ION Saint Louis

SPRING 2009

Region 5 Annual Meeting Planned

The annual Region 5 Business Meeting and Student Contests will be held in Lubbock, TX April 17-18, 2009. The annual conference is the largest gathering of electrical engineering students, faculty and professionals in our region every year, and will offer student competitions, tutorials, and professional development exercises. We also welcome and invite members from outside Region 5 to attend the conference and all of the events we have to offer. Section Chair, Tyria Riley, will be the official delegate to this years meeting.

For more information and online conference and hotel registration, please visit http://www.r5conferences.org. Early registration is recommended, as there is limited space available for many of the events. Early registration ends March 27, 2009. The last day of registration is April 10, 2009.

The Region 5 Annual Business Meeting will start with dinner for the Region Delegates on Friday Evening April 17, 2009 in Lubbock, Texas. The Region 5 Business Meeting and Student Contests will be held on April 18, 2009 and will end with the Annual Region 5 Awards and Recognition Banquet on Saturday evening. The Region 5 Conference Committee will hold a meeting on April 19, 2009 from 8:00 AM – Noon.

The Student Leadership Meetings and contests are planned for Friday afternoon through Saturday ending and conclude with the Awards and Recognition Banquet Saturday night. The 2009 IEEE Region 5 Business Meeting and Student Contests hosted by the South Plains Section and Texas Tech University, April 17-19, 2009, are located at the Holiday Inn Hotel and Towers, Lubbock, Texas.

Robotics Competition at the Region 5 Meeting

As part of the Student Contests at the annual Region meeting, School Robotic Competitions are held among those that participate. This is a chance for our younger members to demonstrate their skills in designing a robot to compete against other students. This competition creates teamwork and an atmosphere to have fun, while being competitive. SIU Edwardsville, SIU Carbondale, SLU, MIzzou, and MST already have a team in place to attend, while WuSTL is still considering. Other schools from the Section will be finalizing their plans very soon, as well.

At the February Planning meeting, the Section agreed to offset $750 to each school sending a team. The offset would go towards registration, travel and/or parts for the competition. More information is on the Conference website at http://www.r5conferences.org/StudentCompetition/Robotics/Robotics.htm.

Section WIE/GOLD Co-Chair, Jacquelyn Stroble, has a difficult time holding back her excitement at the IEEE-USA Annual Meeting. See story on page 10.

Inside This Issue

The *ION Saint Louis* is the official publication of the Saint Louis Section of IEEE. It is published approximately once per quarter by the Officers of the Section and distributed electronically via the Section Listserv and posted to the Section website.

Any member may submit IEEE-related information to appear in the publication to Bob Becnel at bob@becnel.com.

Section Quarterly Review

Tyria Riley, Chair, and the entire Section Executive Committee has had an active 3 months since January 1. Here is a summary of administrative and membership decisions. Many of these are elaborated upon throughout this issue.

- Approved $750 for School Participation in Robotic Competition
- Approved school expenses and travel for Black Box Competition in November
- Approved FloValley Student Chapter purchase of EWH Electronic Kits
- Donated $1000 to the MST and MU Solar House Team
- Approved Jacquelyn Stroble's expenses to the IEEE-USA Annual Meeting
- Conduct Joint March Meeting with the Education Society
    - UMSL/WUSTL Engineering Program w/Dr. J O'Sullivan, Dean
    - Approximately 18 in attendance
- Planned Joint April Meeting with AESS
    - Navigation Program w/Dr. Myron Kayton, Distinguished Lecturer
- Planned May Meeting (Tentative)
    - Systems Engineer w/Paul Gartz of Boeing, Distinguished Lecturer
- Budgeted $2500 for the Summer and Winter Socials
- Sought out Bob Spiegel to head up a Life Members Affinity Group
- Submitted the L-50 and proper forms for the IEEE Section Rebate

March Speaker, Dr. O'Sullivan, updates the membership on the UMSL/WUSTL Joint Engineering Program.

IEEE Celebrates 125 Years

The start of 2009 marked the official kickoff of IEEE's 125th Anniversary celebration. IEEE is commemorating this milestone with a variety of activities surrounding the theme of Celebrating 125 Years of Engineering the Future. The official 125th anniversary mark is already visible on ieee.org, and is being used on IEEE publication covers and other materials throughout the year. The latest anniversary information is available on http://www.ieee125.org.

Volunteers are asked to encourage their OUs and IEEE members to plan their own local events and celebrations. All 125th events should be posted to the calendar on the IEEE 125th Anniversary Web site.

Contributions to this article taken from the February 2009 Issue of IEEE MGA SCOOP.

2009 Section Chair, Tyria Riley

St. Louis Science Fair Judges Needed

There is an immediate call for judges requested by Heidi Anderson (heidi.e.anderson@ieee.org) to serve in the Greater St. Louis Science Fair. Dates for the Science Fair are unavailable at this time but will be distributed through an E-notice by Heidi. This is a great opportunity to witness tomorrow's leaders which are pre-college students (K-12) at this annual event. The Section will be taking a more active role in the event this year and will also be establishing an award.

April Section Program

Joint IEEE Saint Louis Section & AESS Society Meeting

Dr. Myron Kayton, IEEE-AESS Distinguished Lecturer

Navigation Systems

Date:
April 23 (Thu)

Time:
7:00 - 8:30 PM
After Planning Meeting

Location:
SLU Campus
McDonnell Douglas Hall
3450 Lindell Blvd
Park in Garage Next Door

No charge. Pizza and Soft Drinks Included.

Direct questions to sec.stlouis@ieee.org

Abstract

The lecture begins with the importance of coordinate frames and the distinction between guidance and navigation. Then, radio navigation is compared to dead reckoning. Inertial navigation is described as the most accurate of the dead-reckoning technologies. The importance of timing in radio systems is explained.

The lecture compares the characteristics of navigation systems for aircraft, automobiles, ships, and spacecraft. It compares the cost and accuracy of various navigation systems and projects future trends, especially for mobile com-nav systems.

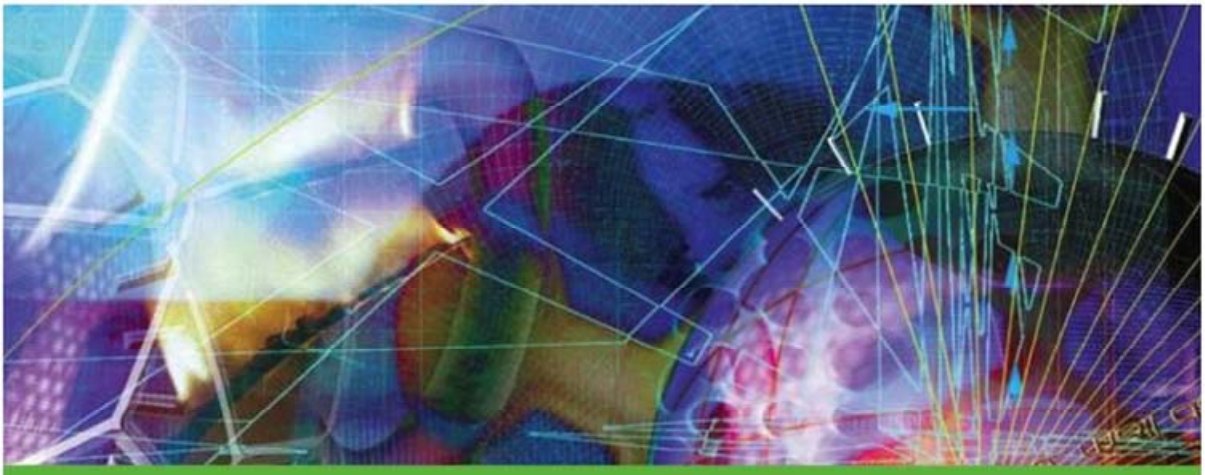
Speaker

Dr. Kayton received the Ph.D. in Instrumentation from M.I.T. in 1960, the M.S. from Harvard University with a concentration in electrical engineering, and the B.S. in mechanical engineering from The Cooper Union. He served as a member of Cooper Union's Alumni Council and as President of the Harvard Club of Southern California. He is a founding member of the Steering Committee of the Caltech-M.I.T. Enterprise Forum.

Dr. Kayton is listed in *Who's Who in Engineering*, *Who's Who in America*, and *American Men and Women of Science*. He is an instrument-rated pilot and holds an FAA Project Raincheck certificate in Air Traffic Control. He is interested in history, languages, and tennis.

IEEE
Celebrating 125 Years
of Engineering the Future

May Section Program (Tentative)



May IEEE Saint Louis Section Membership Meeting

Paul Gartz, Distinguished Lecturer and Chief Architect at Boeing

The role of Systems Engineering in Society, Contracts & R&D

Date: May 28 (Thu)

Time: 7:00 - 8:30 PM
(After Planning Meeting)

Location: SLU Campus, McDonnell Douglas Hall at 3450 Lindell Blvd
(Park in Garage Next Door)

No charge. Pizza and Soft Drinks Included.

