

Chairman's News

Jim Erickson, WCN Chair

I had the chance to work with students of the 2006 Graduating Class Senior Projects at UNCA (photo below) and I invite others in the Section to attend the 2007 joint activities with our student chapters this coming Spring!



On another education related topic, it gives me much pleasure to tell you that one of our member's is the winner of the IEEE Education Activities Board's Meritorious Achievement Award in Continuing Education. This award is one of eight awards that are given yearly. We nominated Perry Sprawls PhD, PE, professor emeritus Emery University for the continuing education award (photo below).

Jim Erickson, Chair
Jim Corr, Vice Chair
Fred Orland, Treasurer
AJ Burke, Secretary



We received notification that Dr. Sprawls will receive the award at a meeting in New Orleans in November. The award is in recognition of extensive career contributions of Continuing Education to enhance global health through the effective utilization of medical imaging technology and the application of science and engineering principles.
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Upcoming Events

- ◆ September 14 - IEEE LCN Meeting Marketing Speaker
- ◆ September - Plant Tour (tentatively Kearfott Aerospace in Black Mountain)
- ◆ October - TBA (Speaker)

LCN Corner

Jim Corr, WNC LCN Chair

As most of you know, our IEEE Section has formed a somewhat separate community of Consultants for the purposes of networking and providing services to businesses in the Western North Carolina area. Although we started this about a year ago, things have really begun to jell in the last few months. On July 24, Bill Rupp and I met with members of the Asheville Chamber of Commerce. We had an excellent discussion about the LCN and how such an organization could fit into the Asheville community. A significant amount of time was spent attempting to define the IEEE and the LCN and the relationship between them.

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Student observing the robots as they attempt to push each other out the ring during a competition.

Student Chapter Activities

The IEEE WNC Section once again supported students at UNCA and WCU during the Senior Project reviews at both universities with 26 IEEE members attending final sessions! While we didn't get photos of this year's event in time to get them into this edition of the newsletter, we encourage those that took pictures to get them to us for the next one!

We did get some from this year's IEEE sponsored Mechatronics Summer Camp at UNCA. These PreCollege (Middle/High School) students from Asheville City Middle/High Schools, TC Robinson HS, Henderson County Middle/High Schools in attendance at this year's IEEE day camp are perhaps the future university students we will see in the Senior Projects. They did get the chance to design and build a Parallax SumoBot robots to complete specific tasks as documented here.

Professional News

"Dr. Spawls wins Meritorious Achievement Award" (cont. from Chairman's New on Page 1)

Dr. Spawls, of Montreat, North Carolina, received a B.S. in physics with a minor in electrical engineering, 1956, a M.S. in Nuclear Science, 1961, and a Ph.D. in bioengineering, 1986, from Clemson University. Board certifications include: Professional Engineer (PE) in Electrical Engineering, Certified Clinical Engineer, and national certifications by both the American Board of Radiology and the American Board of Medical Physics in the fields of diagnostic imaging physics. Several books by Dr. Spawls are used for both directed and self-study CE around the world. The most current one is Magnetic Resonance Imaging: Principles, Methods, and Techniques. Another, The Physical Principles of Medical Imaging is now available online as a free and open resource at



Students gather for another round of competitions (above) and the winners of the overall and melee competitions (below).



<http://www.sprawls.org/ppmi2>

A major contribution is the availability of his teaching materials as an open resource at **Sprawls Educational Foundation:**

<http://www.sprawls.org>.

Dr. Spawls (Senior Director and principle instructor) provided high-quality CE for about 80 participants in each session from about 35 countries at the **College on Medical Physics**, Trieste, Italy. The college is an UNESCO program. Dr Spawls is also CE Director of **America Association of Physicists in Medicine**. The AAPM is the largest organization of physicists and engineers working in the field of medical imaging and is the major provider of CE in the related topics.

