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This Month's Meetings

June 2nd: EXCOM Meeting

Meeting starts at 5:30PM At TECO Plaza

Register online at <http://time2meet.com/fwcs-excom/index.html>

Meeting is open to all FWCS members

and guests

Distribution and Power Seminar Including the New D.O.E Standards

Thursday, June 11, 2009

Location: Sand Key Sheraton, 160 Gulf Blvd.

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IEEE Computer Vision and Pattern Recognition Conference

June 20 – 25, 2009

Location: The Fontainebleau Resort, Miami, FL

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Friday after the 1st Tuesday of the month preceding the issue month.

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This Month...(Editor's Column)

As I prepare the June issue of the Signal Newsletter, the U.S. space program is once again in the headlines. The Hubble Space Telescope is being repaired yet again and for the final time in its twenty year lifetime. The repairs and upgrades should last for five to ten years. Even as the Hubble is being refurbished, its successor is being built. It is the James Webb Space Telescope and its primary mirror will be nearly three times larger than Hubble's. Launch is planned in about six years. To Quote Martin Mohan of Northrop Grumman, the primary contractor "There's engineering to do but invention is done".

In this issue, there is an article on Engineering the Future Day on page 4, a follow up article by Jim Lumia on his Autonomous Vehicles event last month, a contribution by Sean Denny and an annual report from IEEE USA.






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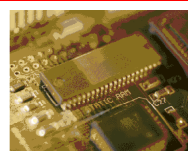
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NEWS from IEEE-USA

WASHINGTON (19 May 2009) -- A coalition of 19 national and global organizations, including IEEE-USA, will announce the formation of "Professionals for the Public Interest (PftPI): Associations and Unions Defending Professional Integrity" at a news conference in the First Amendment Lounge of the National Press Club on Wednesday 20 May at 9:30 am

"Professionals across a range of government and private enterprise positions are experiencing pressures and challenges to the integrity of their work," said Paul Almeida, president of the Department for Professional Employees (DPE), AFL-CIO, which has played a coordinating role in bringing the organizations together. "PftPI will engage those professionals, the public and policymakers in discussing ways to defend against those external pressures." The PftPI coalition includes professional associations and unions representing more than four million professionals in science, engineering, health, the arts and human services. Featured speakers Wednesday include Randi Weingarten, president, American Federation of Teachers; Ann Converso, president, United American Nurses; Mary Ghikas, senior associate executive director, American Library Association; and Dr. Mark Frankel, director of the Scientific Freedom, Responsibility and Law Program, American Association for the Advancement of Science. President Barack Obama recognized the importance of scientific integrity with a 9 March memorandum that assigns to Dr. John Holdren, director of the Office of Science and Technology Policy, "the responsibility for ensuring the highest level of integrity in all aspects of the executive branch's involvement with scientific and technological processes." See the memo at http://www.whitehouse.gov/the_press_office/Memorandum-for-the-Heads-of-Executive-Departments-and-Agencies-3-9-09/. In addition to the news conference, PftPI is launching its Web site, www.PftPI.org, to allow professionals to share ideas and experiences related to professional integrity and its connection to the public interest



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IEEE CVPR Conference

The 2009 IEEE Conference on Computer Vision and Pattern Recognition (CVPR) will be held 20 June - 25 June 2009 at the Fontainebleau Resort Miami, FL, USA. For more information and to register online, go to <http://www.cvpr2009.org>.

Overall Schedule for CVPR 2009 (Note: Main Conference is Mon-Tue-Wed)

- Saturday June 20, 2009: CVPR [Short Courses](#) and [Workshops](#)
- Sunday June 21, 2009: CVPR [Short Courses](#) and [Workshops](#)
- Monday June 22, 2009: CVPR Main Conference (Detailed Schedule coming soon)
- Tuesday June 23, 2009: CVPR Main Conference
- Wednesday June 24, 2009: CVPR Main Conference

Thursday June 25, 2009: CVPR [Workshops](#)



IEEE Engineering the Future Day

125th Anniversary Recognized by U.S. House of Representatives



WASHINGTON (13 May 2009) -- The U.S. House of Representatives passed a resolution last night supporting the goals and ideals of "IEEE Engineering the Future Day," which IEEE is celebrating today in recognition of its 125th anniversary. House Resolution 413, which passed 409-0, was introduced by Rep. Cliff Stearns (R-FL.). Bart Gordon (D-TN.), chairman of the House Science and Technology Committee, was the lead cosponsor.