Direct questions to
sec.stlouis@ieee.org

Abstract

Supra large-scale, interoperable systems are often now referred to as Systems-of-Systems (SoSs). There are less than ten around the world of these now emergent and each is varying stages of maturity, funding and readiness to be addressed. Some include Global Transportation SoS, Global Earth Observation SoS and Predictions (GEOSS), Global Healthcare SoS, Global Security SoS and others.

This talk will start with an introduction to SoSs. As with any level of system, SoSs will set a new context and thereby requirements for all "elements" within its scope and change the game in many industry's as to how money flow to meet these new opportunities. This has already been seen in US DoD acquisition and is also emergent in commercial aviation, earth observation, healthcare and others. The talk will also address what IEEE is doing to step up to these challenges and assist on a global basis.

Speaker

Photo here

The author has been Chief Architect of three of the SoSs and is in his forty third career year in large-scale systems engineering and integration in the aerospace and communication sectors. He has also led two key societies of IEEE as president in these fields and has started and led other professional non-profits.

IEEE
Celebrating 125 Years
of Engineering the Future

University of Missouri Student Branch

New Branch Counselor for MU, Dr. Kevin Kovaleski. (Photo and bio from MU College of Engineering website).

Welcome New MU Branch Counselor, Dr. Kovaleski

Scott Kovaleski is the new Branch Counselor for the Mizzou Student Branch and replaces long-time Counselor Dr. Keller, who remains involved with several other MU IEEE Chapters. Kovaleski is assistant professor in the Electrical and Computer Engineering Department at the University of Missouri–Columbia. With a background at General Electric Co. and QSS Group Inc., Kovaleski has broad-based work experience that includes research involving plasma propulsion, ion sources and accelerators and electrical and spectroscopic plasma diagnostics. Kovaleski has a Ph.D. and M.S.E. from the University of Michigan and B.S. from Purdue University.

Dr. Kovaleski comes into the new job with praise from the student officers. "I feel like we have already been able to accomplish a lot since Dr. Kovaleski has become the new branch counselor. Both Lance and I had him for the course in electromagnetic fields, so we already felt comfortable talking to him. I believe Dr. Kovaleski will do a great job helping to make the Mizzou IEEE student branch more involved again," stated Vice-Chair Matthew Milligan.

Events

Date	Event	Location	Note
4/3	IEEE/HKN Spring BBQ	Stephens Lake Park	
4/17	IEEE Region 5 Conference	Lubbock, TX	
4/28	General Meeting	Ketcham Aud	
4/30	Callaway Nuclear Plant	Fulton, MO	Plant Tour
8/26	Officers Meeting	Heidelberg	
9/1	General Meeting	Ketcham Aud	
9/11	IEEE/HKN Fall BBQ	Stephens Lake Park	
10/6	General Meeting	Ketcham Aud	
10/30	Tiger Night of Fun	Hearnes Center	Community Service
11/3	General Meeting	Ketcham Aud	VP election
11/12	Boeing Plant Tour	St. Louis, MO	
Nov. TBA	Black Box Competition	Rolla, MO	
12/1	General Meeting	Ketcham Aud	

Mizzou Robotics Team

- Christopher Kokoska
- Kevin Oehler

Officers (thru the end of the 2008-2009 School Year)

- Chair: Lance Thomas
- Vice-Chair: Matthew Milligan
- Treasurer: Scott Gayou
- Secretary: Michael Stegeman
- Activities Chair: Joe Scaduto
- Publicity Chair: Jeff Spencer
- Webmaster: David Lewis
- Social Chair: Nicholas Fritchman
- T-shirt Chair: Kevin MacDonald

12th International IEEE Conference on Intelligent Transportation Systems (ITSC 09)
Dates: 4-7 October 2009
Marriott Union Station, St. Louis, Missouri USA.

The Intelligent Transportation Systems Conference (ITSC 09) is the annual conference for the IEEE Intelligent Transportation Systems Society. It targets basic research and applications of leading advances in communications, computer, control, and electronics technologies related to Intelligent Transportation Systems (ITS). The conference invites submissions for research papers, special sessions, etc. and inquiries for exhibits, etc.

Program Deadlines
Special Session Proposal: 1 April 2009
Manuscript Submission: 1 May 2009
Final Paper Submission: 15 August 2009

For Conference Information and CFP
Website: campus.mst.edu/itsc2009
General Chair: Steve E. Watkins, MO S&T
steve.e.watkins@ieee.org

What Is the Intelligent Transportation Systems Society?

Intelligent Transportation Systems (ITS) are those utilizing synergistic technologies and systems engineering concepts to develop and improve transportation systems of all kinds.

The ITS Society advances the theoretical, experimental, and operational aspects of Electrical Engineering and Information Technologies as applied to ITS.

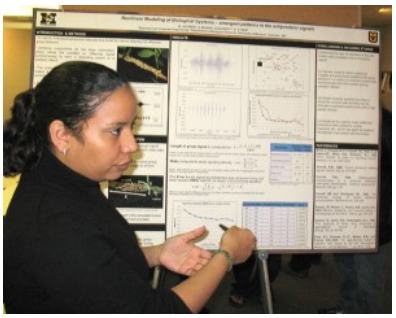
The Society is interested in theoretical, experimental and operational aspects of electrical and electronics engineering and information technologies as applied to ITS, defined as those systems utilizing synergistic technologies and systems engineering concepts to develop and improve transportation systems of all kinds.

Taken from http://www.ewh.ieee.org/tc/its/.

ITSC 09 General Chair, Former Board of Governor of ITS and MST Professor, Dr. Steve E. Watkins. Photo from ITS website.

University of Missouri's CIS Chapter Poster Contest

University of Missouri's chapter of the Institute of the Electrical and Electronics Engineers Computational Intelligence Society (IEEE CIS) held its third annual poster competition in Ketcham Auditorium in December 2008. The event is an opportunity for our local computational intelligence community to learn about each other's research, exchange ideas, and promote basic research in CI and its various applications.



Electrical and Computer Engineering major, Marianne Catanho, stands in front of her poster. Catanho took first place in the undergraduate category at the Third Annual Student Poster Competition sponsored by the University of Missouri's chapter of the Institute of the Electrical and Electronics Engineers Computational Intelligence Society (IEEE CIS).

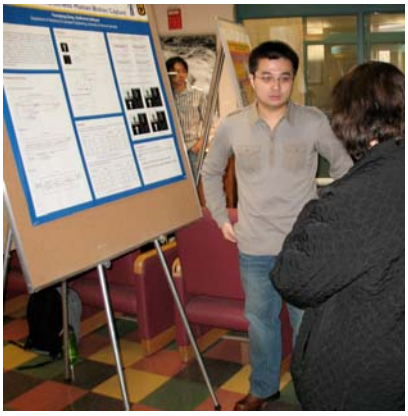
Each year we have been able to attract more students from a broader range of areas of expertise. The quality of the posters is not only quite impressive, but it shows how well-prepared our students are. In the past, poster presentations ranged from protein sequencing to planet and satellite orbit analysis, from pulse power to animal behavior.

In previous years, a CIS Distinguished Lecturer was invited to visit our College, present a seminar, and be one of the judges for the student contest. This year, every person visiting the exposition was given a card to rate the posters' technical content, visual presentation, and oral presentation – with cash prizes at stake.

Marianne Catanho, an Electrical and Computer Engineering (ECE) major, took first place in the undergraduate category for her poster titled: "Emergent Patterns in the Anti-predator Signals", which modeled the rapid transmission of information within a social group of insects.

Graduate students Ryanne Thomas Dolan and Yuanqiang (Evan) Dong tied for first place among the graduate-student presenters. Dolan, with a dual major in ECE and Computer Science, presented "GPU-based Simulation and Visualization of Cellular Neural Networks for Image Processing." ECE grad student Dong's research topic was "A New Hierarchical Particle Filter for Human Motion Detection."

Ryanne Thomas Dolan and Yuanqiang (Evan) Dong were the two winners of the graduate category of the contest (top and bottom).



We believe the student's experience of presenting their research to bright and inquisitive people and the feedback they receive is most valuable. Besides, a local event in a friendly environment like this one provides students with a great opportunity for growth as researchers. The proof is that we have seen students present preliminary work one year, and come back the next year and win one of the three prizes.

The author, Dr. Guilherme DeSouza, is an active member of the Saint Louis Section and Chair of the Computational Intelligence Society Branch Chapter. Photos courtesy of Dr. DeSouza.

University of Missouri's CIS Chapter 2009 Agenda

Events

- *"Understanding the Spatial Organization of Image Regions by Means of F-Histograms and F-Templates: A Guided Tour",* Pascal Matsakis, Department of Computing and Information Science, University of Guelph, Ontario, Canada
  - Tuesday, April 7th at 4:00pm, Ketcham Auditorium, Nell Lafferre Hall
- *"Two Cooperative Ant Colonies for Feature Selection Using Fuzzy Models",* Joo Miguel da Costa Sousa, Center of Intelligent Systems-IDMEC, Dept. of Mechanical Engineering, Instituto Superior Tcnico, Technical University of Lisbon.
  - Tuesday, March 3rd at 4:00pm, Ketcham Auditorium, Nell Lafferre Hall
- Fourth Mizzou-CIS Student Poster Competition (Nov/2009)

Officers

Chair: Dr. Guilherme DeSouza

Vice Chair: Dr. James Keller

First MU-IEEE CIS Chapter Vision-Guided Robotic Competition

The final project in the Electrical and Computer Engineering class on Mechatronics and Robotic Vision is a robotic competition, also sponsored by the MU IEEE-CIS Chapter (see photo below). In Professor Gui DeSouza's final project of the class, the students must play a "baseball/basketball" game, in which each team devises an autonomous and vision-guided algorithm to compete against the other teams. Using two cameras and computer vision algorithms, the team's robot had to autonomously locate the "ball," and attempt to score by landing it in the other team's "basket." The robots are allowed to defend by hitting the ball away.

