

Greetings from the CSE Chair

During my first year as Chair, we reached a milestone on our 40th anniversary of the UNT Department of Computer Science and Engineering. This newsletter is being mailed to more than 3,000 alumni who have graduated from our programs over the past 40 years. I have been privileged



to meet several CSE alumni on various trips around the country this past year and at College of Engineering alumni events in the Dallas-Fort Worth area. It was a special honor for our department that CSE alumnus Jason West received the UNT Distinguished Alumni Award in April. We also welcomed many new alumni with graduating students, including 8 PhD graduates in the last year, bringing our total number of PhD students graduated to 73. All our degree programs grew this year with our total number of students approaching 1,000.

Our most important project this year was the recruiting of 3 new faculty, including one for the Knowledge Discovery from Digital Information cluster. We had an excellent pool of high quality applicants and conducted 13 on-campus interviews across the 3 positions. At the time this newsletter is going to press, we are finalizing the hiring of 3 outstanding new faculty and perhaps by the time you receive this, you will be able to read about the details at <http://www.cse.unt.edu/site/node/410>. We plan to continue building our department in the focus areas of computer security, computer systems and intelligent systems and expect to hire additional faculty in these areas next year.

If I haven't already had an opportunity to meet you, I hope that I will soon. If you are in the North Texas area, please come to visit us at the UNT Discovery Park campus.

CSE turns 40

The Department of Computer Science and Engineering was founded as the Department of Computer Sciences in 1971. Chaired by Dr. Dan Scott, the department began with a Master's level program. During the first year, the faculty consisted of Dr. Scott and Tom Irby, who retired in 2007. In 1973, they were joined by Denis Conrady who retired in 1999 and passed away in June 2011 (<http://www.cse.unt.edu/people/DenisConrady>).

In 1978, the department began offering BA and BS degrees. It became the first Computer Science department in the US to be accredited by the National Computer Science Accreditation Board in 1986. The PhD program began in 1982. The first PhD graduate, Cliff Burgess, is our Alumni Focus on page 3.

Please tell us what you would like to do at this CSE 40th Anniversary Celebration Survey: <http://www.surveymonkey.com/s/7LFHHD>. Deadline is June 30. We look forward to hearing from you!

Jason West receives UNT Distinguished Alumni Award

CSE Alumnus **Jason West** ('96) received a Distinguished Alumni Award on April 20, 2012 from the University of North Texas. First presented in 1965, this is the university's most prestigious award. It is given to individuals who have achieved prominence in their profession, thereby reflecting a positive image of UNT. Only two Distinguished Alumni Awards are given each year.



Jason was a founding member of the Laboratory for Recreational Computing (LARC) in 1993. **Dr. Ian Parberry**, Director of the LARC, is pictured on the left with Jason on the right at the UNT Alumni Award banquet. After graduating from UNT in 1996, Jason worked at Paradigm Entertainment. While there, he received a job offer from a small Tulsa start-up game studio, 2015, to work on the video game "Medal of Honor: Allied Assault," which became a huge success.

In 2002, West co-founded the California-based studio Infinity Ward. Infinity Ward's creation, "Call of Duty," was published in 2003 and quickly surpassed "Medal of Honor" in popularity. West last directed "Call of Duty: Modern Warfare 2," which sold about 20 million units and generated an estimated \$1.3 billion in sales to date. In April 2010, West began a new independent studio called Respawn Entertainment. Respawn owns and has full control over the intellectual property it creates.

West is married to UNT alumna Adriana West ('00). They have two children and live in Los Angeles. Congratulations to Jason on receiving this prestigious award!

New CSE Faculty

Dr. Tamara Schneider joined the CSE faculty as a Lecturer in Fall 2011. Dr. Schneider received her PhD in Computer Science and Engineering at the University of North Texas in December 2010. Following her graduation, she was a post-doctoral research associate with the UNT Computational Epidemiology Research Laboratory. Her research is in analyzing and optimizing regional bio-emergency response plans, disaster preparedness, and synthetic cities. Dr. Schneider is teaching Computing Foundations I and II.



UNT designated as a National Center for Academic Excellence in Information Assurance Research

Dr. Ram Dantu, Director of the Center for Information and Computer Security (CICS) and Professor in the Department of Computer Science and Engineering, has been informed that the National Security Agency and the Department of Homeland Security have designated the University of North Texas as a National Center for Academic Excellence in Information Assurance Research (CAE-R) for the academic years 2012 through 2017. CICS is ranked as a National Center of Academic Excellence in Information Assurance Education (CAE-IAE) from 2003-2017. UNT is one of 36 universities in the nation and one of four universities in Texas designated as CAE-R and CAE-IAE.



