Faculty Feature: Yu Zhuang

Last fall, Yu Zhuang came to us from Illinois Institute of Technology and hit the ground running.

Advances in computer hardware have made large-scale parallel and distributed systems widely available, e.g. supercomputers, workstation or PC clusters, and the internet (viewable as a huge, loosely connected, distributed-resource computer system). While providing a number of benefits such as increased computing power and information sharing, such multiplicity in computer hardware resources also poses a new problem to software development and verification: "How can application software efficiently utilize the multiplicities of the hardware resources?"

For a process running on a multi-computer system, a participating processor in the system needs to share information with other participating processors in order to (1) synchronize the global ordering of process events, and (2) to carry out operations that require data only on the memory of another computer. Such information sharing requires the access of shared variables in a shared memory computer system and message passing in a distributed memory system. One focus of his research is algorithm design for distributed memory computer systems to maximize the utilization of computing power and minimize communication overhead in message passing.

When asked his thoughts on coming to the Computer Science department of Texas Tech, he said, “It has outstanding faculty and students, and exhibits great potential for substantial growth in terms of both research activities and education. As a new faculty member, I am very glad that I chose to join this department at such a critical moment of rapid expansion, and fully confident that our department will soon grow to ‘Texas Size’ in both research and education, and achieve bright national visibility.”

Gelfond Named as Fellow

Michael Gelfond has been named a Fellow of the AAAI (American Association for Artificial Intelligence) which is a major honor for his contributions to the area of logic programming.

Homecoming 2002

This year’s Homecoming will give us a chance to show off the recent renovations of some of the Computer Science Facilities. The east end of the 3rd floor has been completely redone, and the basement is also getting an update. We are also getting new facilities in the old English building that we will be able to show off as well. The research labs have been doing some remarkable new work, and this year’s tour should be the best yet. So come on down and join us on October 19, 2002. We will be holding our open house from 9:30 until noon. Hope to see you there!

16th Annual ACM Banquet

The 16th Annual ACM Banquet was held on April 17, 2002 this year, with a return to the McInturff Conference Center. Unfortunately, this year we didn’t have the musical entertainment from next door as we have had in the past! Our speaker this year was Scott Winters, a Distinguished Engineer at IBM. He gave a great talk on innovations for IBM that he has been involved with over the years, as well as what he looks for in an intern. John Barrs from IBM also attended the banquet.

Scholarships announced at the banquet included the Terry G Myers Endowed Scholarship (Logan Brown), the Exxon
Scholarship (Christina Anaya & Jason Ostermann), the SPACE Scholarship (Jason Ostermann), the CS Alumni Scholarship (Stephanie Branch) and the CS Outreach Scholarship (Clinton Chisum). ACM officers for 2001-2002 are Jon Edwards (Chair), Julian Russbach (Vice-Chair), Justin Ault (Secretary), Garrett Spradling (Treasurer), Robin D'Souza (Social Chair), as well as Jason Ostermann and Joe Wigner as SEC Representatives.

Programming Team News
This year the ACM Programming competed in a new region. Instead of competing in the South Central Regional contest, they attended the Rocky Mountain Regional contest in Boulder, CO. Nathan Rogers, Joe Pollard, and Ricardo Morales, after five hours of intensive programming, produced correct solutions to seven of the eight problems. Of the 66 teams in the competition, they were the only team to solve more than six of the problems and won the contest.

Our second and third teams were made up mostly of freshmen and sophomores. They did very well for their first year and we anticipate more victories in the years to come. The members of these teams are Martyn Garcia, Mikkel Garcia, Sunil Ramu, Jason Smith, Ryan Holliday, and Daniel Richards.

The programming traveled to Honolulu, Hawaii on March 23, 2002 to compete in the International ACM Programming team competition sponsored by IBM. Despite placing first at their regional competition, the team was only able to solve one problem, which was enough for an Honorable Mention.

All of the programming team members worked very hard, attending twelve 5-hour practice sessions to improve their programming and problem solving abilities. Thanks also should go to Todd Quasny and Julian Hooker, who coached the teams during their practice sessions. Dr. Larry Pyeatt served as the faculty sponsor of the teams.