The author, Dr. Guilherme DeSouza, is an active member of the Saint Louis Section and Chair of the Computational Intelligence Society Branch Chapter. Photos courtesy of Dr. DeSouza.

Pictured here is the exact moment when a robot is attempting to score. From left to right, ECE undergraduates Andrew Buck and Gregory Koch of the winning team; the second place team of graduate student Nilesh Salvi and undergraduate Justin Paulson; and DeSousa).

University of Southern Illinois – Carbondale Student Branch

Events

- Panel discussions on Tech jobs in bleak economy – April
- Field trips to Cisco and Bell Labs – Summer '09
- SIUIS conference in October '09
  - Invited technology speakers from across the nation
  - Workshops on latest technologies
  - Student paper competitions at graduate levels
  - GOLD socials
- Online Webinars for presentations and tutorials

Officers (thru the end of the 2008-2009 School Year)

- Mentor: Shawn Muir
- Chair: Anil Mehta
- Vice-Chair: Michael Welling
- Treasurer: Aaron Victor
- Interim Secretary: Amod Waikar
- Publicity: Abigail Young
- Code development: Chris Weigman
- Business development and Code management : Andrew Fickert
- Website: Malav Shah
- SIUIS technology officer: Nathan Nobbe

Photos from the 2008 SIUIS Conference in Carbondale. Photos courtesy of Anil Mehta.

Many industry leaders were invited to speak at SIUIS 2008 (left).

Anil Mehta (right) inspects the presenter's equipment for safety.

SIU Carbondale students and faculty give 100% of their attention to the variety of speakers at SIUIS 2008.

IEEE-USA Trip Report

On February 26 – March 1, IEEE-USA held its annual meeting in Salk Lake City, UT. The Saint Louis Section's WIE/GOLD Co-Chair, Jacquelyn K. Stroble, represented the Section at the meeting. Jacquelyn was also serving as the Section's GOLD Delegate. Contained, herein, is her trip report.

Jacquelyn K. Stroble is a Ph.D. candidate at Missouri University of Science and Technology (formerly University of Missouri-Rolla). Her research focuses on incorporating biological knowledge with function based engineering design theory and methods for the development of biology inspired (or biomimetic) technologies. Jacquelyn holds a B.S. in Electrical Engineering with an emphasis in controls and an M.S. in the Mechanical and Aerospace Engineering, Manufacturing Program.

Recently, I attended the IEEE-USA Annual Meeting in Salt Lake City, UT. The focus of this years meeting was Engineering the Alternative Energy Debate. Session topics during the conference were very timely and included reduction of emissions due to power generation, alternative energy, alternative fuels, how the USA can relieve itself of oil dependency, what IEEE can do to help government and energy policy and PACE projects that IEEE members can do to help. There were many well-known keynote speakers that gave excellent talks at the event during breakfast and lunch: Jon M. Huntsman, Jr. (Governor of Ut), Leonard J. Bond, Ph.D. (Laboratory Fellow, Applied Physics/National Security Directorate), R. James Woolsey (Venture Partner with VantagePoint Venture Partners and former director of the CIA) and Richard Walje (President of Rocky Mountain Power). All 6 of the U.S. regions were represented by the roughly 200 attendees, with Region 5 sending the most GOLD members to the meeting.

This was my first IEEE-USA Annual Meeting and when I made it to the conference I was immediately asked to participate in the first ever IEEE-USA Blogging team by Jeffry Handal, the Region 5 Coordinator and GOLD Overseer (A.K.A. Overlord), who was the only person I knew before hand. The the first night consisted of a dinner and discussion session. A warm welcome to Salt Lake City was extended to all in attendance at the welcome Dinner by IEEE President Gordon W. Day. Smiles, handshakes and names were exchanged all evening. Networking was alive and well towards the end of dinner and into the discussion sessions. I myself met members from Kansas, Texas, Jamaica (Region 3), Louisiana, Iowa, Colorado, Washington, Arizona and California in just the first event! By the end of the first day I felt welcomed and like I had been attending for years. The other GOLD members in attendance were full of energy; many that I talked with had attended past IEEE-USA meetings or had been involved with their section for many years. I would encourage other GOLD members to attend future IEEE-USA meetings to network with people from the other regions, or attend their regional conferences to meet those within the region.

For those that have not been to an IEEE-USA Annual Meeting, there are 3 tracks covering technical, volunteer and career focused topics and there are exhibits during the conference. Posters from each region highlighting GOLD events are on display and booths for IEEE services, societies and sponsors were overflowing with information. Majority of the conference is very busy with sessions back to back until dinner, rapid discussions during the 15 minute coffee breaks and and bloggers tirelessly making posts. The 2009 blogging team: Abby Vogel, Patrick Meyer, Curtis Lu, Jacquelyn Stroble, and Jason Harchick. If you are interested in finding out what happened in most of the sessions please go to http://ieee-usa.blogspot.com/ and browse the blog, leave comments and enjoy the photos!

Continued on page 11.

IEEE-USA Trip Report, continued

During the technical sessions and keynote speeches I heard many viewpoints on the topic of alternative energy and how to best help legislation make educated decisions. Going to the conference I brought my viewpoint that plug-in hybrid vehicles nor nuclear power, or any one solution is THE answer to end all our energy problems. Rather, I feel that energy solutions should be regional, and each region should utilize what they have an abundance of. I was pleased to find that I was not the only one that felt a mixture of energy solutions are what this country needs. Many of the presenters expressed a similar viewpoint, which was further supported by many questions asked by attendees or the discussions they initiated. Even though the consensus on future energy solutions was established, the questions of implementation and support still remain, not to mention what role IEEE was going to play. The future workforce and the remaining life left in the nation's power grid were an immense concern. Did you know that portions of the grid are still using technology that is close to 100 years old? In order to utilize new forms of energy such as wind, solar, etc. or realize a plug-in hybrid vehicle infrastructure, the existing grid needs to be updated to include "smart" technologies. That is the only way to move forward and right now there are amazing opportunities for scientists and engineers to make a difference in the U.S. and solidify it's energy stability. I also learned that not all contributions need to be technical achievements. Simple events that educate people or students about energy sources, policy and solutions would provide a great service to the public and support the IEEE mission.

When I was not expanding my knowledge of alternative energy solutions or how to improve the power grid I was learning more about other GOLD affinity groups and their volunteering strategies. Many members feel that GOLD is a way to socialize with their peers and most GOLD groups organize exciting events. Social events include rock climbing, dinner and drinks, paintball, sporting events, habitat for humanity house building, wine tasting, holiday networking parties, etc. However, technical speakers or tours still occur and go over well, but meetings providing advice about buying a home, career management or financial planning are typically preferred by the membership. I also learned that if GOLD members are encouraged to take office or participate on a committee they are more likely to continue volunteering with IEEE after their GOLD status ends.

At the final breakfast, members that were recognized at the IEEE Awards banquet the evening prior were asked to speak to the attendees and leave them with a parting gift - inspiration to continue volunteering and participating in IEEE. The members gave a short story or speech about their IEEE membership and what it means to them. Their inspiring words made me think about why I joined IEEE (or any society for that matter) - to make a difference, promote self growth and to give forward as repayment of those that encouraged me. We, the members of IEEE, need to make the most of our IEEE membership because no one else can. We should stay active, bring others into the circle, help change public policy for the better, continue to outreach to pre-college students, and support our fellow engineers through award nominations and volunteering.

I left Salt Lake City feeling refreshed that engineers all over this great nation are truly concerned with the future of the United States. Those in attendance at the IEEE-USA Annual Meeting were well informed and came prepared to debate tough topics, but also brought an open mind. Although IEEE is a very large technical society, its active members are compassionate and enjoy a good challenge, like fixing the nations energy infrastructure.

Photos on page 12.

IEEE-USA Trip Photos

The GOLD Blogging Team: the blogging team. From left to right is Patrick Meyer, Abby Vogel, Curtis Lu, Jacquelyn K. Stroble and Jason Harchick.

The Region 5 GOLD Representatives. Jacquelyn is on the far right.

What's a trip to Salt Lake City without visiting the Salt Lake Temple? (left).

Missouri University S&T and MU Solar House Team

At the February Section Meeting, the attendees all agreed to donate $1000 to the MST Solar House Team. At the January Section Meeting, the Home Automation Team traveled from Rolla to present their progress to date. There were about 25 members in attendance to listen to the Team describe the aspects of building a solar home that could be used as a daily residence. The Solar Team is a joint project with The Missouri University. The Home Automation Team includes Bryan Glass, Joe Schaefer, and Lisa Battern, which are all MST Students.

