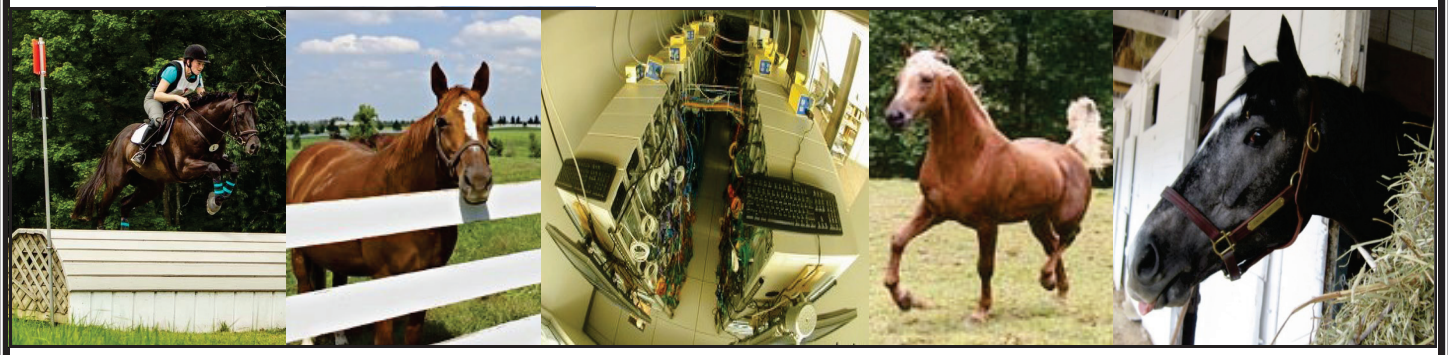
Celebrating 50 years in the Bluegrass



Unbridled Innovation, Engineering Excellence

IEEE

Advancing Technology for Humanity

Lexington

IEEE SoutheastCon 2014

Presented by

IEEE Lexington Professional Section

UK IEEE Student Branch

ITT Technical Institute, Lexington Campus

March 13-16, 2014

IEEE SoutheastCon 2014

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IEEE Region 3

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Many Thanks to the…

2014 Planning committee
Don Hill
Rachel Wilson
Dr. Bruce Walcott
Dr. Regina Hannemann
Dr. Hank Dietz
Dr. William Smith
Ray Williams
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Chris Franklin
John Barnes
Stuart Talbert
Jack McKinney
Dave Dewar
Michael Roy
Les Huff
Jamal Harper
Travis Combs
John Travillian

RSAC
Dr. Pat Donohoe
Mary Lynn Smith
Joshua Shank

The excellent staff at Marriott Griffin Gate

Many volunteers from University of Kentucky, ITT Technical Institute, at Lexington, KY, and elsewhere

Hank Dietz, Kathy Leigh, Donna Lassanske, and Jeff Rogers for graciously sharing photos of our beautiful city and horse country

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Lexington-Fayette Urban County Government
OFFICE OF THE MAYOR

Jim Gray
Mayor

March 2014

Hello everyone,

Welcome to Lexington and the Southeast Regional Annual Conference for IEEE. What a great opportunity to catch up with colleagues and to learn more about the programs offered at the University of Kentucky College of Engineering.

While you're here I hope you'll find time to visit our lively downtown and drive through our beautiful Bluegrass farmland. If my office can be of assistance while you're in town, feel free to call.

Sincerely,

Jim Gray
Mayor

Dear IEEE Professionals and Students,

It is my pleasure to welcome you to the 2014 Institute of Electrical and Electronics Engineers SoutheastCon, the city of Lexington and to the University of Kentucky.

As Kentucky's public, flagship and land-grant research university, we are a national leader in teaching, research, service and health care. We are among eight universities in the nation with programs in Agriculture, Engineering, Medicine and Pharmacy on a single, contiguous campus. The breadth and depth of our programs, talent of our faculty and staff, and curiosity of our students helps us engage in innovative, interdisciplinary teaching and discovery.

UK's College of Engineering was among the three original colleges when UK was founded in 1865. At that time, the University included 190 undergraduate students and 10 professors. Today, UK covers more than 918 acres and is home to more than 29,000 students and 12,400 full-time faculty and staff.

Dr. Eli Capilouto
12th President of the
University of Kentucky

While you attend the conference, please take time to visit our university, which is adjacent to downtown Lexington and a short six miles from the Marriott Griffin Gate Hotel. During your visit, please note the construction across the institution that is part of our priority to renew and rebuild the living/learning experience at UK.

To better foster the social and academic exchanges where our students live and learn, we are adding more than 5,700 beds and 200 active learning spaces in 12 state-of-the-art residence halls. Additionally, we are investing $185 million in our academic and research spaces at the core of our campus. These priorities are a critical component of our future, but our campus is more than bricks and mortar - it is the faculty, staff and administrators who foster opportunities for our students.

I am particularly proud of our recent accomplishments in the College of Engineering. Dr. John Walz was named dean of the College in September 2012. Since then, he has positively impacted the teaching, research, and industry partnerships underway. Last year, the College of Engineering hosted the National Tau Beta Pi Convention and the regional American Institute of Chemical Engineers conference.

Finally, I want to thank the industry sponsors and committee members who have made this conference possible, including: Our Engineering alumni, Mr. Don Hill, Ms. Rachel Wilson and Mr. Chris Franklin, as well as our faculty volunteers, Dr. Hank Dietz, Dr. Regina Hannemann, Dr. Bruce Walcott and Dr. William Smith.

On behalf of the University of Kentucky, welcome to Lexington and have a wonderful and enriching experience at IEEE SoutheastCon 2014!

Sincerely,

Eli Capilouto

Eli Capilouto
President
University of Kentucky

The Cypress University Alliance

Cordially Invites You to Attend A

PSoC™ 4 Workshop

WHY:

Learn all about the latest Cypress PSoC 4 technology. PSoC is a family of mixed signal (analog, digital, and embedded MCU), programmable devices. PSoC is truly the world's first Programmable System-On-Chip (more info @ www.cypress.com)

Leave with the knowledge of PSoC Architecture and PSoC Creator Software and learn how you can get a free Development Kit.

WHO SHOULD ATTEND?

Faculty and Students involved in senior project, digital, analog, and embedded classes and design; as well as topics as diverse as robotics, mechatronics, industrial controls, automotive, and aeronautics.

