UNIVERSITY OF UTAH
ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT

ECE 6910, 7910

GRADUATE SEMINAR

Spring 2005

EMCB 105

Meeting times:  Fridays 3:05-3:55 p.m. – Hour 1
Fridays 4:05-4:55 – Hour 2

Three or four times during the Semester, there will be special presentations on Fridays or
Mondays at 3:05 p.m. by faculty candidates. The students presently scheduled for those dates
would be rescheduled for a later date in consultation with the instructor.

You are required to attend these presentations and class roll will be taken.

The faculty candidate presentations are presently scheduled for February 18, March 4, March 7,
March 11 and March 21. A distinguished lecturer Prof. Balanis will speak on April 22 courtesy
of the IEEE AP Society.

Invited Speaker

January 14
Robert W. Schmieder
Nanologic Inc.
"A New Class of Intrinsically Hybrid Nanoelectronic Computers"

HOUR 1 (3:05-3:55 p.m.)

Student Presentations

January 21
Kai Xie
"Universal Source-Controlled Channel Decoding for IID Sources with Unknown Statistics"
Paul Watkins
"A CMOS Integrated Phase-Locked Loop"

January 28
Roland Kempter
"TCP Without Congestion Control"
Andy Laraway
"Implementation of MIMO Detector"

February 4
Jeff Bench
"Capacitive Micromachined Ultrasonic Transducers"
Ryan Kier
"Design of Reconfigurable Pattern Generators in Analog VLSI"

February 11
Priyanka Murarka
"Quantum Transistors towards Nanoelectronics"
Bing Zhang
"A Rotating Parallel Slit Collimator for SPECT"

February 18
Faculty candidate's seminar

Friday February 25
Ryan Romney
"Large Scale ASIC Verification"
David Landon
Capacity Estimation of MIMO Channels
Friday March 4  Faculty candidate's seminar –Dr. Saraju Mohanty

Monday March 7  Faculty candidate's seminar ---Dr. Ken Stevens

Friday March 11 Faculty candidate's seminar –Dr. Marc Riedel

Spring Break March 14-18

Monday March 21 Faculty candidate's seminar –Dr. Xinmiao Zhang

Friday March 25 Chad Harper  "F-16 Fire Radar Upgrade"
Daniel Statter  "An Enhanced Volume Phase Grating"

Monday March 28 Chris Heffernan  "High Frequency Analysis of Pump Interconnects"
Royd White  "Test Station Conversion for F-16 Circuit Cards Using VXI Technologies"

Friday April 1 James Stephenson  "Permanent Magnet Table Top Microscale NMR Spectrometer"
Craig Waterman  "SAR Variation with Dielectric Properties of Biological Tissues"

Monday April 4 Kirk Hofeling "Ohmic Contacts to Silicon Carbide"
Vijay Durairaj  "Exploiting Constraint-Variable Dependencies for Efficient Boolean Satisfiability"

Friday April 8 Shang Wu  "Wire Testing Using Reflectometry and Capacitive Sensors"
Justin Jackson  "Characterization and Growth of Silicon Nanowires"

Friday April 15 Justin Bishop  "A Real-Time DNA Biosensing Platform"
Srinivas Merugu  "Cyclical Electrical Field Flow Fractionation"

Monday April 18 Michael Sorenson  "Aftermarket Diesel Performance Engineering"
Bryan Stenquist  "Narrowband Echo-Cancellation Via Kalman Filtering"

Friday April 22 IEEE Antennas & Propagation Society Distinguished Lecture

Prof. C. Balanis  "Smart Antennas for Wireless Communication"
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<tr>
<td>Monday April 25</td>
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<td>I. K. Harsha Rao</td>
<td>&quot;FIR Filter Design Using Complex Chebyshev Approximation and Its Application in Acoustic Crosstalk Cancellation&quot;</td>
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<td>Josh Talbert</td>
<td>&quot;Acoustic Noise Canceling Head Phones&quot;</td>
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<td><strong>HOUR 2 (4:05-4:55 p.m.)</strong></td>
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<td>February 18</td>
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<td>Faculty candidate's seminar</td>
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<td>Friday Feb. 25</td>
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<td>Ashutosh Panday</td>
<td>&quot;Feedback Suppression in Hearing Aids&quot;</td>
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<td>Ganesh Adluru</td>
<td>&quot;Registration of Myocardial Perfusion Images Using Mutual Information&quot;</td>
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<td>Friday March 4</td>
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<td>Faculty candidate's seminar---Dr. Saraju Mohanty</td>
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<td>Heather Malko</td>
<td>&quot;Software Refactoring&quot;</td>
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<td>Vishnupriya Govindan</td>
<td>&quot;Thick Linear Active Optical Lattice Filter&quot;</td>
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<td>Monday March 28</td>
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<td>Jed Pack</td>
<td>&quot;Cone-Beam Tomography: A New Perspective&quot;</td>
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<td>Chirag Sharma</td>
<td>“A Mixed-Signal Integrated Solution for Location of Faults in Aging Aircraft Wiring’</td>
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<td>Friday April 1</td>
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<td>Rajesh Venkataraman</td>
<td>&quot;Small Animal Spect-Slit Collimator Solstice Imaging”</td>
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<td>Jason Walston</td>
<td>&quot;Low-Level Components of RSA Hardware Using Self-Time Circuitry&quot;</td>
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<td>Monday April 4</td>
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<td>Chuck Esposito</td>
<td>Distributed Power in Time-Varying Wireless Networks</td>
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<td>Amit Agarwal</td>
<td>&quot;Sharply Enhanced Transmission of THz Radiation through Periodic Resonant Metal Structures&quot;</td>
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Friday, April 8  
Aaron Jorgensen  
Sivaraman Gopalakrishnan  
"CAPRE PIM USB 2.0 Conversion"

Friday, April 15  
Vamsi K. Mudarapu  
Greg Hill  
"Transformer Protection"  
"VLSI Mechanically-Scanned Analog Clock Controller"

Monday, April 18  
Venkata Telasula  
Jeff Spiegel  
"Active Noise Control Systems"  
"Multiple Layer Matching and Random Analysis"

Friday April 22  
IEEE Antennas & Propagation Society Distinguished Lecture  
Prof. C. Balanis  
"Smart Antennas for Wireless Communication"

Mon. April 25  
Cameron Ford  
Namrata Shekhar  
"An Adaptive Stepsize for the Filtered X LMS Algorithm"  
"Equivalence Verification of Arithmetic Data Paths with Fixed-Size Bit-Vectors Using Modulus Taylor Diagrams and Finite Ring Algebra"