This October, the fourth Solar Decathlon will be held at the National Mall in Washington DC. Students from Missouri S&T have participated in the event since it's beginnings in 2002. This year, the S&T team has teamed up with students from University of Missouri –Columbia to build a house that not only is eco-friendly, but runs completely off of solar energy.

The nerve center of the joint MST and MU Solar House Project Team. (Photo from Solar House Website)

While the S&T team has not yet returned home with the gold, they have improved each time around. One of the hardest hitting evaluations on the 2007 house pertained to the architecture. Because of this, the decision was made to team up with Mizzou's architectural program in hopes of getting closer to the win. The budget for this year's house is $535,000 and the team is still working to cap the goal.

Over the past year, the teams have been designing, planning, fundraising, and working hard to get ready for the competition. Construction of the house has recently begun and will continue through the summer. Once complete, the house is disassembled and transported to Washington DC and reassembled. Taking in building time, the competition itself, and disassembly time, the whole decathlon takes about a month. Once complete, the houses are yet again disassembled and transported back to Rolla, MO. Once there, it will be available to students and faculty to live in as official student housing.

For more information about the S&T team, you can view their website at http://solarhouse.mst.edu. To learn more about the Solar Decathlon, check out their website at http://www.solardecathlon.org.

Contributing to this article is Katie Bryant, Public Relations Director of the Solar House Team.

University of Southern Illinois – Edwardsville Student Branch

SIU-E Robotics Team

- Justin Steinkuehler
- Nami Sharifzadeh
- Micheal Parrish
- Jacob Nebergall

Officers (thru the end of the 2008-2009 School Year)

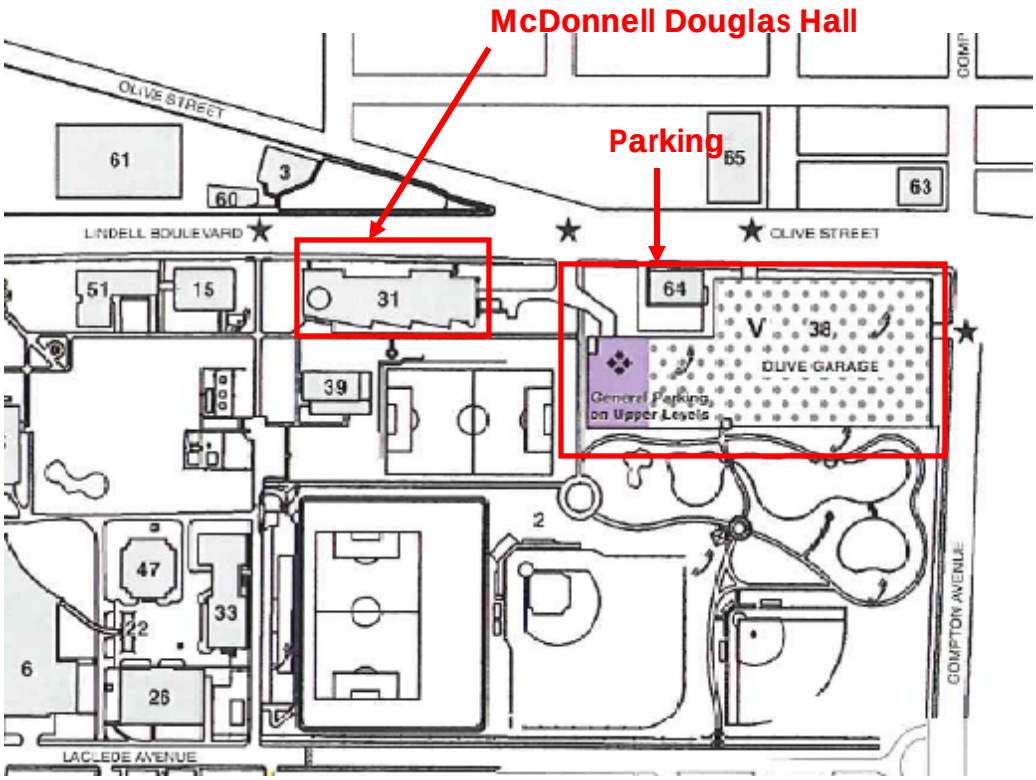
- Chair: Justin Harms
- Vice-chair: Skyler Wiegmann
- Treasurer: Amie Hoff
- Secretary: Tom Waddel

Section Meeting Information and Location for 2009

In the last issue of ION, it was mistakenly reported that the Saint Louis Section would be meeting at the Engineers Club of St. Louis for its monthly Planning Meeting. The Section has decided to continue meeting at St. Louis University.

Meetings held at St. Louis University are located in Parks College which is McDonnell Douglas Hall on 3450 Lindell Blvd. Meetings begin at 6:00 PM. Parking is available in the garage next door in Olive Garage or you can park on the street. Enter the building from the side that faces the soccer fields which is opposite of Lindell Blvd. Planning Meetings usually run 1 hour and the Membership Meeting begins at 7:00 PM. Cost is always free along with pizza and soda. You are always welcome.

Note: We are planning to award PDH certificates in the near future for those that request it. PDH credits are required for Professional Engineering renewal requirements in the State of Missouri and Illinois. More information is to follow. We are looking for a P.E. willing to help administer this task. Direct questions to sec.stlouis@ieee.org.



Engineering in Medicine and Biology Society Chapter

Events

- Speaker TBD (April)
- Speaker TBD (Fall)

Officers

- Chair: David Barnett (SLU)
- Vice-chair: Torrey Munger (Stereotaxis)
- Treasurer/Secretary: Dennis Barbour (WuSTL)

Missouri S&T Power & Energy Society Chapter

Events

- Plant Trips TBD (Spring)
- Other events listed on http://power.mst.edu.

Officers

- Chair: John Rossmaier

Call for Articles for IEEE Potentials Magazine

Articles of interest to the EE/CE/CS Undergraduate /Graduate community are of interest for publication in the IEEE Potentials magazine. This magazine goes to all student members of the IEEE (US/Canada - about 40,000) and some regular and international members by subscription. The articles should be less than 3000 words and in magazine style rather than journal/transaction. See information at http://www.ieee.org/potentials/, or contact Dr. George W. Zobrist at zobrist@mst.edu. The magazine is published 6 times / year and requires 3-4 months lead time for review and editing. send all articles to zobrist@mst.edu.

Member and Boeing Manager Selected as Engineer of the Year

Long-time St. Louis active IEEE member, Steven Hutti, P.E. was selected as the 2009 St. Louis Chapter of Missouri Society of Professional Engineers Engineer of the Year. Over 120 people showed up at the Boeing Prologue Room to attend Hutti's Presentation in February. Hutti is currently, program manager for Boeing Navy Ground Support Systems for Integrated Defense Systems in Boeing. Also, Hutti currently serves on the Professional Engineers in Industry Executive Board.

Steve Hutti, P.E. receives the 2009 Engineer of the Year Award (right), from daughter and Fox2 KTVI Meterologist, Angela Hutti (left).

Interested in a Life Members Affinity Group for St. Louis?

Mr. Bob Spiegel has agreed to spearhead and lead a Life Members Affinity Group in the Saint Louis Section. Part of the process is to have a certain number of existing Life Members to endorse the idea. More information on the Life Member Affinity Group at http://www.ieee.org/portal/pages/committee/lmc/lmchapters.html. Please drop a note to Bob at rspiegel@ieee.org.

Power & Energy Society Chapter of Saint Louis Sets Agenda

Events

- 3/12/09 for 3.5 PDH on the topic of Substation Communications
- 6/17/09 Lunch & Tour, Ameren transformer repair facility, 2 PDH
- 8/12/09 Lecture, Energy Storage, 4 PDH
- 11/17/09 Lecture, EPRI/Ameren Smart Grid research, 4 PDH

Officers

- Chair: Ann Lazarski
- Vice-Chair: Leon White
- Secretary: Jim Jontry
- Treasurer: Josh Lamb
- Secretary-elect: Joe DeGreeff
- Treasurer-elect: Joe Wokurka

Photos from the March 12 meeting at Ameren. Photo on top left is presenter and photo to the left is the attendees. Photo on top is a special service award presented to out going Vice Chair Paul Nauert for his years of service. Photos courtesy of Ann Lazarski.

IEEE PES
Power & Energy Society™

FIRST Robotics Competition

Some of you may not be familiar with an organization, US FIRST (For the Inspiration and Recognition of Science and Technology), which sponsors various robotics competitions for secondary students throughout the world. Founded by Dean Kamen, who among many other inventions is the inventor of the Segway® Human Transporter, US FIRST has as its mission "to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership." A tall order, but one that is partially accomplished by the First Robotics Competition. FIRST Robotics Competition (FRC) is a unique varsity sport of the mind designed to help high-school-aged young people discover how interesting and rewarding the life of engineers and researchers can be.

