

September 28, 2007

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ECE Chair

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Welcome Back Students!

I hope you had a great summer and are ready for the new semester. We would like to welcome our freshman and new transfer students to the ECE Department.



As you may have noticed, we have been very busy this summer as we continue to improve the ECE facilities. We've completely renovated the two old classrooms on the third floor of Ball. We now have 3 new classrooms that are all equipped with new audio/visual equipment (these rooms will also be air conditioned!). In addition, we have constructed a new VLSI Design Lab. This lab will be equipped with new Sun workstations and will be used by students taking technical elective courses related to VLSI design.

I am also happy to report that both ECE majors have been fully accredited by the Accreditation Board for Engineering and Technology (ABET). The EE Program has been re-accredited for a period of 6 years, which is the maximum time period for accreditation. In addition, our new Computer Engineering program has been accredited for the first time – also for 6 years. Our Computer Engineering program accreditation is retroactive to October 2005.

I hope to see you at department activities this year and look forward to your participation in ECE organizations such as the IEEE and Eta Kappa Nu.

Have a great semester!

Professor Armiento

Research

GRANTS:

Project Title: *Novel Optical Metamaterials and approached for Fabrication*
Sponsor: Air Force Research Laboratory
Amount: \$100,459
Duration: 09/1/07-11/30/07
PI: Alkim Akyurtlu
Co-PI: Joel Therrien

Project title: *Programmable Network Infrastructure with Emerging Technologies*
Sponsor: NSF
Amount: \$150,000
Duration: 9/1/2007 - 8/31/2009
PI: Yan Luo
Co-PIs: Kavitha Chandra, Jie Wang, Guanling Chen

Project title: *Fabrication of Novel Quantum Electronic Transistors*
Sponsor : Tycoelectronics Ltd.
Duration: Sept. 5, 2007 – May 31, 2008
Amount : \$71,366.90; additional processing cost of experimental wafer in the amount of \$28,000 will be absorbed by Tycoelectronics.
PI : Sam Mil'shtein

DONATIONS:

Advanced Electronic Technology Center, directed by Prof. Mil'shtein, received, as a donation, a high resolution Atomic Force Microscope (AFM) model: NanoMan VS. manufactured by Digital Instruments (VEECO) from M/ACOM Ltd. The estimated cost of the microscope is \$120,000.

JOURNAL PUBLICATIONS:

Liobe, J.; Margala, M., Novel Process and Temperature-Stable, IDD Sensor for the BIST Design of Embedded Digital, Analog, and Mixed-Signal Circuits, *IEEE Transactions on Circuits and Systems I: Fundamental Theory and Applications*, Volume 54, Issue 9, Page(s): 1900 – 1915, Sept. 2007.

N. Wongkasem, A. Akyurtlu, K. A. Marx, Q. Dong, J. Li, and W. D. Goodhue, "Development of Negative Refractive Index Chiral Metamaterials in the Optical Frequency Regime," *Special Issue on Optical and THz Antenna Technology, IEEE Transactions on Antennas and Propagation*, accepted, to appear November 2007.

F. Giraud and Z. Salameh , "Combined Effects of Passing Clouds and Wind Gusts on an Interactive Wind-PV System With Battery Storage Using Neural networks," *Electric Power Components and Systems Journal*, Vol. , 35, No. 7, pp. 823-836, July 2007.

F. Giraud and Z. Salameh, "Harmonics Generated by a Grid-Linked Residential Wind/Photovoltaic Hybrid System With Battery Storage," *Electric Power Components and Systems Journal*, Vol., 35, No. 7, pp. 757-768, July, 2007.

CONFERENCE PRESENTATIONS:

A. G. Kussow, A. Akyurtlu, and A. Semichaevsky, "First-principle studies of the optical properties of MgB₂ and its applications in optics," *North American Radio Science Meeting, URSI 2007*,

Ottawa, ON, Canada, July 23-27, 2007.

A. G. Kussow, A. Akyurtlu, A. Semichaevsky, and N. Angkawattissipan, " Novel optically isotropic negative refraction index metamaterial at visible frequencies based on superconductors (MgB₂)," *North American Radio Science Meeting, URSI 2007*, Ottawa, ON, Canada, July 23-27, 2007.

N. Wongkasem, A. Akyurtlu, and K. Marx, "Identification and Classification of Chiral and Bi-anisotropic Metamaterials," *North American Radio Science Meeting, URSI 2007*, Ottawa, ON, Canada, July 23-27, 2007.

N. Wongkasem, A. Akyurtlu, and K. Marx, "Gammadion Structures with Negative Refractive Index: Analysis and Experiment," *North American Radio Science Meeting, URSI 2007*, Ottawa, ON, Canada, July 23-27, 2007.

N. Limberopoulos, G.S. Banks, A. Akyurtlu, A.S. Karakashian, W.D. Goodhue, V. Limberopoulos "Surface Plasmon Resonance Test Bench Device for the Validation of Optical Metamaterials," *North American Radio Science Meeting, URSI 2007*, Ottawa, ON, Canada, July 23-27, 2007.

Lanuzza, Marco; Perri, Stefania; Corsonello, Pasquale; Margala, Martin, "A New Reconfigurable Coarse-Grain Architecture for Multimedia Applications," *Second NASA/ESA Conference on Adaptive Hardware and Systems*, Page(s): 119 – 126, 5-8 Aug. 2007.

Liobe, John; Margala, Martin, "Novel Process and Temperature-Stable BICS for Embedded Analog and Mixed-Signal Test," *13th IEEE International On-Line Testing Symposium*, Page(s): 231 – 236, 8-11 July 2007.

Kanti Prasad, "Vital Role of Campus Representatives Involving Industrial Leaders in Preparing Students for Modern Engineering Workforce Along With Spreading ASEE's Mission," *ASEE National Conference*, Honolulu, Hawaii, June 26, 2007.

P. Buasri and Z. Salameh, "Modeling of a Distributed Generation System using Adaptive Neuro Fuzzy Inference Approach," *Annual IEEE_PES*, PP. NO, 07GM0715, FL, July, 2007.

W. Lynch and Z. Salameh, "Taper Charge Method for a Nickel-Cadmium Electric Vehicle Traction Battery," *Annual IEEE_PES*, PP. NO, 07GM1503, FL, July, 2007.

THESIS DEFENSE

Mr. Chilyoung Ji successfully defended his Doctor of Engineering Dissertation "Approximate Analytical Techniques in the Study of of Quadruple-Ridged Waveguide(QRW) and its Modifications" on September 17. Advisor: Prof. Kalluri.

Calendar of Important Dates

October

8 Monday *Columbus Day (University Closed)
10 Wednesday *Monday Class Schedule
23 Tuesday *Mid-Semester: At least one evaluation required in each Course.
29 Monday *Faculty Advising Period Begins.