Stearns was a student member of IEEE while earning his degree in electrical engineering from George Washington University. "I was an aerospace engineer in the Air Force, a captain in the Air Force during [the] launching of satellites from Vandenberg Air Force Base," Stearns said on the House floor Tuesday. "I'm very proud of the background I have. It sometimes helps me in trying to understand the intricacies in analysis here in Congress." Gordon spoke Tuesday about some of the myriad accomplishments of IEEE members. "Who could imagine the world today without electricity, light bulbs, computers, radios, TVs, wireless communications, the Internet and all those electronic devices that inform us, entertain us and help make our lives more enjoyable?," Gordon said. "Health care has improved because we have x-rays, MRIs, laser surgery, sonograms, arthroscopic cameras and pacemakers." We can thank electrical and computer engineers for these lifesaving technologies."

See <http://thomas.loc.gov/cgi-bin/query/D?c111:2:/temp/~c1119fBz4G::> for the full resolution. (Include the colons at the end.) In addition to Gordon, original cosponsors included Reps. Vernon Ehlers (R-Mich.), Ralph Hall (R-Texas), Daniel Lipinski (D-Ill.), Frank Pallone (D-N.J.) and Dana Rohrabacher (R-Calif.). Ehlers is a physicist and Lipinski an engineer. Pallone's district includes IEEE's Operations Center in Piscataway, N.J. Hall is the ranking Republican member of the House Science and Technology Committee, and Rohrabacher is a member. Gordon managed the resolution for the Democrats and Mario Diaz-Balart (R-Fl.) for the Republicans. IEEE Engineering the Future Day, which falls on IEEE's official anniversary date, recognizes the contributions and impact that IEEE members and engineering and technology professionals have made for the benefit of humanity. IEEE traces its beginning to the founding of the American Institute of Electrical Engineers (AIEE) on 13 May, 1884. AIEE merged with the Institute of Radio Engineers in 1963 to form IEEE.

The House resolution recognizes IEEE for many contributions, including, among others, its "vast library of technical publications," worldwide conferences, "international standards that support many of today's products and services, and for providing "learning opportunities within the engineering sciences." The resolution concludes by saying the "United States must continue its efforts to maintain its leadership in science, technology, and innovation: Now, therefore, be it *Resolved*, That the House of Representatives (1) recognizes the importance of engineering and technology to meeting our Nation's most pressing challenges; (2) congratulates IEEE on its 125th anniversary; and (3) supports the goals and ideals of 'IEEE Engineering the Future' Day."

You can find out more about IEEE 125th anniversary activities at www.ieee125.org.



IEEE Spectrum Is on Facebook

IEEE Spectrum magazine now has a page of its own on Facebook that features news items, blogs, videos, and Spectrum event information.

Facebook members can check out the page and share their comments, videos, and photos at

<http://bmsmail3.ieee.org:80/u/14670/04215844>



Brain Teaser Challenge Solution - March 2009

Butch Shadwell

While attending a conference on weather modeling I got the idea for a BTC involving someone being airborne in a storm, "... after a 100 pound woman is airborne, how long does it take her to get from 0 to 30 MPH if she has a constant net horizontal accelerating force from the wind of 100 pounds (force)? Obviously the wind is building during her entire flight. You can ignore wind drag and all other forces for this problem. I am using English units in order to add to the challenge, maybe metric next time."