The FIRST Robotics Competition challenges teams of young people and their mentors to solve a common problem in a six-week timeframe using a standard "kit of parts" and a common set of rules. Teams build robots from the parts and enter them in competitions designed by Dean Kamen, Dr. Woodie Flowers, and a committee of engineers and other professionals. Each year, the "game" is designed anew, working with balls, blocks, pyramids, donuts, race tracks, etc. These games involve several scoring strategies, using both autonomous and remote controlled modes, and in the competition, must work with two other randomly assigned robots against an opponent team of robots. The game is cooperative and task oriented and not about destroying other robots. In these six weeks, teams must design, build, and compete with a robot of significant complexity and function. During the rest of the year, teams must organize themselves, find places to build and test the robot, find ways to fabricate the necessary parts and raise money (typically tens of thousands of dollars), and find adult mentors. Each team does this differently. To most engineers, this process sounds very familiar… indeed, the entire competition is based on using as many of the same constraints as any realistic engineering job requires – money, talent, schedule, safety, teamwork, and, of course, results.

Alternative activities include Junior FIRST LEGO League (Jr.FL for ages 6 through 9), FIRST LEGO (for ages 9 through 14) and FIRST Tech Challenge (FTC). FIRST LEGO League is an exciting opportunity for the youngest budding scientists , encompassing the core concepts of all FIRST programs to inspire, excite, and introduce kids to the wonders of science, technology, and engineering.

The FIRST Tech Challenge (FTC) is a mid-level robotics competition for high-school students offering the traditional challenge of a FIRST Robotics Competition but with a more accessible and affordable robotics kit. The ultimate goal of FTC is to reach more young people with a lower-cost, more accessible opportunity to discover the excitement and rewards of science, technology, and engineering.

All these operations require the involvement of many volunteer engineers and scientists as mentors to individual teams, as organizers, as judges, and to do all sorts of other tasks necessary for this to happen. You are invited to become involved at any of these levels, and now is the right time to look into it for the 2009-2010 events. You can go to the web site, http://www.usfirst.org to become more familiar with the organization and what you can do.

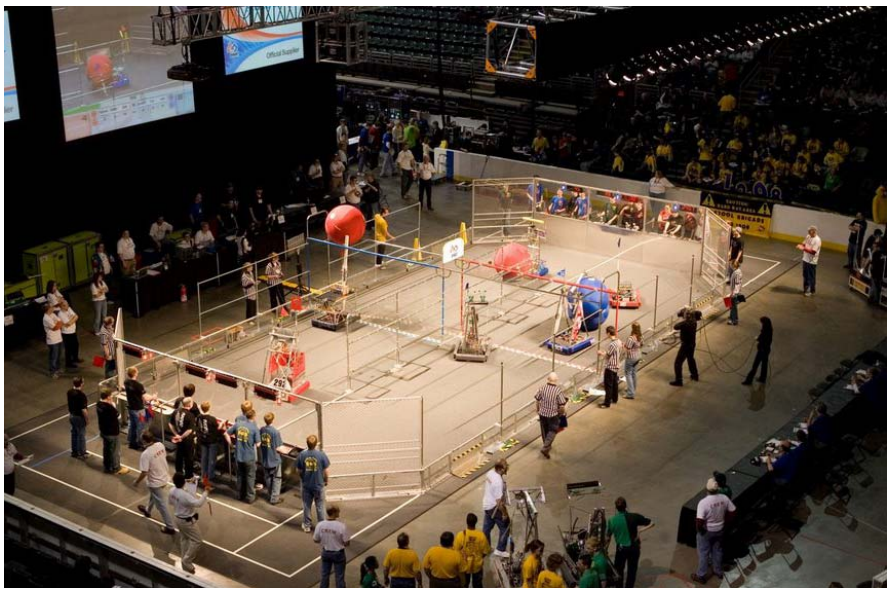
Often you are asked to help with organizations which are focused on solving problems in our society. This is an opportunity to work with the best and brightest of our students, and it is guaranteed that you will have more fun and personal reward doing this than your day job! Especially if your day job is being retired.

The author, Jim Seeser, is an active member of the Saint Louis Section of IEEE and past Globecom 2005

FIRST Robotics Competition Photos from 2008

"Once again the FIRST mission was honored by the St. Louis Regional competition. For 3 days St. Louis young talent exemplified 'Gracious Professionalism' by combining their energies in a wonderful competition with all kind of creative robot designs. As always, the winners were the entire community of high school students, parents, volunteers and the great ecosystem of St. Louis sponsors that made this event a success story"

- *José A. Gutierrez, Ph.D.,*
- *Director, Technology - Emerson*



Rolla Subsection

IEEE members in the area around Rolla, some years ago created a Subsection to the Saint Louis Section. This is not to be construed with any affiliation on the Missouri University of Science & Technology Campus. Technically, members of the Rolla Subsection are members of the Saint Louis Section. However, members meet according to their schedule, have a separate treasury and other independent functions. The purpose of the Subsection was to address geographical spacing within a large Section.

Members of the Rolla Subsection generally tend to be University faculty and students. Current Chair, Dr. Waleed Al-Assadi, and his cohorts and students have kept busy creating key technologies for our Country's future. A list of recent accomplishments from Rolla Subsection members are listed below.

Dr. Waleed K. Al-Assadi, Rolla Subsection Chair and United States Patent Holder.

US patent No. 7,332,938, March 2008, "Domino Logic Testing Systems and Methods"

Inventors: Waleed K. Al-Assadi, S.IEEE, and Pavankumar Chandrasekhar

The invention deals with one of the bottlenecks that prevent Domino CMOS logic from being widely used in VLSI systems. Testing Domino CMOS circuits cannot be achieved using the conventional test methods because there number of failure that cannot be detected. Those faults if left in the circuit could degrade the reliability of the circuit. The method based on adding a transistor at the dynamic node of the circuit controlled by a new signal called "Test", and a multiplexer controlling the evaluation transistor of the circuit with two inputs; the regular clock of the circuit and another external signal called "wait". Faults that escape the manufacturing test such as faults in keeper circuitry that is added to counter the leakage problem. With this scheme, we can achieve 100% fault converge for all possible manufacturing defects.

US patent no.: 7,439,749; October 21, 2008; "Non-destructive testing of physical characteristics of composite structures"

Inventors: Reza Zoughi, F.IEEE, Sergiy Kharkivskiy, S.IEEE, and Vivian Stephen

Dr. Sergiy Kharkivskiy, United States Patent Holder and Senior Member of the Saint Louis Section

This invention is directed to a method and apparatus for nondestructive testing and evaluation of composite structures, such as complex fibrous structural materials. Composite structures comprising fibers in a matrix material have received increased attention in recent years for a wide variety of applications including commercial, civil, industrial, military, and other applications. For example, carbon fiber reinforced polymer (CFRP) materials are increasingly being used for structural applications, such as rehabilitation and upgrade of concrete structures. The invention discloses a microwave inspection system employing a dual-polarized reflectometer for detecting defects such as disbond between CFRP laminates and strengthened structures. This

Continued on page 20.

Rolla Subsection, continued

system simultaneously generates three images of a defect: two at orthogonal polarizations and one after the influence of undesired standoff distance (or surface roughness) variations is removed using the information provided by the two images. The system is small, robust, real-time and inexpensive and provides for a significant amount of useful information about the nature of an anomaly (e.g., size, location, etc.) without the need for complex image processing.

US patent No. 7,464,005, December 2008, "Electromagnetic emissions stimulation and detection system"

Inventors: Beetner; Daryl G., Seguin; Sarah A., Hubing; Todd H.

Daryl Beetner and Sarah Seguin of Missouri University of Science and Technology and Todd Hubing of Clemson University were recently awarded a patent on detecting and identifying electronic devices using their electromagnetic emissions. Virtually all electronic devices emit some electromagnetic energy when they are active. These unintended emissions depend on the device layout, the electrical signals in the device, and many other factors. These emissions are often measurable and can be used to remotely detect the presence of the device. What is particularly unique about their approach is the use of a weak stimulation to modify the unintended emissions in a controlled manner. The ability to detect and identify the device can be greatly improved using this technique."

Dr. Daryl Beetner, United States Patent Holder and Member of the Saint Louis Section

Contributing to this article is Dr. Waleed Al-Assadi, Chair of the Rolla Sub-Section. Photos taken in good faith from the MST website. Some patent information taken from http://www.uspto.gov.

The next issue of ION will be distributed approximately July 1. A call for articles will be made in early to mid June.

IEEE Members Attend Rotary Luncheon during Engineers Week

Then members of the Section attended the annual Rotary Club of St. Louis Luncheon Meeting during National Engineers Week on February 19, 2009. Annually, dozens of St. Louis engineering organizations and firms attend the luncheon to celebrate National Engineers Week with the Saint Louis Section of IEEE purchasing a table as well. The luncheon is held at the Missouri Athletic Club in Downtown St. Louis. The program featured a presentation by the U.S. Army Corps of Engineers St. Louis District. Mr. Russell Errett from the Hydrological and Hydraulics Section will discuss the importance of Mark Twain Lake in the floods of 2008.

Those attending from the Section include Dr. Neil Ruggieri, Tim Nolan, Gary Ottoline, Dr. Paul Min, Ray Bosenbecker, Heidi Anderson, Dinesh Hiripitiyage, Dr. Roobik Gharabagi, Dr. Mallik, and Bob Becnel.