In January 2012, CICS helped the City of Denton to be recognized as one of the top 10 best data security cities in the country. The study "Banking & Financial Services: A Comparative Cost Analysis for Information Assurance Operations" by New Jersey-based corporate location consulting shop Boyd Co. Inc., cites the relatively low cost of operating in Denton, along with the city's strong telecommunications infrastructure and its relative insulation from natural disasters.

Alumni support RoboCamp

A Big Thank You to all the alumni and other sponsors who have contributed funds for scholarships to support the Summer 2012 RoboCamp and Xbox camp programs. This has helped us continue with these programs when the state funding cycle has been relatively low.



We can still accept donations until June 15. A single student can be sponsored for \$350. Alumni who have donated so far are Deanna Wolf (BS 2008), Anurag Arepally (MS 2006) and Mitra Mahdavian (BS 2007). Also contributing are Convergence Technology Center at Collin College and UNT Computer Science and Engineering.

For more information about RoboCamp, please go to <http://cse.unt.edu/robocamp/>. To make a donation, please click on the 'Sponsor a Student' link. Thanks!

CSE Research Lab News

The UNT College of Engineering held **Design Day** on April 27, 2012. Senior design teams presented projects with poster presentations and group presentations. To see the projects presented by CSE undergraduate students, go to <http://www.cse.unt.edu/site/node/407>.

Laboratory for Recreational Computing Alumnus Jason West received UNT's Distinguished Alumni Award as reported on page one. Jason is widely known as the co-founder of the Call of Duty game franchise. Congratulations to Jason on this award!

LARC Director **Ian Parberry** has signed a contract for a new book entitled *Introduction to Game Physics with Box2D* to be published in 2013. Two LARC students, Dhanyu Amarasinghe and Joshua Taylor, have passed their PhD proposals. Check LARC News on the CSE website for more information.

The **Language and Information Technologies** Group had twelve publications in international journals, conferences, and workshops. Samer Hassan and **Rada Mihalcea** had a paper on "Learning to Identify Educational Materials" published in the ACM Transactions on Speech and Language Processing in November 2011. Carmen Banea, Samer Hassan, Michael Mohler and Rada Mihalcea developed a system that was ranked 5th out of 88 submissions from around the world: "UNT: A Supervised Synergistic Approach to Semantic Text Similarity", described in Proceedings of the Semeval 2012 Workshop on Semantic Evaluations.

Samer Hassan, Carmen Banea, and Rada Mihalcea have a paper on "Measuring Semantic Relatedness using Multilingual Representations," and Bharath Dandala, Rada Mihalcea and Razvan Bunescu have a paper on "Towards Building a Multilingual Semantic Network: Identifying Interlingual Links in Wikipedia", both of them to be published in the Proceedings of the First Joint Conference on Lexical and Computational Semantics in June 2012.

Veronica Perez-Rosas, Carmen Banea and Rada Mihalcea wrote a paper on "Learning Sentiment Lexicons in Spanish," and Erwin Fernandez-Ordonez, Rada Mihalcea, and Samer Hassan wrote a paper on "Unsupervised Word Sense Disambiguation with Multilingual Representations", both of them published in Proceedings of the Conference on Language Resources and Evaluations in May 2012. Chee Wee Leong and Rada Mihalcea's paper on "Going Beyond Text: A Hybrid Image-Text Approach for Measuring Word Relatedness" was published in Proceedings of the International Joint Conference on Natural Language Processing in November 2011.

Rada Mihalcea gave three keynote talks, at the Mexican Conference on Artificial Intelligence in November 2011, at the 7th MICAI Workshop on Human Language Technologies in November 2011, and at the EAACL 2012 Workshop on Innovative hybrid approaches to the processing of textual data in April 2012. She also gave several invited talks at the Southern Methodist University, University of Alabama at Birmingham, University of Illinois at Urbana Champaign, and Rutgers University.

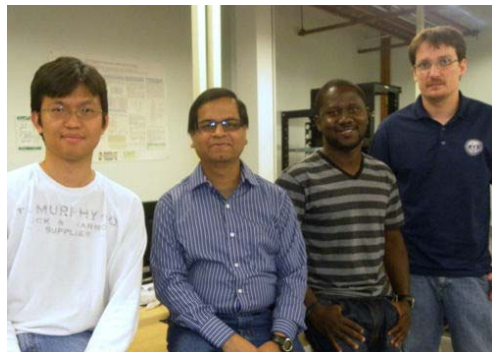
It is also worth mentioning a project that has been recently completed, together with Prof. Andrew Torget (PI) from the Department of History, on mapping historical texts. More details and a demo of this project funded by the National Endowment for the Humanities are available from the project website <http://mappingtexts.org>.

