of the College of Engineering at the UTA, 2008 describing his work on "Dependable Electric Service in NYC Goal of Engineering Researchers". He and Prof. Wei-Jen Lee received a research grant totaling $170,000 from the Consolidated Edison Company in New York to develop algorithms that detect potential failures in electric power system.
Professor Jean Gao from CSE, together with Prof. Liping Tang, from Biomedical Engineering, have received an NIH grant with the Project Title: Biomaterial-mediated fibrotic responses Grant Number: 1R01EB007271-01A2, for the period 09/22/2008 – 08/31/2012 in the total amount of $1.3M. Congratulations to Jean and Liping, this is an exceptional accomplishment.

Prof. Gao is also PI of an NSF Career Award (2006) which is entitled, “Career: Four Dimensional Subcellular Structure Tracking and Modeling for Cell Dynamics Study” for $558k for the Period: 1/1/2006 – 12/31/2010. Career awards are given to only the best and brightest of young US scientists and we are extremely proud to have one such scientist, amidst Prof. Gao is a model to be followed by all female scientist because she is not only a great researcher, but also a great teacher, mentor and mother.

Professor Jean Gao is also the Lead scientist in a collaborative NSF grant with Drs. Kevein Roesenblatt and John Schorge from UTSW in a project entitled, “Collaborative: Proteomics Biomarker Information System (ProBIS)”, with a total amount of the award being $356,575 and covering the period 7/1/2006 – 6/30/2009

Professors Mohan Kumar (PI) and Yonghe Liu (co-PI) were awarded $336,817 for research in Collaborative Virtual Observation in Dynamic Environments by NSF's Electrical, Communications and Cyber Systems (ECCS) Division. The objective of this project is to develop a framework for anytime anywhere collaborative virtual observation of events occurring in dynamic environments. The novelty of the proposed work lies in the launching of the virtual observers, in soft real-time, on any device in a mobile environment and the concatenation of successive virtual observers to create virtual tours. Development of an integrated framework for video acquisition, stream processing, video synthesis, opportunistic networking and integrated pervasive services in dynamic and heterogeneous environments are original contributions of this project.

Professors Gautam Das (PI) and Nan Zhang (co-PI) received an NSF grant for their proposal entitled, "Data Analytics over Hidden Databases". The grant amount is $120,001 for the period of 18 months starting from 9/1/2008. This research involves developing effective techniques for performing data analytics, especially sampling, over hidden structured databases via their public interfaces. Prof Zhang is a faculty at George Washington University (http://www.seas.gwu.edu/~nzhang10/)

but also an adjunct professor in our department.

Professor Chris Ding (PI) was awarded an NSF Grant for his work on "Non-negative Matrix Factorizations for Data Mining: Algorithms and Applications". The NSF/ DMS program will award Prof. Ding and his colleague Prof. Tao Li from Florida International University, $100K.

Prof. Fillia Makedon (PI) has received a $500,000 grant from the Cybertrust Program of the National Science Foundation to study trustworthy recommendation systems, these systems come into play in online applications where there is "information overload" and used to facilitate decision making, Dr. Makedon is the chair of the CSE dept. and the director of the Heracleia Human-Centered Computing Lab at UTA. This is joint work with Prof. Matt Bishop (co-PI) at the Univ. of California at Davis, a well-known security expert.
Prof. Vassilis Athitsos and his collaborators Professors Stan Sclaroff and Carol Neidle at Boston University, have been awarded a three-year, $900,000 National Science Foundation (NSF) grant to develop new technology for learning American Sign Language (ASL). The focus is on designing novel computer vision and machine learning methods for automatic sign recognition. The project is titled "Large Lexicon Gesture Representation, Recognition, and Retrieval." The project will develop methods that allow users to demonstrate signs in front of a camera and have a computer look up the meaning of those signs based on their visual properties. "Keyword-based" searches for ASL will also be possible identifying occurrences of specific signs in large video databases of ASL literature. Professor Athitsos is director of The Vision-Learning-Mining Lab (VLM): http://vlm1.uta.edu/~athitsos/vlm/.