IAS Chapter Sets Agenda

Events

- May 7th - Dr. Komla Folly, Visiting Fulbright Professor from University of Cape Town, South Africa, at 3.30 pm in Rm 111 in ECE Dept.
- May 14th - Dr. Ejike Anene, Visiting Professor from Abubakar Tafawa Balewa University, Nigeria, at 3.30 pm in Rm 111 in ECE Dept. Missouri S&T, Rolla

Officers

- Chair: G K Venayagamoorthy
- Vice-Chair: K Corzine
- Secretary: J Kimball
- Website: http://web.mst.edu/~ganeshv

CIS Chapter Sets Agenda

Events

- April 15th - Dr. Stephen Grossberg - venue and time to be announced.
- May 7th - Dr. Komla Folly, Visiting Fulbright Professor from University of Cape Town, South Africa, at 3.30 pm in Rm 111 in ECE Dept.

Officers

- Chair: G K Venayagamoorthy
- Website: http://web.mst.edu/~ganeshv

Boeing, IEEE Support Student UAV Team Down Under

Dave and Abe Erdos arrived in Brisbane on the morning of Friday September 19th after 18 hours of flying and traveling 8000+ miles. This is their story: We picked up our rental car, and with maps in hand (or on the laptop), we headed for a hobby shop to pick up some glow fuel and landing gear wheels. At the hobby shop (Hobbyrama) they were even kind enough to let us borrow one of their 36MHz RC transmitter/receiver pairs since we could not use our 72MHz system for our failsafe. We then headed off to Kingaroy where the competition would take place.

After 2.5 hours of driving we arrived at our destination, Kingaroy, the peanut capital of Australia. We checked into our hotel and drove over to the airport to get an idea for the competition site. We then proceeded to rebuild the airplane in our hotel room, as we had to remove the engine and the empennage in order to fit it into crates. Bright and early Monday morning we arrived at the competition site and unloaded our gear into one of the event tents. We also had our oral presentation that morning where we discussed our design and gave an overview of our system as a whole. The oral presentation went well and we also turned in our technical report and documentary to the judges. The next order of business was to pass the safety inspection. This included checking all control surface linkages, equipment mounting, structural integrity of the airframe, etc. That afternoon we were also able to perform an engine run to ensure that everything was reassembled correctly, during this test we found an air leak in the fuel system, which was quickly corrected.

Continued on page 22.

Boeing, IEEE Support Student UAV Team Down Under, continued

The first day of competition was a success, everything going smoothly. The organizers did a great job of keeping everybody informed of what was going on and ensuring that we had everything that we needed. The following day (Tuesday) was the high school Airborne Delivery Challenge. We arrived early in the morning and powered on our UAV, which we had left in the tent overnight. We quickly noticed that something was wrong, the onboard computer was acting flaky and the 2.4GHz WiFi card in the onboard computer did not want to function properly. Much of the morning was spent trying to remedy that problem, trying everything we could possibly think of. Eventually early in the afternoon everything was sorted out, the condensation on the components in the morning may have been the culprit, the lesson learned from that was to not leave our electronics outside overnight.

It was impressive to see all of the aircraft that the high school students had built, all of them equipped with wireless video and many of them were also equipped with "co-pilot" wing levelers. The level of enthusiasm was also impressive. It was definitely interesting to watch the teams' mission attempts, unfortunately many of the attempts resulted in crashes, with the 2.4GHz RC radios being the prime suspects. There was also one really close call with a helicopter that took off, and shortly after takeoff the pilot lost control and it flew up over the sponsor tent and curved around and crashed right by the grandstands, barely missing some spectators, it then thrashed around on the ground for a bit before finally dying.

By late afternoon we had our system up and running and were ready to perform our demonstration flights. The winds were quite high that afternoon, around 10-13 MPH, and the grass around the paved runway was not as smooth as we would have liked (we prefer grass takeoffs since it's easier on the propellers than tarmac in the event of a prop strike). After a couple unsuccessful attempts we were able to get the UAV in the air under manual control, we then switched over to autopilot control and flew a few circuits and dropped the water bottle to demonstrate our system. The autopilot was not navigating very well and was oscillating in pitch, this was probably due to the fact that we had only had two days before leaving for Australia to tune our control loops to the new airframe and some of the gains were off. But the purpose of this flight was to demonstrate to the judges that we could perform safe manual and autonomous flight, which we did

The third and final day of competition included the actual mission attempt at finding Outback Joe. Early in the morning we gave Procerus a call and sent them a telemetry file to try and figure out why we were oscillating in pitch and why navigation performance was not very good. After a short discussion the cause of the problem was identified and the judges allowed us to perform a second tuning flight before our actual mission attempt. We went out to the field to set up our gear for our second flight and we started up the engine and it turned out to have trouble idling. After about an hour of messing around with the low-speed idle and the high-speed needle we got it working reasonably well and got the UAV in the air. But not without several failed attempts at taking off in the windy conditions. Once the UAV was in the air, we quickly adjusted the parameters that needed to be modified and it then handled admirably, especially considering the amount of wind that it had to fight against.

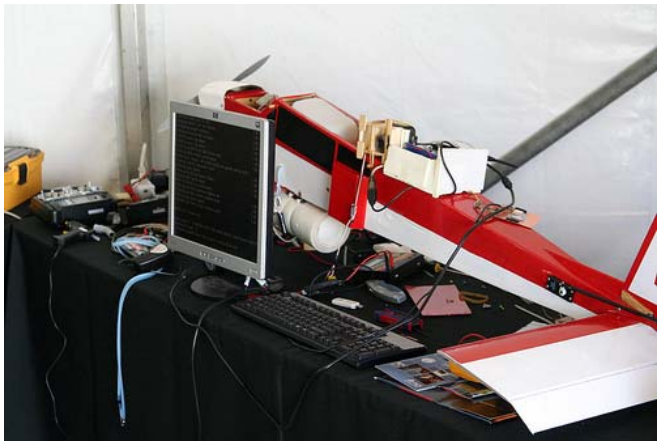
The tuning flight lasted approximately 15 minutes and we brought the UAV down and prepared for the actual mission attempt. This included filling up both of our fuel tanks and recharging the LiPo batteries for our electronics. In the mean time Team Telemaster made their attempt at the mission. They took off and began circling above, and appeared to be having trouble with their system, then all of a sudden the UAV started circling down, clearly the flight termination mode had engaged. It was definitely disappointing to see their UAV circle down into the ground, fortunately for them; it was a relatively "soft" landing, with only minor damage to the airframe

Continued on page 24 and Photos on page 23.

Boeing, IEEE Support Student UAV Team Down Under, continued

The view out the window of the Boeing 747-400 of the sunrise over the Pacific Ocean.

Our competition paddock.



Troubleshooting the onboard computer on the UAV.

Removing the wing from the UAV and preparing to refuel.

Some photos of their first UAV in the lab and preparing for flight.

Jim Leonard is shown with MS&T IEEE Student member, Dave Erdos, who lead the UAV Design team for the past two years. Pictured with them is the UAV with student designed onboard systems..

Boeing, IEEE Support Student UAV Team Down Under, continued

We were up next; we went out to the field and the clock started (we had an hour for our attempt at the mission). We took our time to make sure everything was set up and configured correctly and started up the engine. By this point in the afternoon the winds had picked up even more than earlier in the day, wind readings were about 12-15 knots steady, with gusts. We taxied down the field and prepared for takeoff. The engine revved up and the UAV started down the field parallel to the tarmac runway, the wind started to push the airplane on to the tarmac and then as the wind picked up a wing tip caught on the tarmac, and the airplane flipped over on it's back. We had had this happen on grass before so we ran over to flip it over and start it up again, but when we got there we knew something was wrong. The fuselage was broken in two. The judges deemed the damage too structural to attempt repairing it in the one hour allotted for the mission attempt. It was over. We were so close, had we gotten in the air, we would have almost certainly found Outback Joe.

On August 22, 2006, I talked to Jag, UMR IEEE Student Branch Councilor, to encourage him to move up his efforts to rejuvenate the UMR IEEE AESS Student Branch Chapter. He is busy now setting up an embedded computer center. I did follow up in the fall of 2006. Jag has identified an advisor, Dr. Balakrishnan of the UMR Aerospace Engineering Department, and possibly 20 students that might join AESS to get this chapter active. I met with Bala several weeks ago and it looks good. I plan to visit UMR monthly in 2007 to help with the rejuvenation process.

I am now pleased to report that the UMR AESS Student Branch Chapter has been rejuvenated. IEEE student member Dave Erdos is the Chapter Chair and Dr. Steve Watkins is the faculty advisor with Dr. B assisting. We have several AERO majors in this chapter. In 2005 AESS parked $5K in the St. Louis Section for this rejuvenation activity. It took me about a year, but they are now in business. The St. Louis Section has forwarded the $5K to the students. They have opened up a local bank account and set up a web site (http://aessuav.org). I encourage you to visit this web site! This team has bought a small scale aircraft, assembled it, installed an autopilot and have flown it by remote control. Their goal is to program it as a UAV and enter it into the Fall 2008 Australian 'Outback Rescue' Grand Challenge! The ARCAA group in Australia is planning to use their funds allocated in 2007 for international student travel ($5K per group). They have authorized $5K for the UMR AESS students. I have asked Boeing STL for additional funds and have asked IEEE STL section for $1K. The UMR AESS SBC has a budget requirement for approx $20K. Look at their website for photos and updates. I am very proud of these IEEE AESS SBC students and their accomplishments.

