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Conference Welcome

Tulio Sulbaran, ASEE SE Section President

Welcome to the 2015 ASEE Southeastern Section Annual Conference hosted by the University of Florida and **Thank You** for attending the conference.



Your active engagement in the conference activities is the key for you to obtain the most benefit from the conference. The ASEE Southeastern Section Conferences are very well attended, very affordable, and they provide outstanding benefits for all attendees (including faculty, students, and administrators). Some of these benefits include:

- Professional Development: In addition to the multiple technical sessions, a variety of workshops are available to the attendees. **If you have not registered for a workshop, feel free to check if there is still availability**
- Peer-Review Publication: Papers are blind reviewed by a panel of critical reviewers and published in the conference proceedings. **Consider submitting papers for next year conference.**
- Awards: Several awards opportunities, from early career to seasoned faculty, are available. **Consider submitting an application next year.**
- Student Activities: Students have the opportunity to interact with students across the Section and benchmark their education against students from other universities. **If you are a student, be sure to interact with new people.**
- Fellowship / Network: Friendly, knowledgeable attendees create an enjoyable environment to share ideas and experiences that you can implement in your classes and research activities. **Enjoy conversation with your peers.**
- Service / Leadership: The section provides an assortment of position opportunities with varying levels of responsibilities and time commitments. **During Monday and Tuesday breakfasts officers will be elected, consider attending to learn more and perhaps volunteer to be an officer**

This conference is the result of many volunteers' effort and while I cannot name all volunteers I would like to express my special gratitude to following people:

- Authors and reviewers of the many papers presented
- Presenters of the multiple Workshop and sessions
- Campus Representatives Coordinator - **John Brocato**
- Awards And Recognition Chair - **Paul Palazolo**
- Publications And Promotions Chair - **Donna Reese**
- Research Division Chair - **Richard Stansbury**
- Proceedings Editor - **Barbara Bernal**
- Technical Program Chair - **Tanya Kunberger** and her team of division chairs.
- Conference Site Coordinator - **John Abbitt** and his team
- Secretary-Treasurer - **Daniel Kohn**
- Newsletter Editor - **Ken Brannan**

I also would like to encourage all participants to check the 2016 ASEE-SE Conference Call for Papers for pertinent information and deadlines. The 2016 ASEE-SE conference will be hosted by the University of Alabama in Tuscaloosa, Alabama and it promises to be another successful conference. So, please plan to attend and bring a colleague and/or some students.

It has been an honor to serve the ASEE-SE for many years and during the last year as the ASEE-SE President. During this year, we accomplished tremendous things building upon the work of many work hours of officers and other volunteers. So, thank you very much for your support and it has been a great pleasure to work with all of you to continue moving engineering education and the ASEE-SE forward.

Tulio Sulbaran, President, ASEE-SE

April 13, 2015

Dear 2015 ASEE Southeastern Conference Attendees,

On behalf of the faculty, staff, and students of the University of Florida College of Engineering, we welcome you to the 2015 American Society of Engineering Education Southeastern Section Annual Conference. We are delighted to host the conference and hope you enjoy the experience. This is the best time of the year for North Central Florida and the University of Florida.

The theme for the conference is "Preparing Engineers for the Grand Challenges of the Future" – a topic that continues from previous years and is designed to engender discussions on how to improve engineering education. We begin with a welcome reception at the Florida Museum of Natural History just across the street from the conference hotel. On Monday, we will enjoy technical sessions, poster sessions, and an Awards Banquet in the Hilton banquet room. Twelve workshops are offered on Sunday afternoon by presenters from various institutions. Our keynote speaker is Dr. Ken Galloway, Distinguished Professor of Engineering at Vanderbilt University, and immediate past president (2014-2015) of the national ASEE organization who will speak on the topic "ASEE 2015! --- ASEE 2025?" We will wrap up the conference on Tuesday with technical sessions and a box lunch at the Hilton.