I didn't think of it at the time, but by making the net driving force equal to her weight, the problem gets very easy. We know that her mass (in slugs) times the acceleration due to gravity (32.2ft/s^2) is equal to 100 pounds of force ($F = ma$). So her mass, the same number of slugs mentioned above, must accelerate at 32.2ft/s^2 horizontally when a 100 pound force is applied ($a = F/m$). You were instructed to ignore all other forces. Since $v = at$ and 30 mph is equal to 44ft/s , it takes 1.37 seconds to get to the specified speed. But I bet you already knew that.

Brain Teaser Challenge – April 2009

I recently had to spend the night in the hospital. I didn't really feel that sick, but I had had some strange symptoms earlier and they wanted to do some tests to try to understand what had happened. I left the next day having had a very bad night's sleep and a huge barrage of tests. Though they were efficient and thorough, no one really knew what had caused my symptoms two days prior. I think this happens a lot in medicine. That is, they see some symptoms and they do their best to explain them. Then for all their best efforts and the latest technology, no one really knows. I feel blessed that no one suggested treating me for their best guess of what the problem might be.



In an earlier part of my career I did R&D in nuclear medicine, specifically gamma imaging. This is not taking pictures of gamma rays, but rather using gamma rays to take pictures inside of your body. Technetium-99m is a common radionuclide used in such imaging. As it turns out, most of the technetium used in medicine is harvested from a device called a cow as a by-product of another radionuclide called molybdenum-99. Our question this month is how does molybdenum-99 become technetium-99m? Hope you don't glow in the dark.

Reply to Butch Shadwell at b.shadwell@ieee.org (email), 904-410-9751 (fax), 904-410-9750 (v), 3308 Queen Palm Dr., Jacksonville, FL 32250-2328. (<http://www.shadtechserv.com>) The names of correct respondents may be mentioned in the solution column.



Distribution and Power Transformer Seminar Including the New D.O.E. Standards

Date: Thursday, June 11, 2009
Time: Registration: 8:00 A.M. Seminar: 8:30 A.M. - 12:30 P.M.
Speaker: Don Duckett, P.E., IEEE Senior Life Member
Location: Sand Key Sheraton, 1160 Gulf Blvd. Clearwater
in conjunction with the Florida Electric Cooperatives Association (FECA)
Cost: \$100 Members, \$150 Non-Members, \$25 IEEE Student Members
PDH Credits: 4 professional development hours will be awarded. Be sure to provide your name as it appears on your Florida license and your license number to insure proper credit. Florida Provider #0003849 IEEE
Reservations: Contact Ray Trusik at FECA 850-877-6166 Ext. 5 feca@embarqmail.com

Back by popular demand is our Expanded Transformer seminar. This seminar will address the key portions of the new DOE 2007 Rule and its impacts on the size, weight, losses, and other criteria for distribution transformers. In addition, we will be discussing the basics of transformers and reviewing the sizing methods used in industry. At the end of each section, an in-class assignment will be given and reviewed.





Autonomous Vehicles: When will your car drive you?

On April 27, Grayson Randall presented to the FWCS Computer Society and AESS members at CDB's Southside Italian Restaurant in Tampa. More than twenty members and guests took advantage to learn about robotics and autonomous vehicles, network with fellow engineers and have an excellent dinner. Four ASME members also attended the meeting and said that they look forward to future meeting engagements with the Florida West Coast IEEE members.



Grayson Randall is president of Insight Technologies, Inc. (www.insightrobots.com), a North Carolina company which specializes in ground based robots for both commercial and military use. Insight Technologies, Inc. performs both research and development for robotic control systems.

Mr. Randall led the Insight Racing team (www.insightracing.org) in the DARPA (Defense Advanced Research Projects Agency) Grand Challenge series of races. Insight Racing's most recent entry was a computer driven Lotus Elise that was developed in conjunction with NC State University. The Elise would drive through city traffic without a driver, remote control, or any human intervention whatsoever. He presented very interesting videos and details of the DARPA Grand Challenge series of races. The control systems used parallel computing and GPS. The final coordinates for the route were given to the teams just five minutes before their start time.

