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## Greetings from the CSE Chair

Dear CSE Students,

Welcome to the Spring 2016 semester at the Department of Computer Science and Engineering! Congratulations to Dr. Saraju Mohanty on receiving the 2016 PROSE (Professional & Scholarly Excellence) Award for the best textbook in Physical Sciences & Mathematics from the Association of American Publishers (AAP)! We are very proud when our faculty members receive national recognition for the Department of Computer Science and Engineering.



As our numbers continue to grow, we are searching for several new faculty members to join us in Fall 2016. Also, we are planning to add more space to our department by building new labs and faculty offices in new space at the end of our hallway.

As you may have heard, UNT has opened the [New College at Frisco](#). We will offer a M.S. in Computer Science with certificates in cybersecurity, data

April 18, 1 pm - (Ubuntu) Basic to Advance Terminal Commands

April 25, 1 pm - (Tentatively) Short Programming Competition Open Programming Competition ↑

## Cybersecurity at UNT CSE featured in the North Texan

Cybersecurity at UNT is featured in the cover story of the Winter 2015 edition of the North Texan. UNT alumnus **Tawfiq Shah** ('13, '15 M.S.) is a computer science and engineering graduate who is a senior research engineer at a Richardson-based company called Armor developing innovative solutions to protect companies. Shah creates cloud solutions for healthcare, financial, retail, and other industries. Read more about Shah in the "Arming Industry" section of the [North Texan](#).



**Valmiki Mukherjee** ('06 M.S.), Dr. Saraju Mohanty's first UNT Computer Engineering graduate with VLSI specialization, was also featured in The Winter 2015 edition of the North Texan in "[Cyber Security Tips](#)". Mukherjee is the chief security architect of Cognizant's Security Products business for North America. He is a globally recognized expert in cyber and cloud security domains. In 2014, Mukherjee established the Cyber Future Foundation, a global think tank of cybersecurity and policy experts. ↑



## News from the Center for Information and Computer Security

The **Center for Information and Computer Security (CICS)** is an interdisciplinary center, bringing together individuals and organizations with an interest in the areas of information security, computer security, information assurance, and cybercrime. CICS has been recognized by the National Security Agency and Department of Homeland Security as a "Center of Academic Excellence in Information Assurance Education."

**Dr. Ram Dantu**, Director of the Center for Information and Computer Security, was noted in a [speech by the National Science Foundation Director](#) Dr. France A. Córdoba at the Texas Research Summit. Dr. Córdoba talked about Dr. Dantu's research in Voice over IP (VoIP) security as an example of how cybersecurity research like his has led to products, services, startups and innovative solutions in the marketplace. ↑

Game Programming I in Fall 2015 now features Active Learning. Students are divided into 4 weekly 1-hour lab sessions in which they get hands-on experience working with code under the expert eye of TA Curtis Chambers to reinforce the material covered in the weekly 2-hour lectures. Active Learning has been shown to increase retention and improve performance in STEM courses.

For the most recent news about LARC, see this [page](#). ↑

## Professor Mohanty receives 2016 PROSE Award

**Professor Saraju Mohanty** received the 2016 PROSE (Professional & Scholarly Excellence) Award for the best textbook in Physical Sciences & Mathematics from the Association of American Publishers (AAP). Dr. Mohanty's book, *Nanoelectronic Mixed-Signal System Design*, was published in February 2015 by McGraw-Hill Education. See all the award PROSE Award winners [here](#). Congratulations to Dr. Mohanty!

Professor Mohanty was the founding general chair for IEEE International Symposium on Nanoelectronic and Information Systems (**IEEE-iNIS 2015**) which was held during December 21-23, 2015 at Indore, India. iNIS has been initiated as a sponsored meeting of **IEEE-CS Technical Committee on VLSI** that endorses a league of successful meetings such as ASAP, ISVLSI, and ARITH. The conference had four keynote speakers from various U.S. universities and research institutes in France. The conference proceedings were published by IEEE-CS conference publication services (CPS). Prof. Mohanty discussed IEEE scholarship and outreach activities. IEEE Circuits and System Society outreach initiative sponsored this meeting, along with UNT Computer Science and Engineering Department.



Professor Mohanty at the IEEE iNIS conference.

In other news from NanoSystem Design Laboratory (**NSDL**), several more students have recently joined. NSDL now has 7 Ph.D. students and 3 M.S. thesis students engaged in various area of Nanoelectronic system design targeted for Internet of Things (IoT) and Smart City components. For example, **Abu Sayeed** joined NSDL from Lamar University in Spring 2016. NSDL student **Manoj Kumar Mukka** defended his masters thesis titled "Simulink based Design and Implementation of a Solar Power based Mobile Charger" in Fall 2015. In the last year, members of NSDL published a total of 10 journal/conference articles. A selected example includes the following:

- D. Roy, P. Ghosal, and S. P. Mohanty, "FuzzRoute: A Thermally Efficient Congestion-Free Global Routing Method for Three-Dimensional Integrated Circuits", ACM Transactions on Design Automation of Electronic Systems (TODAES), Volume 21, Issue 1, November 2015, pp. 1:1–1:38.
- E. Kougianos and S. P. Mohanty, "A Nature-Inspired Firefly Algorithm Based Approach for Nanoscale Leakage Optimal RTL Structure", Elsevier The VLSI Integration Journal, Volume 51, September 2015, pp. 46–60.
- S. P. Mohanty, E. Kougianos, and V. P. Yanambaka, "Ultra-Fast Process-Aware Design Optimization of PLL using Bootstrapped Kriging and PSO", in Proceedings of the 16th International Symposium on Quality Electronic Design (ISQED), pp. 239–242, 2015. (Blind Review)

- S. Joshi, E. Kougianos, and S. P. Mohanty, "Simscape based Ultra-Fast Design Exploration of Graphene-Nanoelectronic Systems", in Proceedings of the 14th IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 2015, pp. 292–296.
- U. Albalawi, S. P. Mohanty, and E. Kougianos, "A Hardware Architecture for Better Portable Graphics (BPG) Compression Encoder", in Proceedings of the 1st IEEE International Symposium on Nanoelectronic and Information Systems, 2015, pp. 291–296. (Blind Review)
- Z. Zhao, A. Srivastava, S. Chen, and S. P. Mohanty, "An Algorithm Used in a Power Monitor to Mitigate Dark Silicon on VLSI Chip", in Proceedings of the 14th IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 2015, pp. 191–194. (Ph.D. Forum) (Awarded Best Ph.D. Forum Paper).



## NSF Net-Centric & Cloud Software & Systems (NCSS) Industry & University Cooperative Research Center (I/UCRC) News

Dr. Krishna Kavi's former student **Tomislav "Tommy" Janjusic** (Ph.D. 2013) developed **Gleipnir** while at UNT. Following his graduation from UNT, Janjusic received a postdoctoral fellowship at the Oak Ridge National Laboratory. He continued his work on Gleipnir which is featured in "**Finding New Ways to Optimize Code**" at the Oak Ridge Leadership Computing Facility.



Dr. Janjusic came back to UNT to visit with Dr. Kavi in 2015.

Another student in Dr. Kavi's lab is **Patrick Kamongi**. He is a computer science and engineering Ph.D. student at the University of North Texas, who is being supported by I/UCRC NCSS projects. His research work focuses on cloud computing security. Under the advising of Dr. Krishna Kavi, he has gained invaluable research experience working on I/UCRC projects and his ongoing work has resulted into some preliminarily novel published works.



This past summer 2015, Patrick was offered and completed a competitive internship with a cyber threat intelligence security firm 'iSIGHT Partners' where he worked as a cyber threat researcher intern. His responsibility duties were in lieu of supporting department activities such as conducting malware research, collecting cyber threat data, and many other tasks. While working independently or through collaboration with global researchers, he enjoyed the learning experience and applied proven research techniques in an industry setting.

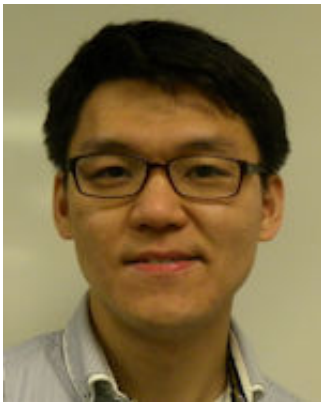
I/UCRC projects and internship experiences have enabled him to put his ongoing education on a fast track. In addition, he has been able to make great professional connections and this has opened up to him, various opportunities at both academic and industry levels. Read other internship stories below in the Student News section. ↑



**Jin Shao\***

Dissertation: *Advanced Power Amplifiers Design for Modern Wireless Communication*

Major Professor: Song Fu



**Ziming Zhang\***

Dissertation: *Adaptive Power Management for Autonomic Resource Configuration in Large-Scale Computer Systems*

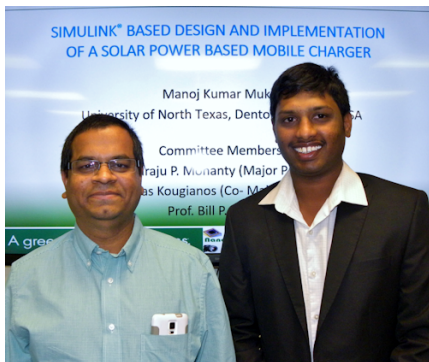
Major Professor: Song Fu

\*Summer 2015 Graduate

To see all of our Ph.D. graduates from past years, please see this [Ph.D. page](#). ↑

## CSE Students defend Theses

Congratulations to these M.S. students who successfully defended their theses!



**Manoj Kumar Mukka**

Thesis: *Simulink® Based Design and Implementation of a Solar Power Based Mobile Charger*

Major Professor: Dr. Saraju P. Mohanty

Defense Date: November 24, 2015

**Siyuan Liu**