We hope you will get a chance to take part in many enriching activities while you are here. Next door to the Museum of Natural History is the Samuel P. Harn Museum of Art. Exhibitions include collections of more than 9,000 works of art and loans from both private lenders, artists, and other art museums. Of particular interest is the Claude Monet exhibition. For those that enjoy the outdoors, the La Chua Trail provides abundant wildlife including alligators and migratory sandhill cranes.

Welcome to Gainesville – we are glad you are here!

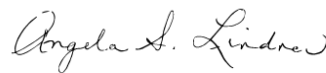
Sincerely,



John Abbitt
Senior Lecturer



Bruce Carroll
Associate Professor



Angela Lindner
Associate Dean for Undergraduate Affairs

Conference Coordinators

The Foundation for The Gator Nation

An Equal Opportunity Institution

Acknowledgements

Welcome to the University of Florida. We hope you enjoy your time at the conference and find the program sessions, workshops, and other events fun and rewarding. The planning and execution of any conference such as this involves the dedication and hard work of many people. I want to express my sincerest thanks to the following:

- The over 200 registered conference attendees representing over 50 higher education institutions and 4 companies/institutions
- All the students in the poster competition
- All the presenters in the technical sessions and workshops
- The session moderators
- Dr. David Hahn, Chairman, Mechanical& Aerospace Engineering, for his enthusiastic support over several years of conference development
- Dean Cammy Abernathy for her leadership and guidance
- Andy Campbell, Director, UF Conference Department
- Ulisses Rocha of the University of Florida School of Music for providing great entertainment
- To all the faculty and students of the University of Florida who helped in the organizing and running of this conference
- My fellow conference planners Bruce Carroll and Angela Lindner
- Barbara Bernal for compiling the proceedings
- Tanya Kunberger for planning the technical sessions
- And most especially to Jenn Jasinski of the UF Conference Department for her enormous help with conference logistics and financial management

It has been a pleasure to serve you over the last three years in preparing for the conference. If I can help you during the conference, just let me know. Enjoy the conference and your time here at the University of Florida and Gainesville.

John Abbitt
Site Coordinator
University of Florida

GENERAL INFORMATION

Dates:

Sunday, April 12 – Tuesday, April 14, 2015

Meeting Site:

Hilton University of Florida Conference Center Gainesville
1714 SW 34th Street
Gainesville, FL 32607
P: 352-371-3600
F: 352-371-0306

Registration/Check-in:

Please register/check-in at the Hilton Conference Registration Desk to receive your name badge and conference materials. Below are the registration hours:

Sunday, April 12, 3:00pm-6:00pm
Monday, April 13, 7:00am-5:00pm
Tuesday, April 14, 7:00am-1:00pm

Transportation and Parking:

There is no charge for self-parking at the UF Hilton, even if you aren't a guest of the hotel. If you aren't staying at the UF Hilton, you will be responsible for your own transportation to and from the conference.

Conference Special Events and Meals:

Sunday, April 12, 2015

Welcome Reception* - 6:00pm-8:00pm

Florida Museum of Natural History
3215 Hull Road, Gainesville, FL 32611

Join us for an evening of Hors d'Oeuvres and a performance by a guitar ensemble coordinated by Ulises Rocha to kick off the 2015 Southeast Regional Conference of the American Society for Engineering Education! The Florida Museum of Natural History is a short walk from the UF Hilton but a complimentary shuttle bus will be provided starting at 5:45pm on Sunday, April 12th in the Hilton lobby. If you would like to walk to the Florida Museum, please refer to the map on page 11. The Florida Museum of Natural History is a short walk across the intersection of Hull Road and SW 34th Street, crossing over onto the UF campus.

*Please note that the Welcome Reception is not included with Student Registration.

Student Welcome Reception – 8:00pm-9:00pm

UF Hilton – 2Bits Restaurant and Lounge
1714 SW 34th Street
Gainesville, FL 32607

Monday, April 13, 2015

Division Meetings and Breakfast* - 7:30am – 8:30am

UF Hilton Conference Center – Century A

*Please note that breakfast is not included with Student Registration.