Professors Gergely Zaruba (PI), Manfred Huber, Farhad Kamangar and David Levine (from left to right) have received a grant from the Department of Justice for their project entitled, "PLR: Mesh-networked, Two-way Personnel Locator Radios and Relays,." The CommTech Program in the National Institute of Justice (NIJ), Department of Justice, has awarded these researchers a $264,879 grant to develop a mesh network based solution to identify and locate strategic personnel within a secure area such as a police precinct. The project will accurately track a number of individuals as they move about an established area. "This is an important technology to help save lives of our nation’s emergency personnel," said Dr. Richard Billo, College of Engineering associate dean for research. "For example, if an officer or firefighter becomes trapped in a building, others will know the exact location and will be better prepared to take immediate action." Professor Zaruba received an NSF grant to support student travel for the PERCOM Conference.

Profs. Fillia Makedon, Zhengyi Le and Heng Huang (from left to right) Received $25K from the NSF of IIS, Human Centered Computing to support students and mentor faculty attend PETRA 2008 (www.petrae.org).

We want to express our thanks to our absolutely wonderful staff who do so much every day to help this department run smoothly. I am not sure what we would do without their excellent professionalism, their dedication, their talent and hard work. Congratulations to Belinda on the arrival of her twin granddaughters! Kinley Margaret Tarrant (3.13lbs, 17 ¼ inches) and Madelyn Clare Tarrant (4.9lbs, 17 ½ inches) arrived on February 7th.
Professor Yonghe Liu received a grant from the Texas Ignition Fund for $50K, for his work entitled, "A Proof-of-Concept Sensor Network with Ultra Energy Efficiency for Long Term Monitoring Applications"

Professors Yonghe Liu, Mohan Kumar and Sajal Das received a $450K grant from the National Science Foundation for their proposed work entitled, "ARCADIA: An Asynchronous Communication Architecture Toward Novel Networking and Computation Paradigms in Wireless Sensor Networks"

Professors Mohan Kumar (PI) and Yonghe Liu (co-PI) have been awarded a $225K grant by the IIS Division of NSF for 3 years for their project entitled, "Time Series Subsequence Matching for Content-based Access in Very Large Multimedia Databases". This is a collaborative proposal with Prof. George Kollios (PI) at Boston University and the total amount is $450,000 for 3 years. IIS receives over 1000 proposals and thus this achievement is a great distinction.

Professor Roger Walker received a grant through the Intel Embedded and Communications University Program. His proposal, "Investigating the use of a Tolapai platform for real-time monitoring of pavement surface and bridge structure characteristics in a mobile measurement system" has received funding in the amount of $25,000. In addition he will receive 2 Tolapai-based reference boards to aid him in his research.

Professors Chris Ding (PI) and Heng Huang (co-PI) have been awarded a $100K NSF grant for their proposal entitled, “Collaborative Matrix Model Machine Learning Unifying Machine Learning and Scientific Computing” by the CISE/CCF Division, the Theoretical Foundations Cluster.

Professors Fillia Makedon, Zhengyi (Jennifer) Le, and Heng Huang have received $19K from NSF’s IIS program to support student travel for the UTA-sponsored conference on Pervasive Technologies Related to Assistive Environments (PETRA 2009 - WWW.PETRAE.ORG) which took place in Athens, Greece during July of 2008 and was a great success.
Professor Chengkai Li received a $10,000 Research Enhancement Program Grant to build a system that automatically “mashes up” the Web to construct a database containing records and their relationships discovered from Web pages. The system would allow us to use the Web as the world’s largest database and enable many expressive and powerful applications. It will automatically extract Web data, discover their relationships, and invent new ways of storing and indexing information, thus fundamentally changing the way of using the Web for applications including E-commerce, government information systems, public health, travel planning services, and others. Professor Li is director of The Innovative Database and Information Systems Research (IDIR) Lab located in the Earth & Environmental Sciences, building. His students are Xiaonan Li, Ning Yan, and Kiran Karnam. Please see http://idir.uta.edu/ for further details on their projects.

