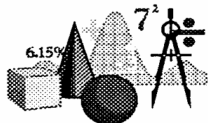




IEEE

SPARKS

IEEE Daytona Section Newsletter
March 2011



FROM THE HIGH CHAIR

The week of Feb. 20th was National Engineers Week. To reach out to current and future generations of engineering talent, many events took place at Embry-Riddle in celebration of the Engineers Week, including: a keynote address “Reach for the Stars” by Anousheh Ansari, the first female private space explorer & first space ambassador; a panel discussion of emerging technologies and their impact on engineering careers; and a banquet featuring Dr. Zoz Brooks of Discovery Channel’s *Prototype This*, etc. These events were very well attended.

On Feb. 22nd, our section’s computer chapter held the first event of the year at Embry-Riddle. The guest speaker was Dr. Stanislaw Raczynski from Panamericana University in Mexico City. He gave an interesting talk on “Attainable Regions for Flight Trajectories”.

At our section meeting on Feb. 23rd, Dr. Micah Blackmon from the Halifax Health Center for Urology made a very informative presentation on the daVinci Surgical Robotic System. The robot-assisted surgical system allows for complex surgeries with small incisions, thus revolutionizing minimally invasive surgery and expanding the types of surgeries that can be performed. The presentation generated great interest among audience, and Dr. Blackmon addressed many questions about this fascinating robotic system. During the meeting, we also recognized the excellent work of Dr. Hugh Ward, who made tremendous contribution to our section’s SRT project.

It is my great pleasure to report that our section’s

student membership has been growing substantially. So far in 2011, we have 12 new members that have joined our section, all of them student members. I have also received words that Bethune-Cookman University (B-CU) currently has eight student members, and a new student chapter is expected to be established in the near future. Both Embry-Riddle and B-CU will be sending student robotics competition teams to SouthEastCon in March 2011.

On Mar. 3-6, IEEE-USA annual meeting will have taken place in Austin, Texas. The theme of the conference is “Engineering in Motion”. On Mar. 17-20, IEEE Region 3 SouthEastCon will be held in Nashville, Tennessee, and the theme of the conference is “Building Global Engineers”. During SouthEastCon, Florida Council and Region 3 will conduct their meetings as well.

On Jan. 30th to Feb. 3rd of 2012, the IEEE Industry Application Society (IAS) will hold its annual Electrical Safety Workshop (ESW) at the Hilton Hotel in Daytona Beach. ESW is a transnational technical forum aimed at accelerating the dispersion of information and knowledge impacting electrical safety. We have been working with IAS and the IEEE Florida Council to support this important IEEE event. The 2012 ESW theme is “Changing the Electrical Safety Culture”. I highly recommend our members to make plans to contribute to and/or attend ESW 2012. Paper proposals for the workshop are due May 1, 2011. The call for paper document can be found at <http://ewh.ieee.org/cmte/ias-esw/index.html>.

Thomas Yang, Ph.D.

MARCH PROGRAM

THE HISTORY OF NAVIGATION - Part 1

Part one meaning before the invention of the marine chronometer. How early navigators used the stars, the winds, the currents and visual references to find destinations. How ancient boat design reveals navigation methods and how the Chinese may have discovered America before Columbus.

OUR SPEAKER

Tracy Wichmann has a diverse resume. He received his Science Bachelor in Physics from MIT. His education also included the study of Servomechanisms at Ohio State's Electrical Engineering Department and Astrophysics and Statistics and System Engineering at UCLA. He is an Adjunct Professor at Embry Riddle Aeronautical University and consultant for computer programming. Over the years he had held positions as Program Manager, Senior Research Scientist, Research Engineer in such fields as electronic warfare, space shuttle avionics, air traffic control with such companies as Hughes Aircraft, Teledyne Systems, Litton Industries, and the U.S. Air Force. He has published over 50 papers & publications and has a patent on a blood pressure measuring device. He has been past Chairman and Treasurer of the Daytona Section and currently serves as our Vice Chairman. He is also a member of the Southcon Board of Directors.

BRAIN TEASER CHALLENGE FROM THE PAST - BUTCH SHADWELL

Time is on our side, or so the song goes. I think we always assume there will be time tomorrow to do that thing that you just couldn't fit in today. And isn't it amazing how often there isn't enough time tomorrow either.

My cousin Frida works as a grape stomper whenever her street artist business slows down. She has always wanted to take up a career in particle physics, but felt that she just couldn't find the time for all that studying and going to classes. Then one day she saw an ad in the back of Popular Mechanics magazine. The ad explained that by capitalizing on her "life experience" she could get her PhD in nuclear physics in just three weeks, faster if she would spring for express delivery costs.