The Language and Information Technologies group, together with the Department of Computer Science, has hosted for the fourth time the local site of the North American Computational Linguistics Olympiad. More than forty students participated in the open round in February 2012, out of whom five students qualified for the invitational round held in March 2012.

Finally, the group also welcomes two new babies to the group: Catherine, born to Michael and Megan Mohler in December 2011, and Davina, born to Ben and Chinvy Leong in April 2012.

NanoSystem Design Laboratory (NSDL) members made multiple presentations this year. Karo Okobiah presented two papers at the International Symposium of Quality Electronic Design (ISQED) in Santa Clara, CA in March. Geng Zheng made two presentations at another conference GLSVLSI 2012 in Salt Lake City, UT in May. Both Karo and Geng are PhD candidates and are pursuing research in the areas of nano-CMOS mixed-signal metamodeling and Verilog-AMS modeling, respectively, under the supervision of NSDL director Professor **Saraju Mohanty**.

In Spring 2012, Oleg Garitselov defended his dissertation "Metamodeling-based Fast Optimization of Nanoscale AMS SoCs" and Juan Franco defended his master's thesis "Rapid Prototyping and Design of a Fast Random Number Generator." Both graduated in May 2012. Oleg was named the Outstanding PhD Student in Computer Science and Engineering for 2011-2012.



NSDL members (L-R): Geng Zheng, Dr. Saraju Mohanty, Karo Okobiah, and Oleg Garitselov.

NSF Net-Centric / Industry University Cooperative Research Center held its Industrial Advisory Board meeting in April 2012. More than 20 industrial representatives and more than 40 university faculty and graduate students attended the meeting. The Net-Centric IUCRC is led by UNT with **Dr. Krishna Kavi** as the director. In addition, Arizona State University, University of Texas at Dallas, Southern Methodist University, and the Missouri University of Science and Technology are academic sites of the center. The research of the center is supported by more than 20 industrial memberships and NSF.

Network Security Lab has had a busy year under the direction of **Dr. Ram Dantu**. In Fall 2011, Brandon Gozick and Dr. Dantu received an NSF Innovation Corps award to develop the Mobil Life Guard. Their team was the only team in Texas and one of only 21 awards out of 320 in the country to receive this inaugural I-Corp award. Brandon graduated in May 2012 and was named the Outstanding Master's Student in Computer Engineering.

In March, Dr. Dantu and his students were in the news for creating a new way to check blood pressure using a smart phone. Srikanth Jonnada's master's thesis "Cuff-less Blood Pressure Measurement using a Smart Phone" led to this device which Dr. Dantu hopes to manufacture for consumer use. Srikanth graduated in May 2012.

In April, Dr. Dantu organized **Workshop: Security on the Move and in the Clouds** with security professionals from colleges and industry making presentations. The Department of Computer Science and Engineering hosted this workshop in collaboration with the Convergence Technology Center, an NSF Regional Center at Collin College.

Kalyan Pathapati Subbu defended his dissertation "Indoor Localization Using Magnetic Fields" and graduated with his PhD in December 2011. Kalyan was selected by the Toulouse Graduate School as the winner of the Graduate Students Impact Award.

SELL (Software Engineering Language Laboratory) was co-founded in Spring 2012 by **Drs. Barrett Bryant** and **Phil Sweany**. SELL maintains a focus on issues relating to software engineering and programming language design and implementation. This focus includes research in software engineering techniques designed to improve the quality of computer language design and implementation as well research into language design and implementation methods to facilitate development, testing and execution of well-designed software.

SELL PhD student Danielle Gaiter received travel awards to attend the Principles of Programming Languages conference in January in Philadelphia. She also received a travel award to attend the CRA-W Grad Cohort Workshop in April in Bellevue, WA.

In March, Dr. Barrett Bryant co-chaired the Programming Languages Track of the ACM Symposium on Applied Computing in Riva del Garda, Italy. UNT CSE PhD student David Haraburda also presented "On Computing with Types", co-authored with Dr. Paul Tarau. This was the 19th Programming Languages Track at SAC, having been founded by Dr. Bryant in 1994. Dr. Tarau was also a presenter at the very first SAC PL Track.



David Haraburda presents his paper in Italy as Dr. Bryant listens from the front row.

More CSE Research Centers and Labs at <http://www.cse.unt.edu/site/node/37>. Read about CSE in *UNT Research* at <http://www.unt.edu/untresearch/>.