Lunch - 12:15pm-1:30pm

UF Hilton Conference Center – Century A

Dinner and Awards Banquet - 6:00pm – 9:00pm

UF Hilton Conference Center – Century A

Tuesday, April 14, 2015

Unit Meetings and Breakfast* - 7:30am – 8:30am

UF Hilton Conference Center – Century A

*Please note that breakfast is not included with Student Registration.

Business Meeting and Lunch - 11:45pm-1:00pm

UF Hilton Conference Center – Century A

Student Poster Session:

Student Poster Judging: Monday, April 13th from 10:00am-11:20am

Student Poster Session: Monday, April 13th from 11:30am-12:15pm

Poster set-up and tear down:

Posters need to be hung on your assigned poster board prior to the poster judging starting on Monday, April 13th at 10:00am. Please refer to the Poster Session Listing on page 9-10 to find your poster number. Poster boards will be numbered and push pins will be provided to hang up each poster. Please remove your poster by the end of the day on Monday, April 13th.

Contacts:

Please direct all conference related questions to Jenn Jasinski

Jenn Jasinski, Conference Planner

Mobile: (352) 682-5416

Email: jjaskinski@dce.ufl.edu

John Abbitt, Academic Chair

Phone: (352) 215-8905

Email: jda@ufl.edu

2015 ASEE-SE Conference Schedule

Sunday, April 12, 2015

8:00AM	4:00PM	Registration/Check-In for Sunday Workshops	UF Little Hall- 2 nd Floor
9:00AM	4:00PM	ASEE Workshops	UF Little Hall-2 nd Floor
3:00PM	6:00PM	Registration/Check-In for Conference (Please pick-up your name badge before heading to the Welcome Reception)	Hilton Conference Registration
3:00PM	5:15PM	Executive Board Meeting	Hilton - Dogwood
5:45PM	6:15PM	Bus Transportation from UF Hilton to Florida Museum of Natural History	Meet in Hilton Conference Lobby
6:00PM	8:00PM	Welcome Reception	Florida Museum of Natural History
7:30PM	8:15PM	Bus Transportation from Florida Museum of Natural History to UF Hilton	

Monday, April 13, 2015

7:00AM	5:00PM	Registration Desk	Hilton Conference Registration Desk
7:30AM	8:30AM	Division Meetings & Breakfast	Century A
8:45AM	9:45AM	Welcome & Keynote Speaker	Century A
9:45AM	10:00AM	Break	Ballroom Foyer
10:00AM	11:20AM	Technical Session #1 <ol style="list-style-type: none"> 1. T1-A: Software Engineering 2. T1-B: Engineering Technology 3. T1-C: Instructional I 4. T1-D: Research I 5. T1-E: K-12 I 6. T1-F: Professional Skills 	Hawthorne Dogwood Century B Cypress Century C Live Oak
10:00AM	11:20AM	Student Poster Judging	Ballroom Foyer
11:30AM	11:20AM	Student Poster Session	Ballroom Foyer
12:15PM	1:30PM	Lunch	Century A
1:45PM	3:25PM	Technical Session #2 <ol style="list-style-type: none"> 1. T2-A: Civil Engineering I 2. T2-B: Administrative I 3. T2-C: Electrical & Industrial Engineering 4. T2-D: Mechanical Engineering I 5. T2-E: Instructional II 6. T2-F: Research II 	Dogwood Hawthorne Live Oak Century C Century B Cypress
3:25PM	3:45PM	Break	Ballroom Foyer