Dave Erdos made a presentation to Boeing Engineers at the St. Louis Bldg 33 Cafeteria during National Engineers Week 2009, defining his team's preparation and activities in Australia. Now for Dave, it's off to Grad School. Now for Jim Leonard it's back to MS&T (Formerly UMR) to round up a new crop of IEEE Student Branch Members to continue the UAV work and return to Australia.

Article written by Past Saint Louis Section Chair and Past IEEE-USA President, Jim Leonard.

COMSOC's WCET Certification

In these uncertain market conditions for technical employees, engineers need to consider how to stand apart from their colleagues and peers in communications. One such possibility is WCET Certification created by the Communications Society. One such case study is included from the March issue of the WCET newsletter and it is contained below.

WCET stands for Wireless Communication Engineering Technologies. With the IEEE WCET certification, professionals will be able to clearly demonstrate their knowledge of wireless communication technologies to employers or change engineering fields as new opportunities arise in the wireless industry.

Vendor-neutral and trans-national in scope, the IEEE WCET certification program's focus is explicitly on the knowledge and on-the-job experience that a practicing wireless communications professional needs to possess in order to pass the WCET exam. Nothing testifies more to the international nature of the program than the breadth of industry participation at all stages of the development process.

Contributions from WCET website. More information is available at http://www.ieee-wcet.org/.

Meet Elena Neira: Nimble in Today's Turbulent Marketplace

While employed as a lead architect at Texas Instruments' Wireless Business Unit, Elena Neira decided to challenge herself and sit for the IEEE WCET certification examination. Working in the wireless industry since graduating from MIT in 1995, she reasoned it would be an excellent professional development experience and would confirm her mastery of current principles and best practices. "I felt that getting certified would enhance my career and promotion opportunities," said Neira, "and that the credential would attest to my level of expertise, growth and competence."

Because IEEE is very applications oriented in its approach, being designated a Wireless Communication Professional by IEEE recognizes your real-world skills and experience.

What Neira didn't know at the time she sat for the Fall 2008 exam was that she was going to be looking for a new job in the near future. "**The reaction to my IEEE wireless certification was overwhelmingly positive**," said Neira, adding that prospective employers set her apart from other candidates because of the weight they placed on the IEEE certification program. "**Because IEEE is very applications oriented in its approach, being designated a Wireless Communication Professional by IEEE recognizes your real-world skills and experience**." Neira, now a wireless semiconductor expert, is consulting for PG Research.

When asked to comment on what kind of advice she'd give candidates preparing to sit for the Spring 2009 exam this month Neira said that the WEBOK and the practice exam helped her the most. "The references noted in the WEBOK were extremely helpful since wireless is still in its infancy (compared to other engineering disciplines) and information is really all over the place," said Neira. "This at least gave me a starting off point. The practice exam on the other hand, was helpful because it gave me a point of reference of what to expect on the actual certification exam."

Neira is an IEEE member who lives in Dallas, Texas.

Reprinted with permission from March 2009 Issue of the WCET Newsletter.

Spring MoCON Update

The 2009 Spring MOCON was held over a two week period in March (18th thru 27th), 2009. Paul Friemel presented his tutorials: Elecrtical Overcurrent Protection and Advanced Electrical Overcurrent Protection during the first week at the Bussmann labs. This was followed in the second week with three tutorials presented by Dr. Tom Van Doren: Grounding and Shielding Day 1 & 2 and Circuit Board Analysis. These were presented at the UMSL Campus. Dr. Jim Hahn presented: Signal Integrity and Ed Scherry presented: Arc Flash Analysis at the MS&T Graduate Extension center at UMSL. Ken Owens presented: Introduction to TCP/IP Networking and Applications and Advanced Network Implementations at the Savvis Communications bldg.

As is noted above, MOCON had a very good turnout during these very bad economic times. Providing continuing education is one means of keeping our local technical community up to date and employable. This is one of the many benefits provided by IEEE. A preliminary agenda for the upcoming Fall MOCON is shown here: (Note: One of our presenters, Karl Spuhl is planning a one day tutorial entitled "Basic Control Theory". Please email me (j.leonard@ieee.org) if you would be interested in attending this tutorial. And, if there are other topics of interest, again please email me and we will try to get them presented.).

Fall MoCON Schedule

Dates and times are tentative. An application form will be in the Summer issue or you can go to the website at http://www.moconstl.com or contact MR. BOB MENZEL 314-545-6712.

WEDNESDAY, 28 OCT 2009

1. Electrical OverCurrent Protection by Mr. Paul Friemel, PE (Bussmann)
2. Low Noise Design by Dr. Jim Hahn (UMSL)

THURSDAY, 29 OCT 2009

1. Arc Flash Analysis (1/2 Day) by Mr. Edwin Scherry, PE (UMSL)
2. Robust & Adaptive Control Theory by Dr. Kevin Wise (TBD)

FRIDAY, 30 OCT 2009

1. Advanced Electrical OverCurrent Protection by Mr. Paul Friemel, PE (Bussmann)
2. Intro to TCP/IP Networking and Appl (1/2 Day) by Mr. Ken Owens (Savvis Com)
3. Advanced Network Implementations(1/2 Day) by Mr. Ken Owens (Savvis Com)
4. Digital Signal Processing by Dr. Jim Hahn (UMSL)

UMSL = Univ of MO at St. Louis Campus

Bussmann = Bussmann HQ, STL County

Savvis Com = Savvis Communications, 1 Savvis Parkway, Town & Country, MO 63017

Congratulations – Elevated Senior Member

Congratulations to the following Elevated Senior Member in our Section for January and February.

Christine Grunbaum	**Mark Nealon**
Jeffrey Hartenberger	**Kirit Shah**
James Hovis	**Andrew Sugg**
William Hughes	**Michael W. Tatlock**
Vincent J. Kunderman	**Gene Unverfehrt**
Robert Merlo	**Mark Wagner**
David Muren	**James West**

If interested in becoming a Senior Member or nominating an individual, you can visit the IEEE Senior Member Website at http://www.ieee.org/web/membership/senior-members/index.html.

Benefits of Senior Membership

- **Recognition**: The professional recognition of your peers for technical and professional excellence.
- **Senior Member Plaque**: Since January 1999, all newly elevated Senior Members have received an engraved Senior Member plaque to be proudly displayed for colleagues, clients and employers to see. The plaque, an attractive fine wood with bronze engraving, is sent within six to eight weeks after elevation.
- **US$25 Coupon**: IEEE will recognize all newly elevated Senior Members with a coupon worth up to US$25. This coupon can be used to join one new IEEE Society. The coupon expires on 31 December of the year in which it is received.
- **Letter of Commendation**: A letter of commendation will be sent to your employer on the achievement of Senior member grade (upon the request of the newly elected Senior Member).
- **Announcements**: Announcement of elevation can be made in Section/Society and/or local newsletters, newspapers and notices.
- **Leadership Eligibility**: Senior Members are eligible to hold executive IEEE volunteer positions.
- **Ability to Refer Other Candidates**: Senior Members can serve as a reference for other applicants for Senior Membership.
- **Review Panel**: Senior Members are invited to be on the panel to review Senior Member applications.

New IEEE Members

Congratulations to the following new Saint Louis Section members for January, February and March (through March 25, 2009).

Adam Joseph Abegg
Erbil Akbudak
Scott Lawrence Alexander
Sameer Ali Alsibiani
Christian Anderson
Radhakiranmaye Anne
Ellis Charles Atchison
Jeanette Kathleen Bardle
Jonathan Bargiel
Patrick Joseph Barud
Mark Baumgartner
Emily Baxter
Ignacio Becerril
Erik Becker
Timothy John Bloch
Joshua Thomas Boren
Andrew Thomas Bowlen
Clarence Justin Brown
Terry A Campanella
Xin Chen
Nishant Swaraj Chouhan
Sue Cullen
Kevin Davis
Joseph A Degreeff
Richard Philip Difani
Timothy Robert Duncan
Christian Espinosa
Susan M. Fowler
Phil Joseph Gattone
Tyson Wyatt Graham
John Graminski
Robert Louis Heider
James Alan Herchenbach
Angel Hernande
Joseph Patrick Hitt
Kevin Paul Holtgrave
Taylor Phillip Hook
Ross Ian Hubble
Christopher Hulsey
Ted Hutchinson
Paul Raymond Jackson
Alberto Jimenez
Samuel David Johnson
Onur Kahveci
James Alex Kaiser
Cody Kimberling
Brent Charles Kirchhofer
Christopher Egan Kokoska
Karl Kretschmer
Skyler Joseph Lachenmayr
Han Li
Jing Lin
Roberto Raul Lozano
Yu Ma
Damario Mack
Haydar A Mahmoud
John David Mallinckrodt
Terver Maor
Lane Maxwell
Brandon Mccormack
Steven Mckelvy
Kyle Moore
Isaac Muttschall
Kevin Phillip Oehler
Zachary Thomas Oestereich
Michael Parrish
Scott Parrone
Arjun Kumar Pathak
Michael Pierson Ii
Scott Plescia
Frederick Portigal
Venkata Anand Kishore Prabhala
Todd Evan Ruby
Michael Edward J. Rudroff
Justin Scherbring
Brad J Schweikart
Nami Sharifzadeh
John Michael Sheptor
Matthew Spencer
Justin Paul Steinkuehler
Kiran Kumar Tati
Raymond John Walter
Jordan Wedel
Naga Chaitanya Yelchuri