Mr. Randall is a "Distinguished Visitor" for the IEEE Computer Society. He received the Outstanding Engineer Award from IEEE Region 3 at SoutheastCon 2009 in Atlanta, Georgia where Mr. Randall was chosen from among over 30,000 engineers in the Southeastern United States. Mr. Randall was also recognized by IEEE-USA in 2007 "for leadership that inspired pre-college students and college engineering students in the area of robotics."

Article contributed by Jim Lumia, FWCS Computer Society and AESS Chair



IEEE-USA in Action 2008 Online Annual Report

For an overview of IEEE-USA's 2008 activities in building careers and shaping public policy, see http://www.ieeeusa.org/about/annual_report/2008.pdf.

In 2008, IEEE-USA President Russell J. Lefevre and the IEEE-USA Board of Directors reaffirmed four strategic goals: promoting innovation and competitiveness; supporting K-12 math and science education to encourage technical literacy and to train future technologists; offering increased member value in products and services; and providing career-long continuing education to maintain a competitive U.S. work force, as well as to preserve careers.

The report includes detailed sections on Dr. Lefevre's activities as IEEE-USA president; 2008 U.S. presidential election-year involvement; congressional briefings; U.S. government fellowships and Washington Internships for Students of Engineering; joint activities with and in support of other IEEE organizational units; e-books; student professional awareness conferences; and completion of the IEEE's new Washington Office.

For a look at all IEEE-USA online reports from 2004 through 2008, go to <http://www.ieeeusa.org/about/default.asp>.

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Teacher in Service Report

By invitation of Mr. Bruce Furino, I attended the fourth annual *Florida Engineering Education Conference (F.E.E.C-IV)* at the University of Central Florida on May 1st. I had the pleasure of sitting with Karen Hogan, the 2009 IEEE Lignell Outstanding High School Teacher for Pinellas County. The panelists were speaking about how important it is on our future with integrating engineering into the classroom and getting the children interested at an early age. I had been the Teacher In Service chairman of the IEEE since 2005 and have been responsible for having engineers give presentations on a physics or math topic for teachers and students. After the presentations, I gave a workshop of Building Robot Arms to five teachers in the Harris Engineering Building. They had to figure out how to pick up a Styrofoam cup with a robot arm made from scraps of cardboard, metal brads, rubber bands, tape, and clamps. The surveys collected were positive. One educator wrote, "We will use this idea in our school-wide Engineering Design Challenge. Great Job!"

I recommend all of you take a look at the IEEE Education Website: www.ieee.org/education/precollege because the options have increased for lesson plans. I still encourage the Science Supervisors to contact me to reference an engineer who can demonstrate one of those lesson plans either at a Professional Study Day or on an In Service Day of your choice. Please Email your request to me at venner20@ieee.org. Pinellas County Schools, courtesy of Blythe Lamy (Lodermeier) has already posted the Pinellas Professional Study Day will be at Clearwater High School on August 21 at 1PM. Engineer Ralph Painter has agreed to do a presentation on Ohm's Law. Please work with me for when your Professional Study Day becomes scheduled.

Karen also informed me of a FIRST Robotics kickoff meeting on May 16th at Catalina Marketing



Karen Hogan



Teachers at the Workshop



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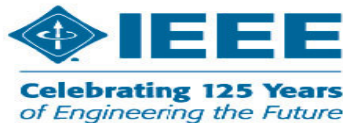
As the Signal editor, I am always looking for articles from the members of the FWCS. The articles should be of interest to the membership and pertain to electrical engineering or engineering in general. The article should be one page in length and in Microsoft Word. Longer pieces will be considered but may be published over more than one month. E-mail the article to me for consideration.



June 2009 Calendar of Events (For more information see P. 1) *inside this Signal...*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	1	2 EXCOM Meeting at TECO Plaza	3	4	5	6
7	8	9	10	11 Distribution and Power Transformer Seminar see page 6	12	13
14	15	16	17	18	19	20 CVPR Conference, see page 3
21 CVPR Conference	22 CVPR Conference	23 CVPR Conference	24 CVPR Conference	25 CVPR Conference	26	27
28	29	30	1	2	3	4

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