Alumni Focus: Cliff Burgess



I graduated from North Texas State University (NTSU) in 1985, so long ago that even the university name has changed! When I interviewed for university positions as a green PhD, there were fewer than 50 new PhD's joining academia that year. I was offered a position by every university at which I interviewed. Times have changed; I was fortunate through no effort of my own! Before beginning my PhD program, I was a high school math teacher. I was and am still very interested in education. I chose to join the University of Southern Mississippi (USM), an institution that was more oriented toward teaching than research. My first task at USM, along with three other faculty members, was to design and implement a computer science undergraduate program that was nationally accredited. So my early years were extremely busy with the requirements for tenure and promotion – teaching, researching, writing and publishing a couple of books, papers, articles, reviews, chairing conference sessions, serving on committees, as well as designing and implementing the new undergraduate program, which was accredited on schedule.

To any who are looking at university life today, I would say that you need to be able to handle pressure. My experience is that many students are not as well prepared nor as well motivated as they were previously but they expect to graduate whether or not they have the necessary skills. Universities are also greatly increasing paperwork and other ancillary tasks that consume your time. Despite the pressure, remember to always have time for family and friends. Another perspective is that academia offers opportunities for outside links. For example, I have worked with the U.S. Army, Navy, and Air Force, as well as the computer science industry; these have proven very interesting and have provided research opportunities as well as teaching illustrations. Academia also provides the reward of seeing students you have taught go on to succeed in life.

I retired in June 2012. Although you are some way from retirement, I would strongly recommend that you plan for it now, as it will come sooner than you think and requires long term planning. How will you pay for retirement? I was interested to see that UNT is building a 'Zero Energy Research Laboratory' (North Texas Engineer, Fall 2011, p.4). My wife and I built an energy efficient home (HERS rating of 5) in 2008; this effectively wipes electricity bills off our retirement expenses. In addition, it is a buffer against climate change giving us educational opportunities, as when USM classes have toured our home. We have also significantly reduced our transportation expenses by having a Nissan Leaf electric car, which we can charge from our solar panels, for local driving, and a Toyota Prius as a second car and for long trips. Reducing our expenses means we are less reliant on stock market fluctuations and our pensions.

What will you do when you retire? At USM a number of my colleagues did not want to retire because they did not know what they would do with themselves. Do not be like them! I have always enjoyed photography so I decided I would get into

Michael Hall is Professor for a Day

Michael Hall, CSE alumnus, came back to UNT on February 28, 2012 to make three presentations for Dr. Ryan Garlick's classes. He did "Introduction to Agile Methods and Scrum" for CSCE 4410, Software Development I, and CSCE 4420, Software Development II. He did "Appetite for Mobile Apps" for CSCE 3410, Advanced Programming, Android Development.



Michael graduated with a BS in Computer Science in 1980 and a MS in Computer Science in 1981. He is currently Vice President of Mobile Technology at Worldlink in Frisco, TX. They develop mobile device applications for clients on platforms such as iPhone, Android, BlackBerry, Symbian, and Windows Mobile. He also owns his own business, Three Beacons, specializing in Agile Methods training and consulting.

Thanks to Michael for being a Professor for a Day! Dr. Garlick's students enjoyed hearing a CSE graduate talk about his work experiences. If you would like to come back and be a Professor for a Day, contact csealumni@unt.edu.

Daniel Harris and Eddie visit CSE



Daniel Harris graduated in 2008 with a BS in Computer Engineering and now works at Parallax, Inc. in Rockland, CA. He visited CSE in May 2012 and brought Eddie the robot. Daniel is working on his Master's Thesis "Robot localization and collaboration using vision systems" with his advisor, Dr. Bill Buckles.

it more seriously. I am now a professional photographer. I work on my own schedule and am having a great time (see: www.cliffphotography.com). Between the right brain and left brain activities I've been involved with, I think I may finally be using all of my brain! I hope you take a realistic look at your world and plan for the future of your family. You are off to a good start; it is just the beginning of a journey filled with opportunities and pitfalls. I wish you well.

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

Alumni meet new Chair and Dean



UNT Alumni visit with Dr. Bryant on October 26 in San Jose, CA. From left to right are Robert Burgess (BBA and MS in Applied Economics), his wife Angela (MS in Applied Economics); Brian Harrington (CSE PhD 2006); Samer Hassan (CSE PhD 2011); current doctoral student Carmen Banea (CSE MS 2009); Dr. Bryant; and Suresh Vijayakumar (CSE MS 2009).