3:45PM	5:25PM	Technical Session #3 1. T3-A: Civil Engineering II 2. T3-B: Chemical Engineering 3. T3-C: Instructional III 4. T3-D: Mechanical II 5. T3-E: Professional Skills II 6. T3-F: Bio Engineering	Dogwood Hawthorne Century B Century C Live Oak Cypress
6:00PM	9:00PM	Dinner & Awards Banquet	Century A
Tuesday, April 14, 2015			
7:00AM	1:00PM	Registration Desk	Hilton Conference Registration Desk
7:30AM	8:30AM	Unit Meetings & Breakfast	Century A
8:40AM	10:00AM	Technical Session #4 1. T4-A: K-12 II 2. T4-B: Instructional IV 3. T4-C: Electrical Engineering 4. T4-D: Mechanical Engineering III	Live Oak Dogwood Cypress Hawthorne
10:00AM	10:20AM	Break	Ballroom Foyer
10:20AM	11:40AM	Technical Session #5 1. T5-A: Research II 2. T5-B: Administrative II 3. T5-C: K-12 III 4. T5-D: Professional Skills III	Cypress Dogwood Hawthorne Live Oak
11:45AM	1:00PM	Business Meeting & Lunch	Century A
1:00PM		Adjourn	

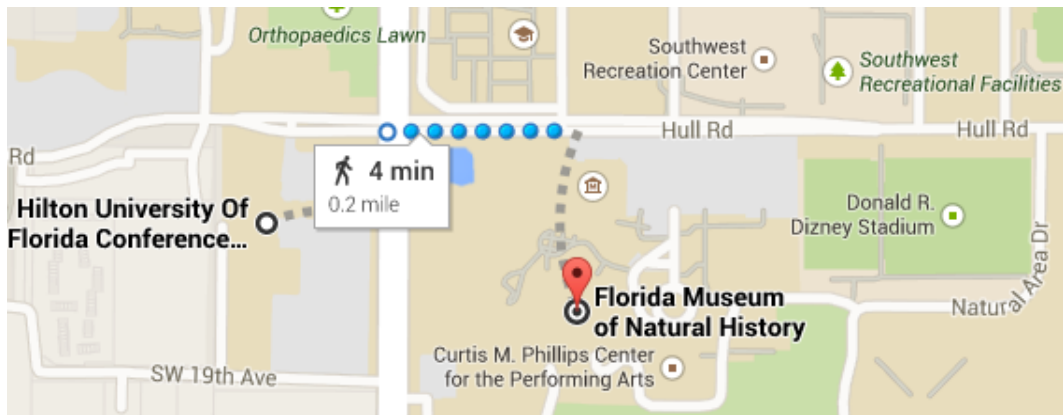
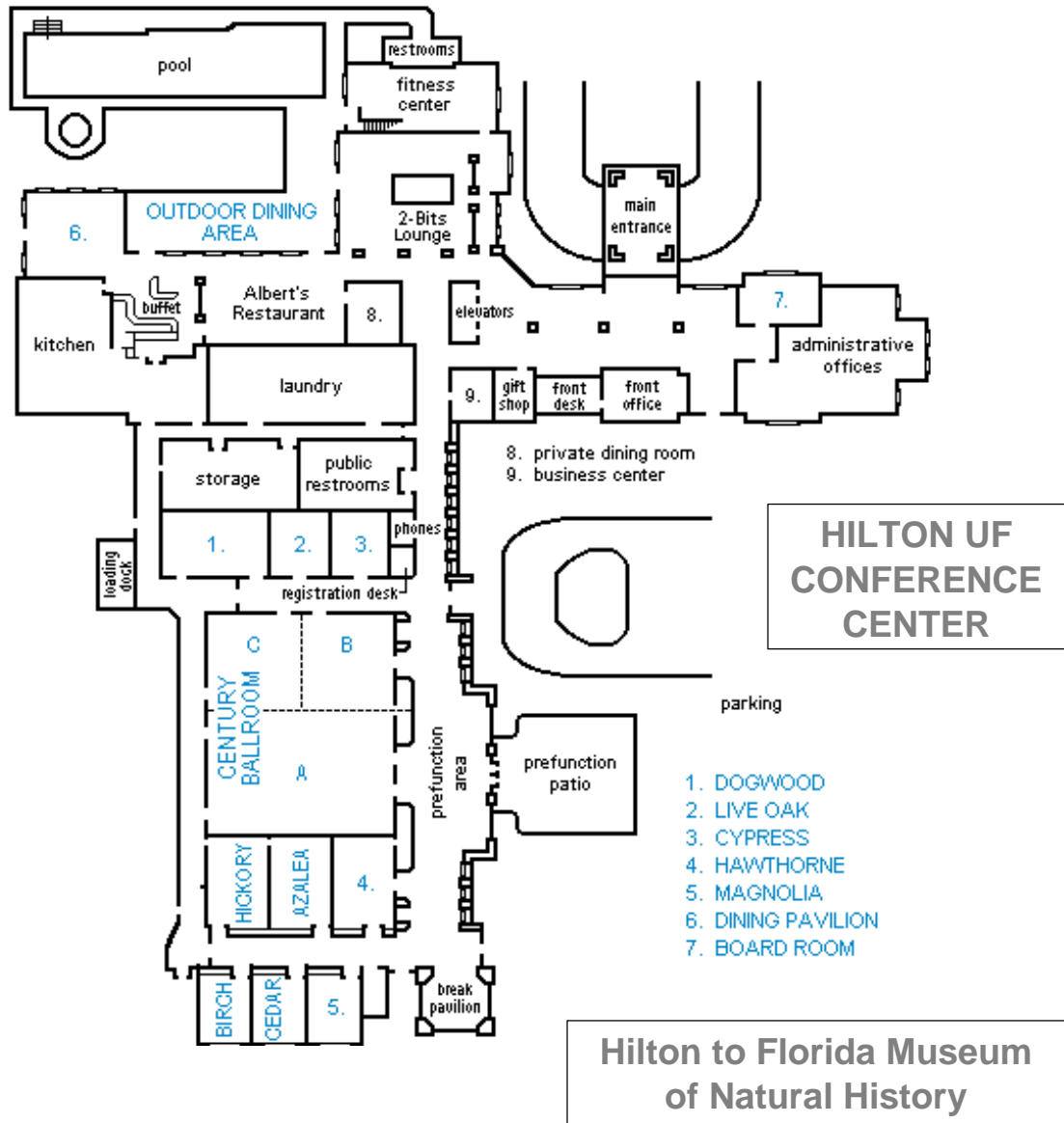
Poster Session – Monday, April 13, 2015 11:30AM-12:15PM