Faculty/Staff Bytes
William Marcy, Professor, was named Provost of Texas Tech University. He takes office in August 2002.
Brett Moore, Lecturer, was selected as one of 15 faculty chosen by the Student Staff of Residence Life at TTU to be honored for their dedication to the academic achievement of Texas Tech students. Not only was he one of only 15 faculty chosen from the entire university, he was also the only faculty member from the College of Engineering selected.
Bryan Oldham, Professor, was awarded a $432,000 per year research grant by NASA.
Lana Giesler, daughter of Secretary II Susan Hobbs, was chosen to attend the “Careers in Engineering for Women 2002 Summer Program at UT – Austin. Only 4 students from Wilson Elementary were chosen, based on their outstanding marks in Math and Science.
Daniel Cooke, Chair, has been collecting awards from NASA. Dr. Steve Zornetzer presented Dr. Cooke with an award in November for the work he did leading NASA’s CS research initiative with the Intelligent Systems program. In June, Dr. Cooke received NASA’s Exceptional Achievement Medal, a national award presented by the NASA Administrator.

When not receiving awards from NASA, Dr. Cooke has been publishing in several journals as well presenting a position paper at Computer Research Association Grand Challenges Conference in June. In August, Dr. Cooke’s text concerning the design of computer languages will be published.

A two year effort led by Donald Bagert, Professor, to develop a Software Development Professional exam for the IEEE Computer Society was recently completed. The first testing window was expected to be spring of 2002. He has also been serving on the Editorial Board for IEEE Software.

We regret to announce that Dr. Bagert will be leaving the Computer Science Department at Texas Tech to head up the Software Engineering program at Rose-Hulman Institute of Technology in Terre Haute, IN. We wish him all the best!

Keri Gleason decided to go back to school full time this year, and moved to a part time position.
Heather Warren has taken over her position as Academic Program Assistant. Heather joins us from the Transfer Evaluation office.

Computer Science will have 4 new faculty this fall. New Assistant Professors are Dr. Nelson Rushton, who joins us from the University of Georgia, Dr. Michael Shin, who joins us from George Mason University and Dr. Ka-Cheong Leung, who joins us from Nokia. Dr. Mike Sobolewski will join us as a Professor from his current position with the General Electric Global Research & Development Center.

We also have 3 new faculty joining us to open our new Abilene Campus. Dr. Jack Barnes, Dr. Robert Young, and Dr. Jason Denton will be leading that new initiative.

It’s a good thing we have all those new faculty since Bharti Temkin and Gopal Lakhani will both be on development leave this year.

Dr. Temkin has recently learned that “ifEgit” a system developed by Eric Acosta in her Virtual Environment Lab is going to be part of a permanent showcase of new technologies in Venice, Italy.
From the Chair

One of the outcomes of the university’s recent strategic planning activity is the development of new research and educational missions for the department. The research mission of the Computer Science department at Texas Tech University is to advance the state-of-the-art in computer science and software engineering through the achievement of fundamental advances, testing these advances by applying them to hard applications.

The educational mission of the Computer Science department at Texas Tech University is to instruct undergraduate and graduate students in state-of-the-art scientific and engineering methods pertinent to computer science and (at the graduate level) software engineering in order to lead students to a point of understanding where they remain inquisitive, serious, ethical, and creative problem solvers.

Along with these philosophical changes, the department has also undergone significant substantive change during the past three years. In addition to renovations being made in the building and investments being made in existing budgets on the Lubbock campus, the department has launched initiatives for the development of an interdisciplinary lab in Lubbock and a satellite graduate campus in Abilene.

The interdisciplinary lab will provide a setting where basic and applied computer science research is conducted. Participants from other disciplines will provide opportunities to apply fundamental research results to hard problems in those disciplines. This lab is being funded by a significant university investment of excellence funds and will be housed in the west wing of the old language and philosophy building. A major initial focus of this lab will be fundamental advances in intelligent systems to provide new approaches to fault detection and tolerance of systems requiring the highest levels of dependability.