WHEN: Friday, March 14, 2014, 6-10 PM

WHERE: Marriott Griffin Gate Hotel, Lane's End Room

AGENDA: PSoC architecture overview, software and dev kit demos, hands-on labs

REGISTRATION: http://svy.mk/1jdOWup, pre-registration is required and limited to 25 participants, FREE

More information is available about PSoC 4 at: www.cypress.com/PSoC4

"It's Not Your Granddad's Energy Management"
Dave Freeman, Texas Instruments
Chief Technology Officer

Friday, March 14th 6:15-7:15
Salon C, Marriott Griffin Gate Hotel

Not long ago, managing power was assumed to be the same as managing energy. In most of the case managing power meant that voltages were regulated as much as needed and concerns were more about cost than performance. This is no longer good enough. Tomorrows systems need much more from power and energy management so we can do more with less. Power and Energy management performance has become key to success for many products and markets. For example, data centers are limited to the energy that they used last year. Another example is the features of a smart phone are limited by the energy needs and the thermal management. Exciting challenges of today's and future energy management are presented. If these challenges are overcome, then the world will benefit from these accomplishments.

Dave Freeman is a Texas Instruments Fellow and Chief Technologist for the Power Management business at TI. Dave joined TI in 1999 through the Unitrode acquisition. Dave has expertise in the areas of battery management ranging from charging to capacity estimation. In the areas of power management, he covers low power DC/DC, high frequency power conversion and digitally controlled power. Other areas of focus for Dave are renewable energy systems and low power energy harvesting. Additional interest includes sensors and analytical methods used to evaluate physical properties of materials. Dave works closely with the power research group inside TI's Kilby Labs. He speaks all around the country and is actively involved with interacting with young engineers and student outreach including FIRST Robotics. Dave has a BS degree in Physics from Midwestern State University.

HALF-DAY SHORT COURSE

Introduction to Renewable Energy

Dr. Paul Dolloff

East Kentucky Power Cooperative/University of Kentucky
Friday, March 14, 2014 8-noon
Marriott Griffin Gate, Lexington, KY

Abstract
The Introduction to Renewable Energy course provides an overview of renewable energy technology and outlines the basic principles of solar, wind power, and micro-hydro powered electric generation and their application in Kentucky.

The course is aimed at those in the utility, energy-related business, non-profit, public, and academic sectors who wish to obtain an introduction to renewable energy technologies, as well as those interested in the installation of a renewable energy system. Examples of actual installations will be reviewed with an emphasis on performance and economic evaluation in Kentucky.

After completing the course, participants should have a basic understanding of, and be able to, understand renewable energy system designs. No previous knowledge of energy or energy technologies is required.

Objectives

- Basic science and terminology of energy technologies;
- Various renewable energy technologies;
- The relation between energy policy and technology adoption;
- How to critically evaluate renewable based energy technology options;
- How to use back of the envelope calculations to quickly evaluate information.

Topics

- Fact from Fiction;
- KY Net Metering Law;
- Typical Co-Generation Tariff;
- Discussion of Interconnection Requirements;
- Residential Class PV Example Installations;
- Residential Class Wind Turbine Example Installation;
- Micro-Hydro Example Installation;
- Economic Evaluation.

Audience
This course will be of value to those interested in obtaining a general knowledge of renewable energy or considering a residential class renewable generating project. Utility key account managers, member services, and engineers will more clearly understand their obligations and be able to better answer consumer questions related to renewable energy. Local inspectors and regulators in the utility industry will also be interested in this course.

Earn PDHs
Attendees may earn four **(4) Professional Development Hours (PDH)** for participating in this course.

About your Instructor
Dr. Paul Dolloff is a senior member of the IEEE and a senior engineer in the Reliability Department at East Kentucky Power Cooperative. Dr. Dolloff is also an Adjunct Faculty member of the Electrical and Computer Engineering Department at the University of Kentucky, where he routinely teaches a renewable energy course. Paul has contributed to the writing of Kentucky's net metering law and has provided expert testimony in this area. Additionally, he has represented the national electric cooperative community with the writing of the interconnection standard IEEE Std. 1547. He has also served on various US DOE Merit Review Committees involving the evaluation and scoring of proposals requesting federal funding from the ARRA (stimulus) for renewable energy related projects. Paul is a dynamic and informative instructor who has been highly rated by students enrolled in UK classes regularly taught by him.

Course fee:
Student IEEE Member – no cost
Student non-IEEE Member- $5
IEEE Member - $20
Non-IEEE Member $40
Fee covers printed course material and break refreshments

Controlling the World with Raspberry Pi

Dr. J. Dean Brock, Dr. Rebecca Bruce, Dr. Marietta Cameron
University of North Carolina - Ashville
Saturday, March 15, 2014 , 1-3pm
Salon B, Marriott Griffin Gate, Lexington, KY

Abstract
In this two-hour tutorial, we will introduce participants to the potential of the Raspberry Pi (RPi) , as an embedded system controller. Our presentation is derived from our classroom experiences teaching robotics using a variety of microcontrollers including the RPi. Each tutorial participant will use a RPi to control various components mounted on a breadboard. In addition to understanding the general purpose IO capabilities of the RPi, participants will be introduced to the RPi's interface for I2C devices.

Materials provided
Depending on attendance, participants will work in teams of 2 or 3 people.
Each team will receive, for the duration of the tutorial, the following equipment: (1) one RPi complete with a pre-loaded SDcard, power supply, and necessary connection cables. (2) one breadboard with T-cobbler connection to the RPi, (3) one I2C device, and (4) LEDs, piezio buzzers, resistors, and cut wire as needed. There will be NO materials fee; all hardware will be collected at the end of the tutorial.

Dr. J. Dean Brock
Professional Preparation
Duke University Mathematics and Computer Science B.A. 1974
Massachusetts Institute of Technology Computer Science Ph.D. 1983
Current Appointment: Professor and Chair of

Course fee:
FREE

Tutorial Outline (approx. 2 hours):
Material distribution (~10 mins)
Introduction (~10 mins)
GPIO presentation (~15 mins)
GPIO hands-on activities (~30 mins)
Break (~10 mins)
I2C protocol presentation (~15 mins)
I2C hands-on activities (~20 mins)
Questions and closing remarks (~10 mins)

Dr. Rebecca Bruce
Professional Preparation
University of Texas at El Paso Civil Engineering B.S. with Honors 1977
Stanford University Mechanical Engineering M.S. 1985
New Mexico State University Computer Science M.S. 1992
New Mexico State University Computer Science Ph.D. 1995
Current Appointment: Professor of Computer Science & Assoc. Director of Eng Programs at UNC -Asheville

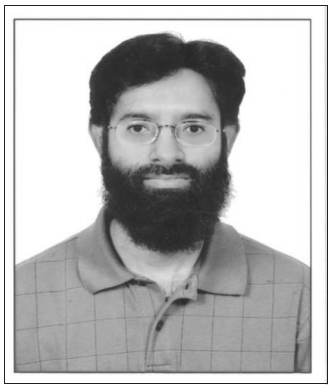
Dr. Marietta Cameron
Professional Preparation
Birmingham-Southern College Mathematics & Computer Science B.S. 1988
Birmingham-Southern College Computer Science M.S. 1992
Birmingham-Southern College Computer Science Ph.D. 1999
Current Appointment: Associate Professor of Computer Science at UNC-Asheville