New Chair Dr. Barrett Bryant has been very busy this year meeting CSE Alumni from all over the country. Here are just some of the alumni he has visited with:

L. Don Austin - MS CS Systems 1987
Carmen Banea – MS Computer Science 2009
Bill Benninghoff – BS Computer Science 1997
Brian Harrington – PhD Computer Science 2006
Samer Hassan – PhD CS and Engineering 2011
Kreg Hoodenpyle - BA Computer Science 1993
Naveen Kakani - MS 1997 and PhD 2000
Larry Michaelwicz – BS Computer Science 1990
Chris Pearce - BS Computer Science 1990
Jamey Reeves - BS Computer Science 1981
Mohamad Sakr - MS CS Systems 1988
Maurice Steward – BS Computer Science 1982
Larry Sullivan – BS Computer Science 1992
Suresh Vijayakumar – MS CS 2009

Dr. Costas Tsatsoulis, Dean of the College of Engineering, has also met with CSE alumni:

L. Don Austin – MS CS Systems 1987
Clint Carter – BS Computer Science 1991
Victor Cobos – BA Computer Science 1990
Stephen Eaton – MS CS Systems 1986
Reginald Hill – BA Computer Science 1983

New PhD Page

The Department of Computer Science and Engineering has a new PhD Recipients page which recognizes all of our PhD graduates with their dissertation titles and major professors. Please go to <http://www.cse.unt.edu/site/node/353> to see this new page. To update your current position and website, please contact csealumni@unt.edu.

To receive our newsletter by email three times a year, please register at:

<http://www.cse.unt.edu/site/node/71>

To update your information, go to:

<http://www.cse.unt.edu/site/node/70>

To see our alumni newsletter archive, go to:

<http://www.cse.unt.edu/site/node/69>

CSE Outstanding Students for 2011-2012

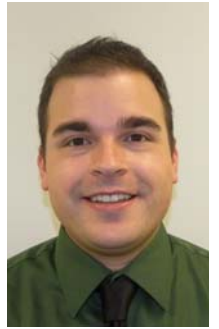
Brandon Nelson is the **Outstanding Undergraduate Student in Computer Science**. A former Marine, Brandon is utilizing his GI Bill to pursue a degree in Computer Science at UNT. During his time at UNT, Brandon's passion for coding has grown through the knowledge and experiences his professors have provided. In addition to a BS in Computer Science, he is pursuing a minor in Mathematics. He has been able to use his mathematical background to improve his abilities in software engineering. With a planned graduation in December 2012, he looks forward to a promising career.



Brett McCormick is the **Outstanding Undergraduate Student in Information Technology**. Brett transferred to UNT in the Fall of 2009 from Collin College, where he studied Convergence Technology in an NSF funded ATE program. Brett's senior design team developed a public transportation tracking system powered by mobile phones and presented their project at the National Transportation Workforce Summit in April 2012. Brett has also served as a College of Engineering Ambassador. This summer, Brett will have an internship at Bottle Rocket Apps as an Android Developer.



Brandon Gozick is the **Outstanding Master's Student in Computer Engineering**. He defended his master's thesis "A Driver, Vehicle and Road Safety System Using Smart-phones" in March. His research resulted in Mobile Life Guard, which was accepted by the NSF Innovation Corps program at Stanford University. His team was only 1 of 21 teams out of more than 350 selected and was awarded with a \$50,000 grant to improve the driver safety system for potential public use.



Andrew Allen is the **Outstanding Undergraduate Student in Computer Engineering**. Drew transferred to UNT in 2009 and is currently working towards Bachelor's degrees in Computer Engineering and Mathematics. He graduated in May 2012 and plans to attend graduate school. He is interested in artificial intelligence and spends some time studying machine learning. He was also selected to take part in UNT's Research Training Group (RTG) last summer.



Sandeep Pachakarla is the **Outstanding Master's Student in Computer Science**. Sandeep is from India and is very grateful to his family for their support. Sandeep is pursuing his MS degree and is working on his master's thesis "Learning from Highly Imbalanced Data Sets." Sandeep thanks his major professor Dr. Xiaohui Yuan for being his teacher, friend, philosopher and guide and is grateful to UNT for recognizing him as an outstanding student. He thanks everyone for inspiring him to do his best.



Oleg Garitselov is the **Outstanding PhD Student in Computer Science and Engineering**. A veteran of the US military, Oleg came to UNT to study Nanoscale VLSI Systems Design with his major professor, Dr. Saraju Mohanty. Oleg has published / presented 2 journal and 9 international conferences articles. The research is funded by Semiconductor Research Corporation (SRC) and National Science Foundation (NSF). He defended his dissertation titled "Metamodeling-based Fast Optimization of Nanoscale AMS SoCs" in February and graduated in May 2012.



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