This was too good to be true, so Frida was soon sporting an impressive looking diploma. In applying for her first position in her new field she decided it would make an impression on her interviewer if she could bring in some new device she had designed herself. She brought in an ionization smoke detector. This detector uses an Am241 radioactive source. Who can tell me the dominant mode of decay for this radioisotope?

The solution will be posted in the next edition of SPARKS

BRAIN TEASER SOLUTION FROM THE PAST

Last month my super duper flight massager needed a power cord for "... a 5A, 120Vac, vibrating seat cushion. ... The auxiliary power unit that runs it only weighs 30 pounds and holds 8 hours worth of alcohol fuel. And, it fits neatly into the overhead compartment. What is the smallest recommended wire gauge for rubber insulated twin lead to connect these two pieces?"

A lot of folks I know don't realize that adding insulation to a conductor usually lowers its safe current rating. The problem is that insulation prevents the conductor from dissipating the heat from resistive and inductive losses. With reduced heat dissipation capacity, the wire will reach a higher temperature faster and could start to decompose. Adding rubber insulation will de-rate the ampacity of a bare wire by about 28%, depending on the ambient temperature and air flow rate. So, if the ambient temperature does not exceed 60 degrees C, most charts show that you could get by with only 20 gauge cooper. As you may guess, the choice of wire gauge comes down to the amount of over design you feel will give you the margin of safety you feel you need. But I bet you already knew that.

CALENDER OF EVENTS

August 18-22 – Sections Congress in San Francisco

Jan. 30th to Feb. 3rd of 2012- the IEEE Industry Application Society (IAS) will hold its annual Electrical Safety Workshop in Daytona Beach
Southeast Con- Orlando 2012, Jacksonville 2013

EDITORS NOTES

The **SPARKS** newsletter is also available on our website. The website address is shown in the Section information box to the right.

Our neighboring Sections in Melbourne and Orlando also sponsor activities and meetings that also may be of interest to our members. We encourage you to visit their websites.

Region 3 website

<http://www.ewh.ieee.org/reg/3/>

Melbourne Section website

www.ieeemelbourne.org

Orlando Section website

www.ieee.org/orlando

FUTURE MEETING DATES

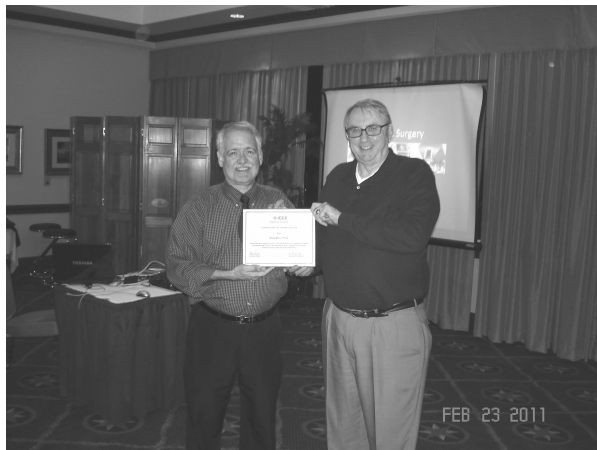
The remaining meeting date for the spring session is April 28th

IMPORTANT MARCH MEETING NOTE

One of our meals is a premium selection at an additional cost. This will add some variety to our menu selections, we hope you'll like it. The meal selections are shown on the back page. Feedback on this idea is welcome.

AWARDS PRESENTATIONS

At our February meeting, Roger Grubic presented an award to Hugh C. Ward Jr, Ed.D. for his outstanding contributions to our SRT project. Our congratulations to Hugh for a well deserved award.



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The website address for the Daytona Section is:

<http://www.ieee.org/go/daytona>

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MARCH 2011 MEETING

Thursday March 24th at the Halifax River Yacht Club
331 South Beach Street, Daytona Beach, Florida 32114
Just south of the Fire Station at the corner of Beach and Orange

AGENDA

6:30 PM Cocktails
7:00 PM Dinner
8:00 PM Program

OUR SPEAKER – Tracy Wichmann

TOPIC– The History of Navigation - Part 1

March Dinner Menu Selections

9 oz Sirloin w/ Baked Potato @ \$25.00

Lemon Chicken Fettuccini

Marinated Grilled Shrimp Kabobs w/Rice

[All entrees served with

[Broccoli, roll and

[butter, garden salad, coffee/tea

Unless noted, dinner entrées are \$18.00 each. Students \$10.00 each

A Veggie plate is available on request for \$10

**Please contact Allan Jusko with your dinner selections or for program information.
Dinner selections must be in by Wednesday noon so the club has time to order and prepare**

Allan Jusko

SPARKS Editor

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IMPORTANT: If you make dinner reservations and are unable to attend, call at least 12 hours prior to the meeting to cancel. The Daytona Section is charged for all dinners ordered.