Application of Phase Portrait in Analysis of Dynamical System: Second-Order Phase Lock Loop

Dr. Abu-Sayeed Huque

University of Tabuk, Saudi Arabia

Saturday, March 15, 2014, 9-10a
Spendthrift Room, Marriott Griffin Gate



Abstract

Dynamical system theory is a branch of mathematics that studies the behavior of systems that vary with time. The goal of the study is to be able to predict the behavior (outcome) of a particular system at a later time (sometimes in reverse time) based on information about the system at current (or a specific) time. Many of the most important physical and engineering systems can be described quite satisfactorily by second-order differential equations, which are also called planar systems. Again by using a fundamental theorem of differential equation, a second-order system can be decomposed into a set of two simultaneous first-order equations. One way to represent the solutions of such a system is to draw the two dependent variables, where the independent variable is time, as the axes of a rectangular coordinate system. In the study of dynamical systems, such coordinate system is known as phase plane. The representative collection of solutions of the system drawn on such a (2D) plane is termed as phase portrait, which gives a comprehensive pictorial representation of the behavior of a second-order system. However, this attractive technique of analysis is not applicable once the order of the system grows higher than two. In this tutorial, a continuous time second-order phase lock loop model will be used to demonstrate the phase portrait technique in analyzing the local as well as the global behavior of the system. Matlab will be used as the software to draw the phase portraits for different configurations of abovementioned candidate system.

Topics

- Introduction of dynamical system: Kinds of systems, such as linear, non-linear, homogenous, autonomous etc. Key features and parameters of dynamical system, such as, orbit, separatrix, equilibrium points, stability, limit cycle, bifurcation etc.
- Second-order PLL model: Key features and parameters, such as, lock in, half-plane pull-in range, pull-out frequency, and false lock.
- Introducing pplane8: Features of pplane8, a GUI based open source Matlab program that plots vector field.
- Phase-portrait: Phase portraits for Type I PLL with varying loop parameters, phase portraits for Type II PLL with varying loop parameters.

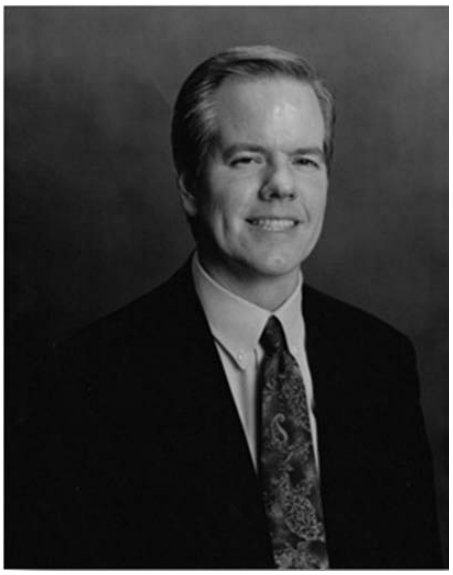
About the Instructor:
Dr. Abu-Sayeed Huque
PhD in EE, Univ. of AL, Huntsville, 2011
Masters in EE, Univ. of TX, Arlington, 1997

Course Fee:
Student IEEE Member – no cost
Student non-IEEE Member- $5
IEEE Member - $20
Non-IEEE Member $40

Software Designed Networking

Dr. Jim Anderson

GSL Solutions, Tampa, Florida
Friday, March 14, 2014 1:30-2:30p
Elmendorf Room, Marriott Griffin Gate, Lexington, KY



Abstract

The first impact is that for the first time the network's control plane and its data plane will be able to be separated. In today's networks, the control plane and the data plane are tied closely together. The network switches that compute the routing tables are the same devices that then implement the routing tables. A side effect of this is that this means that both the control plane and the data plane are currently being provided by the same vendors.

SDN completely changes this. The control plane and the data plane are pulled apart. The control program can run on one set of servers and the Network Operating System can run on a completely different set of servers. The Network Operating system will observe and control the data plane; however, it is not part of the data plane.

About the Instructor

Dr. Jim Anderson is currently the Vice President of Product Management at GSL Solutions

As Vice President of Product Management for GSL Solutions Dr. Anderson is responsible for the success of the company's SaaS products. Targeted towards government and educational institutions, GSL Solutions builds customized, database-driven websites utilizing its powerful content management systems in order to help its clients easily manage their websites and mobile content from any web browser. These tools help organizations manage and share information with their customers anywhere, anytime, and on any device.

Course fee:

Student IEEE Member – no cost
Student non-IEEE Member - $5
IEEE Member - $20
Non-IEEE Member $40

IEEE Region 3 Schedule of Activities

Thurs, March 13	1p	-	4:30p	TMMK (Toyota) Plant Trip-Reservations required	Meet in Lobby
	5p	-	7p	Dinner	On your own
	6p	-	10p	MOVE Project	Salon A
Friday, March 14	6a	-	8:30a	Breakfast	Salon C
	8:30a	-	8:45a	Welcome	Salon A-B
	8:45a	-	9:45a	Introduction to IEEE, Region 3	Salon A-B
	9:45a	-	10:00a	Break	
	10a	-	11:30a	2012-2013 in Review	Salon A-B
				2013 Ad hoc Reports	Salon A-B
	11:30a	-	12p	Intro to Activity Focus Work Groups	Salon A-B
	12p	-	1p	Lunch with IEEE USA Candidates	Salon C
	1p	-	2p	Activity Focused Work Groups	Salon A-B
	2p	-	2:45	Review of Work Group Results	Salon A-B
	2:45	-	3p	Break	
	3p	-	4p	Developing Member interest	Salon A-B
	4p	-	5p	Who Deserves an Award?	Salon A-B
	5p	-	7p	Networking Event	Exhibitor Hallway
	5:30p	-	7p	SPC	Spendthrift
	7p	-	9p	Area Council and Business Meetings	Bluegrass Pavilion
Saturday, March 15	6a	-	8:30a	Breakfast	Salon C
	8:30	-	9:00	Welcome & Introductions	Terrace Ballroom
	9a	-	9:30	MGA Presentation	
	9:30a	-	9:45a	Break	
	9:45a	-	10:45a	MOVE	Bluegrass Pavilion
				VIP	Elmendorf
				First Year Member Experience	Terrace Ballroom
	10:4a	-	11:00	Break	
	11:00p	-	12p	Standing Committee Meetings	
				Communications	Bluegrass Pavilion
				Conferences	Elmendorf
				Educational Activities	Bluegrass Pavilion
				Leadership Development & Regional Support	Paddock
				Member Engagement & Life Cycle	Paddock
				Professional Activities Operations	Terrace Ballroom
				Area Council chairs meet with SPC	Spendthrift
	12p	-	1p	Lunch	Salon C
	1:30p	-	3:45p	Sections Congress	Terrace Ballroom
				Travel & Arrangement Details	
				Funding a Section Representative	
	3:45	-	4p	Break	
	4p	-	6p	Status of Recommendations from 2011	Bluegrass Pavilion
	6p	-	9p	Awards Banquet	Grand Ballroom
Sunday, March 15th	6a	-	8:30a	Breakfast	Salon C
	8:30a	-	8:45a	Welcome	Terrace Ballroom
	8:45	-	9:30a	Information Agenda	
	9:30a	-	10a	Committee Goals	
	10:15a	-	11:15a	Section Remarks	
	11:15a	-	noon	Adjourn	
	12:30p	-	2:30p	Conference Debriefing	Calumet