Section Membership Numbers

Membership Category	Total (2/09)
Member (M)	1219
Life Member (LM)	136
Senior Member (SM)	181
Life Senior Member (LS)	64
Fellow Member (F)	20
Life Fellow Member (LF)	20
Student Member (StM)	213
Grad Student Member (GSM)	163
Associate Member (SM)	93
Honorary Member (H)	0
Total for Saint Louis Section	2109

School	Total (3/25/2009)
University of Missouri	66
Missouri Univ of Science & Technology	90
Southern Illinois Univ – Carbondale	45
Southern Illinois Univ – Edwardsville	39
St. Louis University	19
Washington University	32
St. Louis Community College	1
Other	60

Society	Saint Louis Section Total (3/25/2009)
Aerospace and Electronic Systems Society (AESS)	60
Communications Society (COMSOC)	103
Computational Intelligence Society (CIS)	56
Computer Society (CS)	297
Education Society (ES)	26
Engineering in Medicine and Biology Society (EMBS)	59
Industry Applications Society (IAS)	90
Power Engineering Society (PES)	242
Graduates of the Last Decade (GOLD)	156
Women in Engineering (WIE)	20
Rolla Subsection (2/09)	178
Other	425

Saint Louis Section History

Organization	Type	Date of Creation
Saint Louis Section	Section	January 14, 1903
AESS Chapter	Chapter	January 14, 1994
CS Chapter	Chapter	March 18, 1967
CIS Chapter (Columbia)	Chapter	July 25, 2006
COMSOC Chapter	Chapter	October 7, 1969
EMBS Chapter	Chapter	December 27, 1999
IAS Chapter	Chapter	May 25, 1965
PES Chapter	Chapter	August 26, 1964
CIS Chapter	Chapter	May 7, 2004
ES Chapter	Chapter	May 9, 2005
GOLD	Affinity	March 30, 2000
WIE	Affinity	March 10, 2005
University of Missouri	Student Branch	April 6, 1949
Missouri University School of Science & Technology	Student Branch	June 18, 1964
St. Louis University	Student Branch	September 23, 1986
Southern Illinois University - Edwardsville	Student Branch	June 20, 1973
Southern Illinois University - Carbondale	Student Branch	August 29, 1978
Washington University	Student Branch	February 3, 1954
Missouri University of Science & Technology (AESS Chapter)	Student Branch Chapter	June 1, 1998
Missouri University of Science & Technology (PES Chapter)	Student Branch Chapter	August 8, 1995
St. Louis Community College – Florissant Valley	Student Branch	June 25, 2008

2009 Chapter Contacts

Aerospace and Electronic Systems Society (AESS)	robert.k.menzel@boeing.com
Communications Society (COMSC)	ken.owens@ieee.org
Computer Society (CS)	jdumaine@stlcc.edu
Engineering in Medicine and Biology (EMBS)	barnettd@slu.edu
Industry Applications Society (IAS)	ganeshv@mst.edu
Power and Energy Society (PES)	alazarski@ameren.com
Computational Intelligence Society (CIS)	ganeshv@mst.edu
Computational Intelligence Society (Columbia)	desouzag@missouri.edu
Education Society Chapter	fran@engr.siu.edu
Rolla Subsection	waleed@mst.edu

2009 Affinity Group Contacts

Graduates of the Last Decade (GOLD)	anil@siu.edu
Women In Engineering (WIE)	j.k.stroble@ieee.org

2009 Student Branch Contacts

Florissant Valley (St. Louis Community College)	jdumaine@stlcc.edu
Missouri University of Science and Technology (UMR)	sarangap@mst.edu
University of Missouri - Columbia	kovaleskis@missouri.edu
Washington University	jao@wustl.edu
Saint Louis University - Parks College	gharabr@slu.edu
Southern Illinois University - Carbondale	fran@engr.siu.edu
Southern Illinois University – Edwardsville	gengel@siue.edu

Winter 2009 Upcoming Events

Mizzou Student Branch and HKN BBQ	April 3
Joint STLCC-FV Student Branch and CS EWH Event	April 3
CIS Speaker w/Dr. Matsakis	April 7
Region 5 Meeting & Student Contests	April 17-19
Joint Section and AESS Meeting w/Dr. Kayton	April 23
Section Meeting w/Paul Gartz	May 28
Ameren Tour of Transformer Repair Facility	June 17
Energy Storage Lecture	August 12
Summer Social	September
ITSC Conference in St. Louis	October 4 – 7
Black Box Competition	November
EPRS/Ameren Smart Grid Lecture	November 17
Winter Social	December

APRIL 2009

S	M	T	W	T	F	S
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY 2009

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24	25	26	27	28	29	30
31						

JUNE 2009

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28	29	30				

Website

http://ewh.ieee.org/r5/stlouis/

Officers

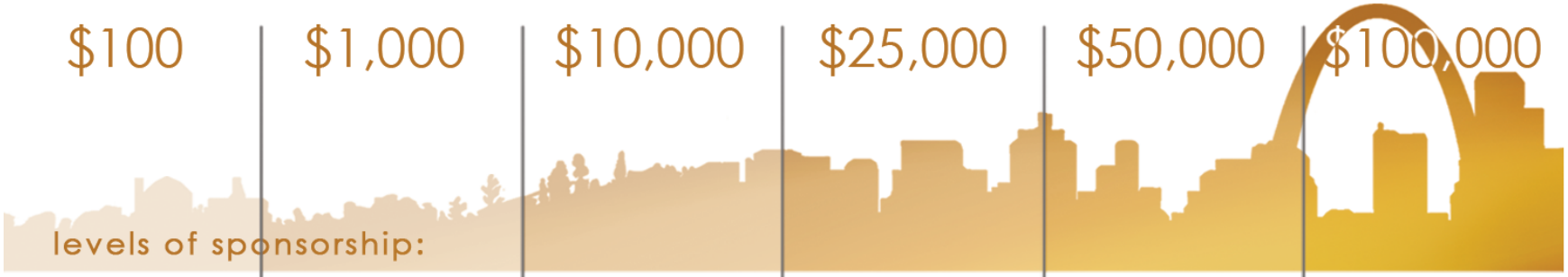
sec.stlouis@ieee.org

MISSOURI S&T

THE SHOW-ME SOLAR TEAM

expanding horizons

Missouri University of Science and Technology and the University of Missouri - Columbia have assembled a team of undergraduate students to design and build a 100% solar-powered home. With your help we can construct this home and transport it to the National Mall in Washington, D.C. to compete in the fourth Solar Decathlon in 2009. We invite you to become a "Solar Supporter" of our house as we design it for this international competition. Your tax-deductible sponsorship will help support the Solar House Team and showcase the economic benefits and attractive applications of clean, limitless solar energy.



levels of sponsorship:

$100	$1,000	$10,000	$25,000	$50,000	$100,000
Friend ($100 or more) Name placed on sponsor board in the house	**Supporter** ($1,000 or more) previous + Name placed on website with link to sponsor website, receive team photo	**Bronze** ($10,000 or more) all previous+ Logo placed on website, brochure, and sponsor board	**Silver** ($25,000 or more) all previous+ Name and logo placed on t-shirt worn during the competition	**Gold** ($50,000 or more) all previous+ Plaque with dedicated system in the house	**Platinum** ($100,000 or more) all previous+ Plaque with dedicated room in the house

Yes! I will be a:
(please check one)

- ○ Friend
- ○ Supporter
- ○ Bronze
- ○ Silver
- ○ Gold
- ○ Platinum

Indicate Sponsorship Amount: $_____

Payment Method:

☐ **Check** *(Payable to Missouri S&T. Memo: Solar House Team)*

☐ **Credit Card** *(Please Visit GivingToMST.Missouri.edu)*

Be sure to select "Other" for fund, and put "Solar House Team" in the Comments Box.

Name: _____

Company or Organization: _____

Address: _____

Email: _____

Tel: _____

Fax: _____

Company website: _____

SEND TO: Solar House Team; 112 ERL; 500 W. 16th Street; Missouri S&T; Rolla, MO 65409-1410

If your employer participates in Matching Gift programs, please send the appropriate forms.

All donations are tax deductable to the extent of the law.

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"I would make hiring decisions based, at least in part, on WCET results."

– Vasu Subramanian, Manager, Alcatel-Lucent

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– Sivan Ramanchandran, Bangalore, India

"The WCET certification greatly helps to communicate my capabilities to others. It's very important these days with so many engineers competing for so few opportunities."

– Chris Barroso, San Diego, California

*Source of Above Quotations: IEEE WCP newsletter.

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Application Period: 6 July - 4 September 2009
Application Deadline: 4 September 2009
Testing Window: 12 October - 31 October 2009

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