The Abilene campus will initially focus on a software engineering approach that concerns the transition of fundamental results into systems that are near production quality. These systems will provide technology demonstrations of theoretical results applied to hard and significant problems relevant to federal agencies such as NASA. The Abilene campus will work closely with Abilene’s three undergraduate institutions to develop an intellectual, interdisciplinary community that mirrors the interdisciplinary lab planned for the main campus.

The faculty profile has changed dramatically during the past three years. In the fall of 2002, twenty-one tenure-track Computer Science faculty members will report to the Lubbock and Abilene campuses. Of that number fifteen have joined the department during the last three years, one will not be teaching in the department because of his duties as Provost, and two will be on faculty development leave. Seven new faculty members have been hired in the past hiring season. This is truly unprecedented and dramatic growth.

Over the past three years we have established strong ties to three NASA Centers: Johnson Space Center, NASA Ames Research Center, and the Jet Propulsion Laboratory. In each of these centers we are developing research partnerships with key research scientists. Faculty members have also developed strong ties with leading universities.

How well are investments in the department paying off? Since 1999 we have seen the following increases:

- 22% increase in undergraduate majors,
- 56% increase in majors at the Masters level,
- 60% increase in Doctoral students,
- 43% increase in research expenditures,
- 100% increase in archival publications,
- 48% increase in the number of lecture sections taught by full-time faculty members,
- 100% increase in the number of Baccalaureate Degrees Awarded
- 19% increase in Masters Degrees Awarded
- No change (yet) in Doctoral Degrees Awarded

Clearly, investments in the Computer Science Department have resulted in significant returns and the department is certainly moving in positive directions. I am grateful for the support of the alumni and the administration and for the hard work of our faculty, staff, and students.

CSAN
Is the biannual Alumni Newsletter of the Computer Science Department, Texas Tech University. Please direct comments about this issue to:
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Lubbock, Texas 79409
Mysti.digby@ttu.edu
(806) 742-3527
CS WWW site:
http://www.cs.ttu.edu
http://www.cs.ttu.edu/alumni
Thank You!!!!

We’d like to extend our thanks to all the alumni, corporations, and friends that have contributed to the Computer Science Department in the last few months. All of you make a huge difference in what we’re able to accomplish!

$1,000 & up
- ExxonMobile
- Phillips Petroleum
- Bill Lee & April Liu
- Louise Repath
- Jim Ollerton
- Christopher Smith
- David Seese

$200-500
- JC Pennys
- Raytheon
- Donald Bagert
- Dennis & Amy Caroll
- Kevin Gibson
- Mark Wossum
- William Marcy
- Marshall Huffman

$100 & up
- Elyse Dellinger
- Tom Ferrell
- TRW Foundation
- Hank Pace
- Greg Storm
- Eric Wong
- Kevin Jones
- Troy Smith
- Daniel Sanchez
- Matt McGlothlin
- Anand Reddy
- David Baten
- Carrie Gonzalez
- Janet Chou

$20 & up
- Radio Shack
- David Stevens
- Kevin Young
- Devon Peasley
- Qiquan Xu
- Chris Myles
- Tama Leach
- Thomas Bizzell
- James Spence
- Kelly Snyder
- Robert Thorpe
- Tyson Stephenson
- William Prusha
- Kim-Yu Mau
- Tom Leavitt
- Koree Mires
- Eric Fraser
- Greg Buxkemper
- Karl Higgins
- Ryan Montgomery

Graduate Scholarships
This year we were able to award competitive scholarships to several of our graduate students. Congratulations to these outstanding recipients for the 2000-2001 academic year.

- Qian Liang
- Srirangam Addepalli
- Zhijun Lin
- Bharani Ellore
- Sudhir Pabbati
- Sunghyuck Hong
- Ran Zhang
- Tarun Madan
- Srirangam Badam
- Rasika Dhamankar

- Julian Hooker
- Lei Wu
- Ravi-Kiran Malladi
- Rajalakshmi Arumugam
- Sandeep Chintabatina
- Sankath Sangam
- Milind Walawalkar
- Shridar Upadhyaya
- Vinay Muniyappa
- Brett Moore

In Memorium
- Bin Wei, MSCS’00, was killed in China in April 2002.

- Tim Osmulski, BSCS’96MS’98 passed away in Dallas in June of 2002.