Remember to check out the Student and Technical and Tutorial programs

IEEE SoutheastCon 2014 Student Schedule of Events				
Date	**Time**	**Event**	**Location**	**Notes**
March 13th	1:00 PM - 4:30 PM	Toyota Tour	TMMK Plant	RSVP & fee required, Meet outside lobby
March 14th	8:00 AM - 4:45 PM	Hardware Practice Room Open	Salons E-H	
	8:00 AM - 12:00 PM	Renewable Energy*	Elmendorf	RSVP @ Registration Desk, Free
	1:00 PM - 4:45 PM	Student Leadership Training	Paddock Pavilion	Bring everyone not sweating in Hardware and a laptop
	1:30 PM - 2:30 PM	Software Design Networking*	Elmendorf	RSVP @ Registration Desk, Free
	3:00 PM - 4:45 PM	Branch Counselor Training	Elmendorf	
	4:45 PM - 5:00 PM	Student and Counselor Photo	Mansion front steps	Bring a smile!
	5:00 PM - 7:00 PM	Networking Event and Reception	Exhibitor Hallway	Network with the professionals!
	6:00 PM - 10:00 PM	PSoC by Cypress*	Lanes End	RSVP @ Registration Desk, Free
	6:15 PM - 7:15 AM	Presentation by Texas Instruments Chief Technical Officer	Salon C	Be there!
	7:00 PM - 12:00 AM	Hardware Practice Room Reopens†	Salons E-H	Will remain open through Sat. @ 4:00p
	7:15 PM - 8:15 PM	Ethics Competition Preliminary	Salons A-B	Bring Laptops
	7:30 PM - 10:00 PM	Ethics Preliminary Grader Training and Evaluation	Calumet	Graders Bring Laptops
March 15th	12:00 AM - 4:00 PM	Hardware Practice Room Open	Salons E-H	
	8:00 AM‡ - 4:00 PM	Hardware Competition†	Salon D	Good luck!
	8:00 AM - 11:00 AM	Paper Competition	Salon B	Professional Attire
	8:00 AM - 1:00 PM	Ethics Competition Preparation and Sequestration	Salon A	Professional Attire - Bring Laptops
	9:00 AM - 10:00 AM	Application of Phase Portrait in Analysis of Dynamical System*	Spendthrift	RSVP @ Registration Desk, Free
	9:15 AM - 4:30 PM	Software Competition	UK WT Young Library	Meet on bus outside lobby @9:15, return approx. 4:30
	10:00 AM - 1:00 PM	Ethics Competition Final Presentations	Calumet	Professional Attire
	1:00 PM - 3:00 PM	Controlling the World with Raspberry Pi Tutorial*	Salon B	RSVP @ Registration Desk, Free
	1:00 PM - 5:00 PM	PSoC by Cypress*	Salon A	RSVP @ Registration Desk, Free
	6:00 PM - 9:00 PM	Awards Banquet	Salons A-H	Professional Attire
March 16th	9:00 AM - 12:00 PM	2015 Hardware Rules	Bluegrass Pavilion	

* Training sessions must have a minimum number to be held and may be cancelled due to low enrollment. Please sign up at the Registration Desk.

† Hardware captains meetings will be announced in the Practice Room, on Friday night and Saturday morning

‡ All T-shirts participating in T-shirt Contest must be dropped off at Registration Desk before Saturday @ 8 am

IEEE SoutheastCon 2014 Paper Presentations

Friday, March 14th

	Session: Learning From Data (Lane's End)	Session: Mobile Computing (Dixiana)	Session: GPUs (Darby Dan)
8:00-8:20	Speaker Preparation		
8:20-8:40	***Direct L2 Support Vector Machine Classifier and Performances of Its Two Implementations*** Ljiljana Zigic, and Vojislav Kecman Virginia Commonwealth University	***User-Driven Mobile Authoring System*** Ben Wright, Somsak Sukittanon; University of Tennessee at Martin	***A Talented CPU-to-GPU Memory Mapping Technique*** Abu Asaduzzaman, Deepthi Gummadi, Chok Yip; Wichita State University
8:40-9:00	***Characterization of Different Datasets for ICA Algorithims*** Simon Foo, Florida State University Masood Ejaz, Valencia College Anke Meyer-Baese, Florida State University Shonda Bernadin, Florida State University	***Techniques and Real World Experiences in Mobile Device Security*** Richard Newhook, IBM CIO David Jaramillo, IBM CIO Nader Nassar, IBM	***Parallelizing Computation of Elastodynamic Response on Arbitrary Domains using GPU*** Abu Asaduzzaman, Wichita State University Mizan Rahman, Georgia Institute of Technology
9:00-9:20	***Mining Probabilistic Association Rules from Uncertain Databases with Pruning*** Erich Peterson, University of Arkansas at Little Rock Llang Zhang, Cornell University Peiyi Tang, University of Arkansas at Little Rock	***A Secure Cross-Platform Hybrid Mobile Enterprise Voice Agent*** David Jaramillo, IBM CIO Robert Smart, IBM Emerging Technology Services; Sudeep Pasricha, Viney Ugave	***CUDA-Assisted Efficient Primality Test*** Abu Asaduzzaman, Anindya Maiti, Chok Yip, Wichita State University
9:20-9:40	***Modified Reinforcement Learning for Sequential Action Behaviors and its Application to Robotics*** Chris Robinson, University of Louisville	***A User Study on Mobile Virtualization to Measure Personal Freedom vs. Enterprise Security*** David Jaramillo, IBM CIO; Stephen Woodburn, Michael Ackerbauer	***Efficient, GPU-Based 2D Mesh Smoothing*** Sangeet Dahal, Timothy Newman; University of Alabama in Huntsville
9:40-10:00	Break		
	Session: Who Done It? (Lane's End)	**Session: Robot Control and Computer Vision** (Dixiana)	**Session: CMOS** (Darby Dan)
10:00-10:20	***Visual Keccak: A Tool for Teaching Digital Signatures*** Wayne Patterson, Acklyn Murray, Ebelechukwu Nwafor, Philip Browning, Karen Williams, Howard University	***RapiBaBot: A Solution To The Inverted Pendulum Using a Raspberry Pi and its GPIO*** Hala ElAarag & Christian Micklisch, Stetson University	***Measurement of a CMOS Negative Inductor for Wideband Non-Foster Metamaterials*** Thomas Weldon, John Covington, Kathryn Smith, Joshua Shehan, Varun Singh Kshatri, Ryan Adams; UNC Charlotte
10:20-10:40	***Benefits and Issues of Biometric Technologies. Are Biometrics Worth Using?*** Darci Guriel, Mary Ferguson, Helina Oladapo, Northern Kentucky University	***A Genetic Algorithm Based Approach to Search Optimal Assembly Sequences for Robotic Autonomous Assembly*** Ying Wang, Southern Polytechnic State University Qianli Zhao, Jiayi Mu, Feiling Yang, Ting Li	***A Cross-Coupled CMOS Negative Capacitor for Wideband Metamaterial Applications*** Thomas Weldon, John Covington, Kathryn Smith, Varun Singh Kshatri, Ryan Adams, Joshua Shehan; UNC Charlotte