Professor Gautam Das has received two industrial research grants for his outstanding research in databases. In particular, he received a $50,000 grant from Nokia Research for a collaborative project involving clustering and data mining problems on social networks and a $25,000 from Microsoft Research for collaborative research for developing security and privacy technologies for hidden databases on the Web. These types of grants are extremely hard to get and are only for outstanding researchers, as Prof. Das is. Professor Das is director of the Database Exploration Laboratory (DBXLab: http://dbxlab.uta.edu/).

STUDENT NEWS AND OUTREACH

SUMMER CAMPS

RoPro College Challenge Camp: Dr. Huber and Dr. Tiernan began a 3-day summer robot camp in 2007 as part of a grant received to expand RoPro, the High School Robot Programming Contest. Dr. Huber developed a new robot challenge for the campers and Dr. Tiernan designed a short curriculum on college admissions, financial aid, essay writing, and time lines. The goal was for approximately 75% of the time to be robots and 25% of the time to be college info. This attracted a lot of interest from students nation-wide. In July 2007 and 2008, the RoPro College Challenge Camps were held at UTA. Approximately twenty five students attended the camps and of that group two are current CSE majors and two are admitted for Fall 2009 enrollment at University of Texas at Arlington. Exciting new camps are now being planned for summer 2009 and we urge all friends of UTA and CSE to look at the College of Engineering website and contact Prof. Tiernan.
UTA students participating in an international computer security competition hosted by UCSB!

Led by Professor Matthew Wright, the UCSB International Capture The Flag (also known as the iCTF) is a distributed, wide-area security exercise, whose goal is to test the security skills of the participants. In the "capture the flag" competition, a team of students will defend their network and launch attacks on other teams. The Capture The Flag contest is a multi-site, multi-team hacking contest in which a number of teams compete independently against each other. More information is available at http://www.cs.ucsb.edu/~vigna/CTF/

The 9th Annual High School Robot Programming Contest at UTA.

On February 7, 2009, highschool contestants from twelve Texas highschools filled the atrium of Nedderman Hall at the University of Texas at Arlington with Lego robots programmed and built by high school students. The High School Robot Programming Contest, or RoPro for short, is an annual highlight of UTA, sponsored by our department (CSE@UTA). Twenty-nine teams from around the Dallas-Fort Worth area competed in six different competitions as part of this annual outreach and recruiting event. New teams competed in the speed-based beginning maze competition where the robot does not know the course beforehand. More experienced teams competed in the advanced maze competition where “virtual” walls, made of colored tape on the floor, had to be treated just like the wooden walls and in the object finding competition where robots must locate, identify and the move colored golf balls within the maze. Students designed and implemented the software the make the robots perform. Once a robot started the competition, it was entirely on its own following only the instructions of its software and its sensors. This year’s contest had twice as many competitions as in the past since this was the first year that both old style yellow-brick RCX Lego Mindstorms robots and new-style white and gray NXT Lego Mindstorms robots were included.

Sam Houston, and James Bowie from Arlington ISD, the Science and Engineering Magnet and the Talented and Gifted Magnet from Dallas ISD, Coppell High School from Coppell ISD, Granbury High School from Granbury ISD, a Texas charter school, and area home schools.

We hope that many of these students come to study here, like previous generations of RoPro participants who are now successfully completing undergraduate and graduate degrees. Thanks to dedicated visionary leaders, like Dr. Carter Tiernan, Assistant Dean for the College of Engineering (tiernan@uta.edu) students get a taste of applying math, computer science and engineering and become engaged in science early on. For more information on RoPro, see www.cse.uta.edu/Robots/. It is a chance for students, their parents and teachers to also meet CSE faculty who dedicate many hours to help out, such as Prof. Manfred Huber who has been involved for many years, and others such as Profs. Vassilis Athitsos, Matt Wright, Gutemberg Guerra, Dave Levine, Mohan Kumar and Nick Stojanovic.

