

College of Engineering students score at 41st IMAPS on microelectronics



41st IMAPS International Symposium on Microelectronics

Temple's IMAPS Student Chapter booth won second prize at the 41st IMAPS conducted in Providence, Rhode Island Convention Center, November 206, 2008. In total, there were 8 universities in competition. Temple Student Chapter President Son Nguyen is a PhD candidate in the Electrical and Computer Engineering Department, Vice President is Nadia Barakat, and Treasurer is Chris Conklin. The Temple Student Chapter presented 11 posters of their work, a prototype of a universal remote control for the visually impaired, and they demonstrated novel software that is being much faster than the presently available one. The posters were interdisciplinary in nature covering areas such as quantum cellular automata, Hilbert-ultra high-speed processing, zeolite-Y biosensor, etc. Poster listing and authors are below:

1. "Computer Modeling of Induced Hyperthermia Using Superparamagnetic Iron Oxide Nanoparticles and their Application"

Chris Conklin*, Dr. Joan Z. Delalic*, Saroj Biswas*, Feroze B. Mohamed+, Scott H. Faro+, Linda Knight+, Marvin Ziskin+, Daniel Strongin°

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°College of Chemistry, Temple University

+School of Medicine, Temple University

2. **“ADIPOCYTE BEHAVIOR REGULATION VIA THE BINDING OF PPAR GAMMA RECEPTORS IN ADIPOSE TISSUE”**
By Hassam Baig & Nehemiah Williams
Advisor: Dr. Richard S. Cohen
3. **“Implementation of Gen2 RFID Tag with Data Storage to Log and Maintain Vehicle History”**
By Sai and Kavya
Advisor: Dr. J. Z. Delalic
4. **“Novel Approach in Computing with Ultra-High Processing Throughput**
Son Nguyen, Joan Delalic
Temple University
Bjron Gruenwald, Phil Monson
Hilbert Company
5. **“Trade off between speed and defect tolerance of QCA designs in the presence of different manufacturing defects”**
By Satyaki Ganguly
Advisor: *Joan Z. Delalic*
6. **“A JAVA Implementation of modified Rapid Upper Limb Assessment”**
By yaoyaoHuang; Advisor: Li Bai; Zdenka Delalic; Judith E. Gold
7. **“UNIVERSAL REMOTE CONTROL FOR THE VISUALLY IMPAIRED”**
By Ralph Oyini-Mbouna, Chris Addo, Ahmet Cengiz, and Eghonghon Ojeifo
Advisor: Dr. Zdenka J. Delalic
8. **“Design and Simulation of Heavy-Metal Detection Device Using Yeast-Based Biosensor”**
By Son Nguyen and Sowrabha Vijayanna
Advisor: Dr. J. Z. Delalic
9. **“Development of a Portable Zeolite-Based Gas Sensor ”**
By Son Nguyen
Advisors: D.M. Kargbo¹, Z.J. Delalic², Z. Hasan³, J.M. Catchmark⁴
10. **“Autonomous Navigation Vehicle EnneBird”**
By Zhao Cheng
11. **“Analog Tetrode Adaptive Spike Detector”**
By Nadia Barakat
Advisor: Iyad Obeid

The picture below shows Temple students wearing Temple shirts presenting the posters at the chapter booth at the Symposium:

Dr. Delalic is the Temple Chapter Adviser and was also IMAPS Student Activities Chair for the Symposium. She organized the following activities for students—Student Chapter Booth Competition, Student Paper Competition, U.S. Student Chapter Meeting, International Student Industry Panel Reception, Market Segment Mentoring—Alternative Energy, Employment Center as well as she organized a Student Plant tour. The student industry panel provided students both career development advice and industry insight from leading professionals. Industry leaders and professional engineers described and discussed how their education, interest, and career experiences led to their successful careers. Students also learned current industry expectations and what they should be doing now for their long-term career development. The industry tour was designed to provide students with industry insight. They visited Barry LTCC industry which is a vertically integrated microelectronics manufacturing company. The tour included a guided walk through the facilities area of design and simulation, the machine shop, CO2 laser machining thick film printing/firing, YAG laser trim, assembly and engineering/testing.

The student paper competition included 35 students presenting full papers in different areas of microelectronics. Six papers were chosen as the best student papers in different areas of microelectronics. Temple students presented 5 papers. Two of these papers were chosen in the 6 best student papers. These are:

“Trade off Between Speed and Defect Tolerance of QCA Designs in the Presence of Different Manufacturing Defects” by Satyaki Ganguly, Z. Joan Delalic, and Son Nguyen

“Novel Approach in Computing with Ultra-High Processing Throughput” by Son Nguyen, Joan Delalic, Bjorn Gruenwald, and Phil Monson

Six Temple Engineering students presented papers at different Symposium Session Tracks. The papers are as follows:

“Computer Modeling of Induced Hyperthermia Using Superparamagnetic Iron Oxide Nanoparticles and their Application” by Chris Conklin, Saroj Biswas, Feroze B. Mohamed, Scott H. Faro, Linda Knight, Marvin Ziskin, Daniel Strongin, and Joan Delalic

“Analog Tetrode Adaptive Spike Detector” by Nadia Barakat and Iyad Obeid

“A JAVA Implementation of modified Rapid Upper Limb Assessment” by Yaoyao Huang, Li Bai, Zdenka Delalic, and Judith E. Gold

“Implementation of Gen2 RFID Tag with Data Storage to Log and Maintain Vehicle History” by Kavya Kollu, Joan Delalic, and Sai Nava Patanjali Seshabhatter

“Trade off Between Speed and Defect Tolerance of QCA Designs in the Presence of Different Manufacturing Defects” by Satyaki Ganguly, Z. Joan Delalic, and Son Nguyen

“Novel Approach in Computing with Ultra-High Processing Throughput” by Son Nguyen, Joan Delalic, Bjorn Gruenwald, and Phil Monson

Finally, Dr. Delalic received a Certificate of Appreciation for organizing the Biomedical Electronics Session and teaching a ½ day Professional Development Course entitled “Biomedical Materials Devices and Packaging”. She was also elected as Biomedical Technical Chair for the IMAPS Society.