1	Transition in Hydraulic Conductivity from an Unlithified Late Miocene Age Channel-Fill Deposit to a Marine Reworked Sand Facies, Hendry County, Florida <i>Bettina Botha, Christian Harvey, Sebastian Arbelaez, Daniel Franco</i>
2	Multifunctional Smart Mouthguard For Health Monitoring and Intervention <i>Justin Correll, Hannah Pohlman, Tim Ajmani, Omeed Familie, Troy Templin, Todd Schumann</i>
3	Three-Dimensional Printing of Transradial Prosthetics <i>Del Cox, Chad Brode, Chandler Clark, Kaitlin Oliver Butler, Caitlyn Clark</i>
4	LEAP Motion Control of a Quadcopter <i>Kevin Culp</i>
5	High Cycle Fatigue Mechanism for Electroactive Membranes <i>Nicholas Dawkins, Matthew Drys, Kristina Dukes, Adriane Guettler, Victor Odewale</i>
6	Design of Autonomy Package for Riding Lawnmower for Airport Operations <i>Addison Ford, Robert Goring, Evan Wright, Brian Sterling, Marta Corchado, Michael Philotoff</i>
7	Evolution of Mixed Siliciclastic/Carbonate Aquifer Containing Metastable Components <i>Daniel Franco, Sebastian Arbelaez, Bettina Botha, Christian Harvey</i>
8	Sense-and-Avoid Based on Computer Vision <i>Ryan Gauthier, Ibrahim Abalkhail, Shane Giehll, Umar Idris, Brandon Neugbauer, H. Alex Senopoulos</i>
9	VW 1.8T High-Flow Intake Manifold <i>Andrew Gill, Will Daniel, Gabe Denes</i>
10	You're Too Close – Tailgater Alert System <i>Tyler Goubeaux</i>
11	Electroactive Smart Materials for Advanced Robotics <i>Adriane Guettler</i>
12	VTT Rotor: Back EMF Test Fixture <i>Russell Hamerski, Thomas Razabdouski, Tim Romano, Andrew Panek, Andre Steimer</i>
13	Not to Scale: Scale Mitigation and Elimination <i>Kimberly Harris, Kira Hansen, Scott Lauder</i>
14	Design of a Low-Cost Autonomous 3D Printer Vending Machine <i>Jonathan Hord, Heather Harrison, Curtis Beck, Stefan Abare, Richard Matthews, Addie Pearson</i>
15	Electromechanical Energy Conversion Demonstration <i>Sarah Kashin, Brian Stepanski, Ralph Corser</i>
16	Evaluation of the Limitless Robotic Lower Arm Prosthetic <i>Amy Lloyd</i>
17	Construction and Testing of a Lab-Scale Composite T-Beam <i>Kevin Long, Dylan Treend, Michael Statham</i>
18	Small Scale Corrosion Testing Apparatus <i>Daniel Mackowski</i>
19	Automated Adaptation of Environmental Geographic Models for the Scalable Advanced Graphic Engine (SAGE) <i>Alicia Morrow</i>
20	Student Poster Competition Egg Project <i>Ng'ang'a Lilian Njoki</i>
21	Autonomous Panda System <i>Kurt Pedrosa, Brian Powell, Merissa Roth, Luis Bogran, Kok Peng Tan, Mary Luongo</i>
22	The Krantz Crystal Collection in 3D <i>Josh Prince</i>