Next year’s RoPro competition will be held Saturday, February 6th, 2010. If you know of a high school that might be interested in participating in this free competition, have them contact (tiernan@uta.edu). Congratulations to all the teams that participated in RoPro 2009!

Undergrad students compete in regional programming contest

12 undergraduate students (members of three programming teams) and their coach, Professor Athitsos, travelled to Waco to participate in the regional ACM ICPC programming contest hosted by Baylor University, one of the three teams placed 8th out of 68 teams.
NEW CSE COURSES AND DEGREE

CSE 6349:: Fall 2008: Special Topics in Advanced Networks (Opportunistic Networks and Computing)
CSE 5336:: Fall 2008: Stream Data Management
CSE 6329:: Fall 2008: Special Topics in Advanced Software Engineering

CSE 4392/6392 : Fall 2008: Art, Computing and Story Telling
An exciting new course jointly taught with the Arts Department with a focus theme on Texas Art and Culture. This course was co-taught by Prof. Grame and Prof. Guerra and is the first of a series that will eventually lead to Digital Arts and Entertainment Computing minor. A special lab was created for this course. The chairs of the respective departments, Makedon and Hower, are now planning further courses that include game programming, iPhone programming and others.

New CSE Computer Engineering Degree!

CSE has established a new Computer Engineering degree (CpE) which replaces the previous CSE degree in the department. The other two degrees remain the same, Computer Science (CS) and Software Engineering (SE). The CpE degree was created to respond to the emerging importance and need of computing in engineering applications to maintain national competitiveness. It combines computational principles and theory with concrete engineering deliverables and practice in hot new areas such as energy, health, security, and micro-device design automation. Students will learn how to improve the performance of real-world applications found in CpE and deliver the most efficient configuration of hardware and software systems. Similarly, they will apply software engineering principles to enable CpE applications. CpE impacts the other 2 CSE degrees of computer science and software engineering with the introduction of new industrial needs, new technologies and need applications that need better computational methods and improved software tools. The three programs together overlap in courses and faculty but are distinct in their individual emphasis. The interaction among CS, CpE and SE will bring out new ways to compute, new ways to discover and lead students to innovation.

Computer Engineering projects can range from devices to monitor the condition of highway services to intelligent biomedical devices for assistive environments, to sensors monitoring the wing of an airplane. Courses in CpE will prepare the students for applications in circuit design, biomedical engineering, embedded systems, wireless communication systems, computer architecture, bionanosensors, smart medical aids, VLSI testing and CAD design, effective design and manufacturing, high performance system design, energy systems, and others. We will be recruiting new faculty from top university who not only interact well with other engineering departments in the College of Engineering, but also whose work has direct relevance to the needs of industry and government and who are excellent teachers. It is expected that a large number of new students will be entering the program and thus providing new insights and links with the Computer Science and the Software Engineering programs.
The First BigD* Regional Symposium on Data and Information Management

On April 19, 2008, CSE hosted a Texas-wide Regional Symposium on Data and Information Management called BigD*. UTA’s CSE Department has one of the strongest database groups in the nation and the goal of this symposium was to foster collaboration in topics related to data and information management and range from theory to applications. The name "bigD*" refers to the DFW Metroplex and the star in D* refers to all the topical areas related to Data and Information Management, including Databases, Data Mining, Information Retrieval, Multimedia, Data Visualization, Bioinformatics, and others. More than 60 faculty and students attended coming from UTD, SMU, UNT, UTSA and other Texas universities. Students showcased their work in a poster session and all participants enjoyed stimulating interactions over a delicious vegetarian meal. Further information and photos can be found at: http://lambda.uta.edu/bigD*/symposium2008.html

Gradworks And Connect Seminars

Donggang Liu and Jeff Lei ran these two seminar series for graduate students and industry respectively with great success

Faculty Retreat

Our faculty retreat took place in April of 2008 and covered many issues, with priority given to quality recruiting and enrollments at both the graduate and undergraduate levels. As a result of this retreat, focus groups were created by faculty who will proactively visit colleges and universities in Texas to bring these students to UTA. Pictures of this retreat can be found in the department website.