Our condolences to their families.
Greg Baker (BSCS'93) is working for Dell Computer in the Austin area and lives in Round Rock, TX. He got his MS in Computer Science from SMU in 1998.

Young-Guk Choi (MSCS'98) is now living in Elk Grove Village, IL.

Greg & Tammy (Stein) Dore (BSCS'90) tell us that they are both currently working for Nortel Networks as senior designers doing software design in telecommunications. In 2000, they transferred to Nortel in southern Germany for a 2-year assignment and currently live near the town of Friedrichshafen.

Lauren Dygowski (BSCS'93) tells us that after leaving the Marine Corp in 1997, he worked for MCI/WorldCom in Dallas for a year. The last 4 years he has been a Senior Network Analyst for the Vanguard Group in Charlotte, NC. He designs, builds & fixes an enterprise telecommunication network for a major financial institution. He is still married to Kimberly and they have 3 sons, Daniel, David and most recently John.

Robert Hampton (BSCS'91) wrote us last summer to let us know that he’s working for Environmental Industries in Calabasas, CA. He was promoted to Information Systems Operations Manager last year, and was working on a Cisco infrastructure upgrade for 40 locations & rolling out Windows 2002 server and Exchange 2000. He and his wife Mindi had their first child last fall.

Craig Jennings (BSCS'00) is employed as a Software Engineer with Level 3 Communications and living in Westminster, CO.

Deepak Jindal (MSCS'01) is working for Epic Systems Corporation as a Software Developer in Madison, WI.

Jungyoon Kim (MSCS'97) is working at the SE Lab in the Department of CS at Korea’s Advanced Institute of Science and Technology.

Toni Logar (PhDCS'92) was appointed Chair of the Department of Math and Computer Science at the South Dakota School of Mines and Technologies in July of 2000.

James Monroe (BSCS'92) has been working for Raven software and the last we heard was Lead Programmer on Star Wars, Jedi Outcast: Jedi Knight 2. He and his wife Ann had their first child, Zane in March of 2001.

Neelakanth Nadgir (MSCS'98) writes to tell us that he’s working for Sun Microsystems in the Bay area. He tunes applications for faster performance on Sun machines.

David Pace (BSCS'84) is still living in Crowley, TX.

Vir Phoha (PhDCS'92) had an article on copyright laws and the Digital Millennium Copyright Act published in the Viewpoint section in the December 2001 Communications of the ACM. Vir is currently Chair of the Computer Science Department at Louisiana Tech University.

Michael Shelton (BSCS'99) let us know that he got married in April to Disa, and is now living in Arlington, TX. He is still with Raytheon.

Dwayne Smith (BSCS'95) is no longer lost and is working for Sprint in the Technical Architecture division. He lives in Lewisville, TX.

Shane Terrell (BSCS'99) was working as a Programmer/Analyst for the TTU Health Science Center the last we heard.

Tracy Thomason (BSCS'92) has taken a position with Incode, a Lubbock, TX software company that develops applications for city governments and is adjusting to wearing something besides jeans and a golf shirt to work.

Patrick Williams (BSCS'92) has recently moved to Murphy, TX and is still with Alcatel.

Mark Workman (MSCS'97) and his wife Diana are proud to announce the arrival of their daughter Juliana Paige, who arrived in January 2002.

Don Young (BSCS'90) wrote to let us know that he is now with BMC Software testing their Guardian Angel product, which does network & PC management.

We had more updates this time around, but mainly because I wasn’t able to get a newsletter out until summer this year! My apologies to all of you. There are several ways you can let us know what you are up to these days, via email to mysti.digby@ttu.edu or with the CS Alumni Website at http://www.cs.ttu.edu/Alumni/updtnm.html. Or heck, you can send us a letter at Box 43104, Computer Science, Texas Tech University, Lubbock, TX 79409-3104. Just let us know what you’re doing, who you’re doing it for, or if you received any awards or special recognition for doing it! We’d just love to hear from you!
Missing Persons

We’ve found a few, but these are still missing! If you know where to find anyone on this list, please let us know! We’d hate for anyone to miss getting his or her newsletter!

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