10:40 - 11:00	***Choosing a Profile Length in the SCAP Method of Source Code Authorship Attribution*** Matthew Tennyson, Bradley University Frank Mitropoulos, Nova Southeastern University	***Odor Plume Source Localization with a Pioneer 3 Mobile Robot in an Indoor Airflow Environment*** Shuo Pang, Embry-Riddle Aeronautical University Hai-feng Jiu, Jin-long Li , Bing Han	***Compensation of Frequency Dependent Parasitic Resistance in a CMOS Linvill Negative Inductor*** Thomas Weldon, Varun Singh Kshatri, John Covington, Ryan Adams; UNC Charlotte
11:00 - 11:20	***Using Data Visualization to Facilitate Secure Engineering - Hardening Your Code through Improved Next Generation softSecVis*** David Jaramillo, IBM CIO; Jeremy Rodgers , Jun Wang	***Depth-Color Image Registration for 3D Surface Texture Construction using Kinect Camera System*** Semih Dinc, Madhav Sigdel, Imren Dinc, Madhu Sudan Sigdel, Farbod Fahimi, University of Alabama in Huntsville ; Ramazan Aygun	***Design of 110-152 GHz Rotary Traveling Wave Oscillators in 65 nm CMOS Technology*** Liangjin Wu, Rediet Sebsebie, Monique Kirkman-Bey, Marvin Aidoo, Zhijian Xie, Numan Dogan;, North Carolina A & T State University
11:20 - 11:40			***Design and Simulation of Ku-Band Low Noise Block Down Converter in 0.18 micrometer CMOS Technology*** Monique Kirkman-Bey, North Carolina A&T State University Pedro Cintron-Tirado Rediet Sebsebie, Numan Dogan, Zhijian Xie; North Carolina A & T State University
12:00 -1:00	Lunch (Salon C)		
	Session: Clouds and Sharing From Anywhere (Lane's End)	**Session: Digital Design** (Dixiana)	**Session: Health Monitoring and Care** (Darby Dan)
1:00- 1:20	***A Cloud Computing Adoption Approach for Jamaican Institutions*** Raemur Bedward, University of the West Indies, Mona (Jamaica) Daniel Fokum (Jamaica)	***Base-4 Leading Zero Detector Design*** Ibraheem Kateeb, NCA&TSU Evelyn Sowells, NCA&TSU Alvernon Walker Khaled Otaibi	***ICP Analysis of Metal Accumulation by Macroinvertebrates When They Reared in Coal Mining Contaminated Water*** Khalil Shujaee , Roy George, Ruvia Silva, John Melnycuzk, Peri Nagappan, Paul Abraham, Clark Atlanta University
1:20- 1:40	***The Future Cloud Computing, Security and Network Threats of IT Industry*** Ibraheem Kateeb, NCA&TSU Madallah AlMadallah, NCA&TSU	***Set-Bit Driven Shift-Add Binary Multiplier*** Ibraheem Kateeb, NCA&TSU Evelyn Sowells, NCA&TSU Alvernon Walker Khaled Otaibi	***Procedural Reasoning System (PRS) Architecture for Agent-mediated Behavioral Interventions*** Edmon Begoli, University of Tennessee
1:40- 2:00	***Real-time experience techniques for collaborative tools on Mobile*** David Jaramillo, IBM CIO Richard Newhook, IBM CIO Duy Nguyen, IBM	***Characteristic Impedance Planning in PCB Design*** Mohammad Atif Umar Usman, Portland State University	***Data Driven Implementation to Filter Fraudulent Medicaid Applications*** Muhammad Suleiman Rajeev Agrawal, North Carolina Agricultural & Technical State University
2:20- 2:40	Break		

	Session: Simulations (Lane's End)	Session: Signal Processing (Dixiana)	Session: Networking (Darby Dan)
2:20-2:40	***Utilizing Middleware to Interface with the Simulation Environment for Autonomous Robots*** Adam Harris, James Conrad, UNC Charlotte	***An Efficient Adaptive Beamforming Technique for Operation in Frequency-Selective-Channels*** Thomas Yang, Embry-Riddle Aeronautical University Wenbo Dong	***Generating Large Network Topologies for GENI Experiments*** Zongming Fei, University of Kentucky Qingrong Xu Hui Lu, Beihang University (China)
2:40-3:00	***Scalability Analysis of Discrete Event Simulation Frameworks for Very Large Scale Computer Architectures*** Neena Imam, Oak Ridge National Laboratory	***Effect of Beamforming Errors on the Efficacy of Maximal Ratio and Equal Gain Combining*** William Barott, Embry-Riddle Aeronautical University	***Bring Your Own Device: Benefits, Risks and Control Techniques*** Mohammed Ketel, Thomas Shumate, University of Baltimore
3:00-3:20	***Towards an Extensible Calculus for Spatial Computation*** Jason Murphy, Daniel Coore, The University of the West Indies, Mona (Jamaica)	***A Study on SAR Noise Jamming and False Target Insertion*** Rebecca Harness Mervin Budge	***Fusing Internet Protocol (IP) Receive Module at Receiving Path of Open TCP/IP Custom Single-Purpose Processor*** Rami Amiri, Omar Elkeelany, Tennessee Tech University
3:40-4:00	Break		
	Session: Human Computer Interface (Lane's End)		
3:40-4:00	***Design of a Wireless Footswitch for Medical Applications*** Mohammad Atif Umar Usman, Portland State University		
4:00-4:20	***A Survey of Brain Computer Interfaces and Their Applications*** Tyler Major, James Conrad, UNC Charlotte		
5:00-7:00	Networking Event (Exhibitor Hallway)		
	A Vehicle That Brings Together Industry and Academia to Educate The Next Generation of Engineers Ilteris Demirkiran, ERAU Christopher Rowe, Embry-Riddle Aeronauticle Universtiy ***Design and Simulation of a Parallel-Coupled Microstrip Bandpass Filter*** Shujun Yang, Deandre Cross, Michael Drake, Alabama A&M University ***First Harmonic Suppression of a Square Ring Resonator by Two Embedded Stubs*** Shujun Yang,Jeremy Crutcher, Bandon Ellis, Alabama A&M University Demario Nesby Willie Mccaa		***Sudo Pi Cooler/Heater: Raspberry Pi to Design an Adaptive Temperature Sensor*** Afsaneh Ghanavati, Brian Ryner, William Bishop, Douglas Hyland, Nicolai Drozd, Marina Bograd, Giuseppe Sena, Zuher Miro, Massachusetts Bay Community College Renato Mikio Nakagomi, Tufts University ***A Novel Approach for Reconstructing Water Wave Using Shape from Shading Technique*** Ilteris Demirkiran,Nikhila Chaudhari, Andrei Ludu, Embry-Riddle Aeronautical University ***Cloud Computing Log Forensics -the New Frontier*** Sean Thorpe, University of Technology (Jamaica)