INDUSTRY NEWS ADVISORY BOARD MEETING (MARCH 27, 2009)

If you are interested in participating in our next CSE Industrial Advisory Board Meeting, scheduled for March 27, please send email to Pam McBride (mcbride@UTA.EDU) with your contact information to send you the schedule. It will be a fun half-day, with discussions, poster session and a delicious breakfast and lunch! You will also have the chance to meet members from other nearby industries and make great contacts.

In spring of 2008 we organized our annual Industrial Advisory Board (IAB) meeting which had great success. A student poster session attracted a lot of attention.
RECENT DEPARTMENT EVENTS AND CONFERENCES

JOINT PH.D. PROGRAM ESTABLISHED BETWEEN UTA-CSE DEPT. AND THE NATIONAL CENTER FOR SCIENTIFIC RESEARCH - DEMOKRITOS

Joint Ph.D. Program established between UTA-CSE Dept. and the National Center for Scientific Research - DEMOKRITOS, the largest Hellenic Research Center. Professor Makedon worked with Deans Cohen and Jackson to put together this exciting program which President Spaniolo has signed as an MOU agreement. Demokritos Center has 9 Institutes and about 900 research scientists working on areas from Nuclear Energy to sensors, Bioinformatics, Bioengineering, Mechanical Engineering, Chemistry, Physics, and many other areas. It is located on a beautiful pine-covered hill just 20 min east of Athens Center. The agreement is with the Institute of Informatics and Telecommunications and discussions have started about other engineering and science departments to have similar programs with other institutes. In Fall of 2008, the first PhD Demokritos student was admitted, Paul Doliotis. The program allows the student to spend some time immersed in research and interact with scientists from all over Europe. More students are expected to come this year. Dr. Vangelis Karkaletsis is the principal scientist managing the exchange program. Most recently, Makedon and Dr. Constantine Spyropoulos, the head of the Institute of Informatics and Telecommunications, and Dr. Karkaletsis, discussed extending the program to the Masters Degree level, in order to attract students from Europe. They also agreed to put forth a postdoctoral exchange program where Demokritos scientists would come for a period ranging from one month to 6 months to work with CSE faculty of their choosing.

“It is an honor to be able to work with distinguished researchers from DEMOKRITOS and UTA. Moreover I find very interesting the fact that I will keep traveling between Athens and U.S.A. and have the opportunity to collaborate with two exceptional research institutes at the same time.” Paul said.

"Since I first came to UTA and I discovered its excellent facilities, I realized that this was a good opportunity for me to have successful PhD studies. But as the time goes by and I get to know more people working at the CSE department I get the feeling that at the end I will achieve something bigger. that will also ensure my future professional career." - Vangelis Meci

CSE FACULTY HAVE OPERATING SYSTEMS BOOK PUBLISHED

The book “Operating Systems: A Spiral Approach” by Ramez Elmasri, A.G. Carrick and David Levine has been published by McGraw-Hill Higher Education. The authors avoid the traditional linear approach to teaching and follow an integrative or “spiral” approach to explaining operating systems. Elmasri is a professor, Carrick is a retired lecturer and Levine is a senior lecturer, all in Computer Science and Engineering.
ICOMPS: Integrative Computational Science Program Symposia, June and July 2008

In an extraordinary and first such effort to break college and discipline-driven research boundaries, UTA's CSE Department spearheaded two summer symposia on computational science issues that involve the use of fundamental computer science tools to solve scientific problems in astronomy, physics, biology, material science, electrical engineering, mechanical engineering, and others. With funding from the Associate Dean of Research, Dr. Billo, and the leadership of Professors Makedon, Chris Ding (CSE), Jim Horwitz (Physic) and Jiaping Zhu (Math), over 60 persons gathered to explain their problem areas, the data they have to deal with and the solutions they need to manage massive amounts and/or complex data. Both symposia were a great success and now new ones are being planned for 2009. Further information and photos can be found at http://icomps.uta.edu/.