Poster Session – Monday, April 13, 2015 11:30AM-12:15PM

23	Analysis of Alternatives for Refugee Housing <i>Catherine Raybould</i>
24	Experimental Study to Characterize the Size Increase of Sub-micron Aerosol Particles in a Moist Environment <i>Lauren Reagin, Chris Murdock, & Britney Hudson</i>
25	The SLAMER <i>Nezar Bakhsh, Greg Carkin, Gary Roach, and Brittany Rompa</i>
26	Determination of Oxygen Flow Rate through a Contact Lens <i>Jason Baum, Nicolas Cerf, Jeremy Leshin, Alexandra Lupu, Ricardo Rivera, Kyle Silvares, Mihailo Zivkovic</i>
27	Project RIDES <i>Andrew Daws, Branden Martin, Jordan Maziarka, Alexandria Spradlin, David Timmons</i>
28	Offset Bi-directional Lifting Bar <i>Devin Stubbs, Luke Leelum, Coert Maraist, Yoel Bugin, Gabriel Omoniyi</i>
29	The Design of a Spherical Omni-Rover <i>Thanh Ta, John Ramirez, Derek Harrison</i>
30	Optimal Loading Rate for Treatment of Synthetic Gray Water with a #20 Intermittent Sand Filter <i>Bradley Thigpen, Caroline Ravazzi, Larissa Silva and Matheus Souza</i>
31	THE MUSE Mario Kart Power Racing Project <i>Matthew Deremer, Kyle Ulversoy, Luke Pace</i>
32	Application of 3D Printing into Homemade, Electric Skateboards <i>Juan Vasconez</i>
33	Wireless Pulse Oximetry Design and Development <i>Yanchen Wang</i>
34	Constructing and Monitoring a Farnsworth Fusor <i>Neal Welch, William De Witt, Ryan Alyamani</i>
35	Effect of Water Temperature and Depth on the Oxygen Transfer Coefficient <i>Stephen Kyle Wheeler</i>
36	Effect of Particle Size of Sodium Chloride as a Space Holder in Porous Sintered Aluminum Creation <i>Rob Ramey, Ryan Yeargin, and Gerald Vosburg</i>
37	Hip-Width and Its Correlation to Anterior Cruciate Ligament (ACL) Injury Risk <i>Sekinat Mumuney</i>

CONFERENCE MAPS



SPONSORS

Thank you to the Sponsors of the 2015 Southeast Regional Conference of the American Society for Engineering Education (ASEE-SE).



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