The Design and Development of Bipolar Junction Transistor Devices
Shawn Addington, Leon Peng, Virginia Military Institute

Analysis of Earth Effects on Transmitting and Receiving Antennas Characteristics with Applications in Subsurface Object Detection Systems
Ang Yu, Skander Chaouch-Bouraoui, Mihai Dimian, Howard University

Computation of Allelic Frequencies Using the Cerberus Beowulf Cluster
Giuseppe Sena, Bruce Jackson, Grant Fitzgerald, Richard Hayes, Justin Jiang, Julian Kuk, Patrick Ryan, Chester Moses, Lindsay Schulman, Massachusetts Bay Community College

Calq Programming Via a Web-Interface on Heterogenous Devices
Michael Weeks, Georgia State University

Design of Elephant Collars to Reduce Crop Foraging
Mark Cambron, Western Kentucky University

Introducing Entrepreneurship Concepts into a Freshman Computer Programming Class
Donald Ekong, Ramachandran Radharamanan, Mercer University

Microgrid-tied Solar Power Generation using Three-Phase IGBT Inverter
Robert Craven, Tennessee Technological University
Funso Ariyo, Obafemi Awolowo University, Nigeria (Nigeria)

Analysis of the Radiation Patterns and Transmission for a Subsurface Object Detection System
Ang Yu, Skander Chaouch-Bouraoui, Mihai Dimian, Howard University

E-learning in a Cloud Computing Environment
Mohammed Ketel, University of Baltimore

Redundant network research report
Haojian Ma, Shunhua Tan, Yulong Yang

Design and Implementation of an Open-Source Wireless Sensor Network Development Platform
Sam Shue, University of North Carolina at Charlotte

Design for LTE Femtocell Inter-Cell Interference Mitigation
Xin Zheng, University of South Carolina
Yinchao Chen, University of South Carolina

Power enhanced extended maximum average correlation height filter for target detection
Sharif Bhuiyan, Tuskegee University
Jesmin Khan, Tuskegee University
Mohammad Alam, University of South Alabama

Building a Social Media Rating Model
Suman Silwal, Dale Callahan, UAB School of Engineering

Application Scanning Window and 2-D HDWT and ANN for Real-Time VLPR
Rong-Choi Lee, National Kaohsiung First University of Science and Technology (Tajikistan)
King-Chu Hung, NKFUST

The Evolution of Business Intelligence
Ibraheem Kateeb, NCA&TSU; Shahbaz Humayun

Analysis of bone placements and effects of skin-fat thickness of obese in the measurement of Electrical Impedance Myography (EIM) through finite element analysis
Mohammad Ahad, Khondokar Rabbi, Georgias Southern University
Abdur Rahman

Characteristics of Lithium Polymer Batteries
Jason Harris
Dimitrie Popescu, Old Dominion University

Wireless Communication System for Nanosatellite Experimentation
Alexander Streit, Dimitrie Popescu, Old Dominion University

IEEE SoutheastCon 2014 Paper Presentations

Saturday, March 15th

	Session: Recognizing Things in Images (Lane's End)	**Session: Up In The Sky** (Dixiana)	**Session: Without Wires** (Darby Dan)
8:00-8:20	Speaker Preparation in Rooms		
8:20-8:40	***Evaluation of Normalization and PCA on the Performance of Classifiers for Protein Crystallization Images*** Imren Dinc, Madhav Sigdel, Semih Dinc, Madhu Sudan Sigdel, University of Alabama in Huntsville Marc L. Pusey, iXpressGenes Inc. Ramazan Aygun	***Integration of Manned and Unmanned Aircraft Systems into US Airspace*** Ron Ogan, IEEE Aerospace & Electronic Systems Society	***Joint Time Delay and Carrier Frequency Offset Estimation for Near Equal Power Co-Channel OFDM Signals Using Low Rank Adaptive Filters*** Seema Sud, Aerospace Corporation
8:40-9:00	***Segmentation of Cracks in X-ray CT Images of Macroporous Plaster Specimen under Compressive Force*** Ujjal Bhowmik, Catholic University of America Nick Hudyma, Patrick Kreidl, Alan Harris, University of North Florida	***Establishing and Maintaining Formations of Mini Quadrotors*** James Conrad, UNC Charlotte Cory Engel, UNC Charlotte Audrow Nash	***An Efficient Low-Power CMOS Passive RFID Transponder Design*** Praharshin Senadeera, Numan Dogan, Zhijian Xie, Huseyin Savci, Ibraheem Kateeb, North Carolina A&T State University
9:00-9:20	***Evaluation of Semi-Supervised Learning for Classification of Protein Crystallization Imagery*** Madhav Sigdel, Imren Dinc, Semih Dinc, Madhu Sudan Sigdel, University of Alabama in Huntsville Marc L. Pusey, iXpressGenes Inc. Ramazan Aygun	***An Overview of Satellite Formation Control using Higher Order and Adaptive Sliding Mode Control Techniques*** Roshini Sukanya Ashok Kumar, Jason Caudill, The University of Alabama in Huntsville Micah Harvey	***Parallel Implementation and Distributed Implementation of Energy-Based Target Localization Methods in Wireless Sensor Networks*** Zhenxing Luo, Washington University in St. Louis
9:20-9:40	***Visible Light Communication Using a Digital Camera and an LED Flashlight*** Keith Hunter, Duke Energy James Conrad, UNC Charlotte Andrew Willis	***Integrated Fuzzy Controllers For Aircrafts Under Faulty Flight Conditions*** Saleh Zein-Sabatto, Tennessee State University	***Fault Tolerant and Channel Aware target localization in Wireless Sensor Networks that use Multi-Bit Quantization*** Thomas Anthony, Thomas Jannett, The University of Alabama at Birmingham
9:40-10:00	Break		
	Session: Diagnosing and Predicting (Lane's End)	**Session: Power Grids and Microgrids** (Dixiana)	**Session: Semiconductor Device Measurements & Models** (Darby Dan)
10:00-10:20	***Induction Motor Diagnostic System Based on Spectra Analysis of Current and Instantaneous Power Signals*** Dmytro Mamchur, Kremenchuk Mykhailo Ostrohradskyi National University; Mykhaylo Zagirnyak, Andrii Kalinov, Kremenchuk Mykhailo Ostrohradskyi National University	***Matlab Based GUI to Investigate Effect of Voltage Changes on Static ZIP Load Model in a Microgrid*** Kenan Hatipoglu, West Virginia University Institute of Technology Ismail Fidan, Tennessee Tech University	***Measurement and Simulation of a CMOS Current Conveyor Negative Capacitor for Metamaterials*** Thomas Weldon, Varun Singh Kshatri , John Covington, Kathryn Smith, Joshua Shehan, Ryan Adams, Univ. of N. Carolina at Charlotte