BIOT-2008, The 5th Biotechnology and Bioinformatics Symposium

Professor Nick Stojanovic , with the help of CSE faculty, students and staff, successfully hosted BIOT-2008, The 5th Biotechnology and Bioinformatics Symposium, that was held at UTA October 17 and 18, 2008. Prof. Stojanovic is preparing a special issue of the IJBRA journal, which will publish 8 best papers from BIOT-2008 later this year. The chair provided BIOT2008 stipends for CSE graduate and undergraduate students and faculty to attend the 2008 conference. BIOT-2009 will take place in Lincoln, Nebraska. For BIOT-2008 please check "Previous Conferences" at www.biotconf.org.

UTA-sponsored International Conference On PERvasive Technologies Related to Assistive Environments: PETRA 2008 and PETRA 2009

The PETRA Conference brings together different researchers to study how to best provide healthcare for @home and @work humans using sensor network technologies, robotics, imaging, improved interfaces and non-interventional monitoring. This is especially important for the aged who want to stay at their homes as long as possible. New assistive devices and mechanisms to connect the clinical with the behavioral markers may provide new solutions for the in-home care of people with Alzheimer's, Parkinson's and other disabilities or traumas. For working environments, it is particularly important to foresee accidents occurring due to fatigue, lack of training, bad designs or equipment failures. PETRA 2008 (July, Athens Greece) was a great success with over 120 attendees coming from all over the world. It received NSF funding. PETRA'09 will take place June 9-13 in Corfu, Greece, (www.petrae.org) at the Marbella Hotel (http://www.marbella.gr/start.htm) and we have already received NSF funding to support US students to attend.

International Conference on Pervasive Computing and Communications (PerCom)

The IEEE International Conference on Pervasive Computing and Communications (PerCom) started by CSE@UTA faculty seven years ago and is an established premier conference in the areas of pervasive computing and communications and recognized as a top tier conference by most universities and organizations. We are pleased to announce that the Seventh Annual IEEE PerCom was held in Galveston Texas during March 9-13,2008,(http://www.percom.org). Gergely Zaruba is the Vice General Chair of PerCom 2009. Mohan Kumar is the Chair of the Steering Committee since 2006, and Sajal Das and Gergely Zaruba are members of the Steering Commitee. David Levine is the Local Organizations Chair while Yonghe Liu will serve as a Vice Program Chair for PerCom 2010.
Professor Jean Gao has graduated 3 PhD students in 2008. Dr. Quan Wen worked on subcellular structure motility study for the study of drug delivery and virus attack. He is currently a researcher at Lawrence Berkeley National Lab. Dr. Jung Hun Oh whose work has been focused on biomarker detection and identification is now a research scientist at Washington University at St. Louis. Dr. Young Bun Kim has worked on efficient machine learning algorithms for high-dimensional data analysis and is currently a post-doc at University of Texas Southwestern Medical Center.

Professor Leo Fegaras was the supervisor of Dr. Weimin He who graduated Fall 2008. Dr. He is now instructor at St. Cloud State University.

Samee Khan, who graduated from our PhD program in July 2007, is the Recipient of the CSE Best Graduate Student and CSE Best Dissertation Award. His thesis advisor was Prof. Ishfaq Ahmad. Samee is currently Assistant Professor at North Dakota State University.

Abanish Singh received his Ph.D. with Professor Nick Stojanovic in bioinformatics and is now lecturer in CSE teaching algorithms courses.