IEEE LCN News (continued from LCN Corner on Page 1)

This was an excellent opportunity for them to understand not only the LCN, but also the IEEE and what it is doing in the community already. We discussed our relationship with UNCA, and WCU and the activities we already have with them. We also mentioned that we were interested in pre-college education and in directing more students toward an Engineering career path. This new relationship with the Asheville CofC should be very fruitful in the future, for both the IEEE WNC Section and the LCN. Here are some of the other things that have been

accomplished so far this year:

- Completed Sales Brochure
- Updating to our WNC LCN Web page
- Completed LCN Bylaws
- Updated LCN Membership Application
- Completed 2006 Officer Elections
- 2 outside Small Business speakers

Don't miss out! Check it out at:

<http://www.ewh.ieee.org/r3/wnc/lcn.html>

IEEE Member profile



Each issue, the IEEE WNC will spotlight one of our consultants or regular IEEE members to highlight their capabilities and recent accomplishments.

Did you ever wonder who's behind making those neat interactive exhibits work at museums and science centers? Well it was probably someone like Brett Pierce who designs and builds custom electronic controls, which integrate an array of special effects to captivate, entertain, and even educates visitors. Pierce owns and operates IED, which is short for Interactive Electronics Design, LLC.

Recently, Pierce designed and programmed custom controls for interactive exhibits at the Colburn Science Center in Asheville and the Catawba Science Center in Hickory. Presently, he is working on a musical instrument sound exhibit for the new HandsOn! Children's Gallery in Hendersonville.

He's also working with Asheville Artist, John Payne, on an interactive dinosaur sculpture exhibit which will travel around the country to major museums starting early next year. IED's electronic control will animate the sculptures by providing motion, sound, light, and other special effects. Pierce provided John with an easy way to articulate the sculptures and record animation sequences with a wireless remote control. In the final exhibit, the dinosaurs will wake up and perform animated sequences as museum visitors approach. They may even get the opportunity to control the dinosaurs themselves via remote control.

Pierce grew up in Illinois and attended the University of Illinois where he earned his bachelor's degree in electrical engineering in 1988. After graduating, he moved to Pennsylvania where he worked as a Project Engineer designing new products for Lutron Electronics (a lighting controls manufacturer).

After that, his career took him to Alabama and upstate New York where he lead new product development teams in the medical and transportation industries. Eventually he landed in Western North Carolina in 1997 when he signed on with Welch Allyn as the R&D Project Leader. In 2001, Pierce earned his master's degree in project management from Western Carolina University. When Welch Allyn

announced in 2003 that it would consolidate the Arden operation with the corporate headquarters near Syracuse, NY, Pierce was among those who decided not to move to NY with the operation. "We had lived in several parts of the county and we knew we wouldn't be as happy living anywhere other than Western North Carolina."

After working about 1 year at Kearfott Guidance and Navigation in Black Mountain, Pierce decided it was time to end his corporate career and break off to work on his own. In early 2004, he started Knoll Creek Contracting, LLC and later Interactive Electronics Design, LLC where his focus has been to provide custom electronic controls for museums, science centers, and attractions.

In 2005, Pierce was instrumental in designing the embedded electronic controls behind the MagiQuest attraction in Myrtle Beach. MagiQuest is like a life-sized video game in which players physically roam the game environment to find objects, and solve puzzles. Each player carries a "magic" wand, which he/she waves at objects in the environment to produce magic and earn points. The wands are actually electronic transmitters and the environment is covered with hundreds of hidden sensors. The sensors are all connected to electronic nodes which drive motors, play sounds, and flash lights among other effects to produce the "magic" of MagiQuest. Every wand has a unique ID and the nodes are networked via Ethernet to central computers. This allows the game system to track the progress of each player and trigger special effects relevant to the player's progress.

Pierce is certified by the Project Management Institute (PMI) as a Project Management Professional (PMP) and is a senior member of the IEEE. When asked what he likes about his job, Pierce says: "What I really like is the feeling that what I do matters and that my work affects people in a positive way. It's also a lot of fun to play with or create all the neat technology I get to work with." Pierce plans to continue his focus on museums, science centers, and attractions, but he is also interested in applying his capabilities to serve any company in need of custom electronic design or electronic product development support.

To learn more about Brett
and Interactive Electronics
Design, LLC just visit

www.iedllc.com

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