10:20 - 10:40	***Correlational Study of Open Circuit Resonant (SANSEC) Sensors Electric Field Distribution on Lighting Attachment*** Kayla Farrow, IEEE	***Evaluation of Distribution Circuit Voltage with Primary Capacitor Banks and Secondary Voltage Controlled Capacitor Installations*** Dexter Lewis Greg Franklin, UAB	***Parasitic Resistance in Non-Foster Circuits Caused by Current Conveyor Frequency Response*** Thomas Weldon, John Covington, Varun Singh Kshatri Ryan Adams, Univ. of N. Carolina at Charlotte
10:40 - 11:00	***Online Prognostics of Aircraft Turbine Engine Component's Remaining Useful Life (RUL)*** Saleh Zein-Sabatto, Tennessee State University MD. Alam, TSU	***Experimental Implementation of Multi-Agent System Algorithm for Distributed Restoration of a Smart Grid System*** Adeniyi Babalola, Rabie Belkacemi Tennessee Technological University	***A Compact Model for Compound Semiconductor Tunneling Field-Effect-Transistors*** Leda Lunardi, NC State University Jaladhi Mehta, NC State University William Borders, NC State
11:00 - 11:20	***Calculating the System Steady-State Availability as a Function of Subsystem Steady-State Availability*** D .Todd Smith, VMI	***Initial Value Calculation for Dynamic Simulation of Power Systems in the Presence of Disturbances within Transmission Network*** Waheed OyekanmiI, Venkata Satya Phani Sairam Saladi, Ghadir Radman, Tennessee Tech University	***Modeling Coupled Lines in 65 nm CMOS for Millimeter-Wave Applications*** Marvin Aidoo, Monique Kirkman-Bey, Rediet Sebsebie, Liangjin Wu, Numan Dogan, Zhijian Xie, North Carolina A & T State University
11:20 - 11:40	***Ranking Tourist Attractions using Time Series GPS Data of Cabs*** Jeffrey Anu, Rajeev Agrawal, North Carolina Agricultural & Technical State University Sambit Bhattacharya, Fayetteville State University	***Impact of V2G penetration on Distribution System Components Using Diversity Factor*** Uwakwe Chukwu, South Carolina State University Okezie Nwaorgu, Okpara University of Agriculture, Umudike, Nigeria	***Characterization and Modeling of ESD Diodes in RF Circuits*** Zhijian Xie, North Carolina A & T State University Abid Mehmood Nate Peachey, RF Micro Devices, Inc
12:00 -1:00	Lunch (Salon C)		
	Session: Education and Learning (Lane's End)	**Session: Optical** (Dixiana)	**Session: Instrumentation & Measurement** (Darby Dan)
1:00- 1:20	***Teaching Introduction to Robotics: Using a Blend of Problem- and Project-Based Learning Approaches*** Antonio Hernandez-Barrera, DeVry University	***Surface Plasmon Excitation and Non-Zero Induced Surface Current Density*** Weiguo Yang, Western Carolina University Michael Fiddy, UNC at Charlotte	***Design and Simulation of Piezoresistive MEMS Accelerometer for Detection of Pathological Tremor*** Sonali Biswas, Anup Kumar Gogoi; IITG (India)
1:20- 1:40	***Metrics for Effectiveness of E-Learning Objects in Software Engineering Education*** Alvaro Escobar, Priscila Reyes, Michael Van Hilst; Nova Southeastern University	***Modal Analysis of Slab Optical Waveguides: Fresnel Equations v.s. Wave Equations*** Weiguo Yang, Western Carolina University	***Measurement and Characterization of Fluid Flow Profile using Electrical Capacitance Tomography*** Brook Abegaz, Satish Mahajan, Tennessee Technological University; Nathan Dick
1:40- 2:00	***Online Social Networking Practices and the Implications for eLearning Solutions*** Mohammed Ketel, Christopher Fishpaw, University of Baltimore	***Iridescence of Bragg Fibers and its Application in Non-Invasive Characterization of Conformal Thin-Film Uniformity*** Krista Smith	***Real-Time Measurement of Frequency using Affordable Rotary Encoder and LabVIEW*** Adeniyi Babalola, Robert Craven, Sriram Peddabavi, Rabie Belkacemi, Satish Mahajan, TTU
2:00- 2:20	***A Learning Environment Based on Knowledge Storage and Retrieval Using Concept Maps*** Ramaraju Rudraraju,Luai Najim, Murat Tanik, University of Alabama at Birmingham Varadraj Gurupur, Texas A&M University-Commerce	***Water Wave Height Measurements Using Laser Beam Reflections*** Ilteris Demirkiran, Nikhila Chaudhari; Embry Riddle Aeronautical University	***Design and Development of a Fog Alert System*** Elijah Ramsey