Professor Ramez Elmasri has graduated 3 PhD students in summer 2008. Two of them, Jack Fu and Feng Ji, worked on developing novel techniques using ontologies and Web services to provide enhanced access to multiple bioinformatics data sources in a mediator system. The third, Kyungsoo Park, worked on energy efficient indexing and data gathering structures for wireless sensor networks. Dr. Park is currently a lecturer in CSE and a Postdoc at the Heracleia Human Centered Computing Lab working with Professor Fillia Makedon. Gautam Das has recently seen several of his MS students graduate and find successful positions in industry. These recent alums are: Haidong Wang 2008 (Microsoft), Zubin Joseph 2007 (Yahoo), Sushruth Puttaswamy 2007 (Cisco), Amrita Tamrakar 2007 and Bhushan Chaudhuri 2006(Microsoft). Two additional alums, Senjuti Basu Roy (2007), and Arjun Dasgupta 2007, have decided to continue for a PhD with Prof. Gautam Das. The successful positioning of these CSE alums with prestigious companies shows the excellence of our department.

Jeffrey Smith is founder and CEO of Ublip, which develops tracking software for global positioning systems. A graduate of the College of Engineering, he received a master’s degree in 1988 and a Ph.D. in 2004, both in computer science engineering. Dr. Smith recently received the Kauffman Foundation’s Community Award for his entrepreneurial success in business, education and social involvement. In 1993 he co-founded and served as president and CEO of OnRamp Technologies, a leading Internet service provider that grew into one of the largest web-hosting companies in the world. In 2002 he founded and became chief technical officer of SensorLogic, one of the industry’s first telemetry service providers. He also is founder of EntreCorps.org, an Internet-based initiative to leverage successful entrepreneurs’ mental and material assets on behalf of poor countries. A church mission trip to Honduras in 2002 led him to develop self-help programs for the citizens of Magote, a Honduran mountain village. He lives in Dallas with his wife, Lisa, and their son.

Some of Professor Mohan Kumar's graduates who went to industry and academia are: Swaroop Kalasapur (2006), now with Samsung USA, in San Jose, CA. Mijeom Kim (2006) is working at Korea Telecom in Seoul, South Korea; Zhijun Wang (2005) is now an Assistant Professor, Polytechnic University, Hong Kong and Huaping Shen (2005) is now working in New Jersey.
Dr. Frederick Sheldon completed his MS and PhD at UTA CSE while supported by a NASA DSRP Fellowship. He is now a senior research staff scientist in the Cyberspace Sciences and Information Intelligence Research group at Oak Ridge National Laboratory. Before that, he served as an NRC Postdoc at NASA LaRC and a visiting scholar at Stanford/NASA Ames while holding tenure track faculty positions at the University of Colorado and Washington State University. He is a University of Tennessee Faculty Affiliate. His research is on developing and validating models, applications, methods and supporting tools for the creation of safe, secure and dependable software and systems. He has chaired various ORNL/University of Tennessee sponsored conferences in the area of Cyberspace Sciences. Current research projects include the Cyber Security Econometrics System (patented) and the Heuristic Identification and Tracking of Insider Threat (HIT-IT) tool.


TO CSE ALUMNI

Please send us your news! We want to hear how you are doing, your latest accomplishments, family news, travel and events you are organizing so that we can add it into our next newsletter issue. Perhaps you know that Alumni of the Department of Computer Science and Engineering at UTA, rank as top professionals in their fields. They work in America's leading corporations and in small enterprises and are advancing the field of computer science and engineering through research and development, leadership, technical management, teaching excellence and in other ways. We appreciate the support from alumni that is helping us build a stronger CSE program and we highly value relationships with our alumni. Please let us hear from you!

CSE RAFFLE for ALUMNI AND DIRECT FAMILIES: If you are a CSE alum, you or members of your family can win an iPod by filling out the form below and mailing it to our department by March 30, 2009. The drawing will take place on May 10 and there will be two winners. We also want to hear from you as ideas for the next alumni social event. We are thinking of an alumni social gathering in early fall of 2009.

PLEASE FILL OUT RAFFLE FORM TO WIN AN IPOD.

Your Name: ________________________ Email address: ________________________
Relation to an alum: ________________________ Mailing address: ________________________
Employment address: ________________________________________________________________

Year of graduation and degree received: ________________________
Concentration in CSE and faculty advisor if applicable: ________________________
How can we reach another alum you know?