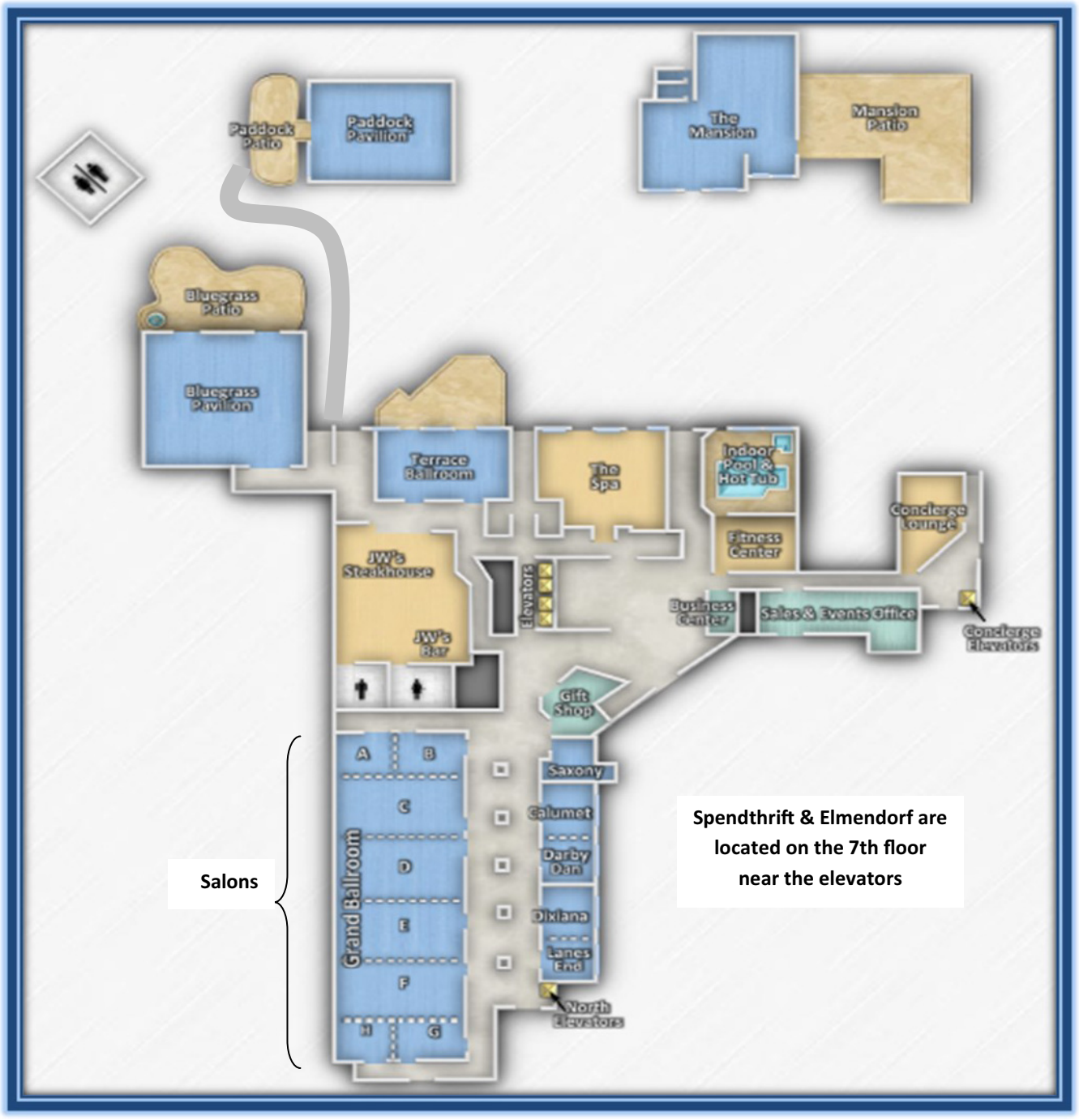
2:20 - 2:40	Break		
	Session: Control & Embedded Systems (Lane's End)	**Session: Image Processing** (Dixiana)	**Session: Solar Energy** (Darby Dan)
2:40 - 3:00	***A Discrete/Continuous MIMO Control Design Algorithm for State Stabilization and Disturbance Accommodation*** Jason Gallaspy, Dynetics C.D. Johnson, The University of Alabama in Huntsville	***Autofocusing for Microscopic Images using Harris Corner Response Measure*** Madhu Sudan Sigdel, Madhav Sigdel, Semih Dinc, Imren Dinc, University of Alabama in Huntsville Marc L. Pusey, iXpressGenes Inc.; Ramazan Aygun	***MATLAB-Graphical User Interface to Study Partial Shading of PV Array Characteristics*** Kenan Hatipoglu, Nathan Bays, Jared Clifton, West Virginia University Institute of Technology
3:00 - 3:20	***Using a CAN Bus for Control of an All-Terrain Vehicle*** Joshua Henderson James Conrad, UNC Charlotte Craig Pavlich	***Object Mosaicking: Reconstruction of Moving Objects Captured Through a Limited View*** Justin Edwards, Richard Caywood, Ramazan Aygun	***Simplified Modeling of Photovoltaic Maximum Power Point Tracking using MATLAB*** Simon Foo, Richard Nelson, Florida State University Indranil Bhattacharya, Tennessee Tech
3:20 - 3:40	***Realizing Automatic Penalty Kick In BIOLOID Robot*** Yujian Fu, Alabama A&M University Hilberto Ayala	***HubVis: Software for Gravitational Lens Estimation and Visualization from Hubble Data*** Thomas Weldon, Sam Shue, UNC at Charlotte Andrew Willis	***Solar Array Performance Prediction and Evaluation for Real-World Operating Conditions*** Kurt Woods, Farhad Ashrafzadeh, Hemali Rathnayake, Western Kentucky University
3:40 - 4:00	Break		

	Session: Software Engineering (Lane's End)	**Session: I Hear You** (Dixiana)	**Session: Managing Energy** (Darby Dan)
4:00-4:20	***Improving Undergraduate Students Programming Skills through Collaborative Adversarial Pair Learning*** Rajendran Swamidurai, Alabama State University	***Computational Strategy for Accelerating Robust Sound Source Detection in Dynamic Scenes*** Kevin Donohue, University of Kentucky Paul Griffioen, Calvin College	***Investigating the Ability of Meshed Distribution Systems to Increase Penetration Levels of Distributed Generation*** Valentina Cecchi, UNC Charlotte Masoud Ghiafeh Davoudi, UNC Charlotte
4:20-4:40	***Investigating the Impact of Peer Code Review and Pair Programming on Test-Driven Development*** Rajendran Swamidurai, Alabama State University Bradley Dennis, Auburn University Uma Kannan, Auburn University	***Time-Frequency Masking for Speaker of Interest Extraction in an Immersive Environment*** Harikrishnan Unnikrishnan, University of Kentucky Kevin Donohue, University of Kentucky Jens Hannemann, Kentucky State University	***Determination of Optimum Economic Power Commitment by Wind Farms Equipped with Energy Storage System*** Emanuel Matee, Tennessee Technological University Ghadir Radman, Tennessee Tech University
4:40-5:00	***Rapid Development of Parallel Blocked All-Pairs Shortest Paths Code for Multicore Computers*** Peiyi Tang, University of Arkansas at Little Rock	***Audio Channel Dynamic Spectrum Access*** Amos Ajo, Virginia Commonwealth University Samuel Henderson, University of Kentucky A. A. (Louis) Beex, Virginia Tech - ECE - Wireless@VT Carl Dietrich, Virginia Tech - ECE - Wireless@VT	***Regenerative Electric Power for More Electric Aircraft*** Simon Foo, Florida State University Yuhang Deng, General Electric Indranil Bhattacharya, Tennessee Tech
5:00-7:00	Awards Banquet		

Notes:

Marriott Griffin Gate Map

IEEE SoutheastCon 2014



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- Bioengineering and Bioinformatics
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