



# Madison Section NEWSLETTER

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March 2005

## High Speed Circuit Simulation for Signal Integrity & EMI

**Date/Time:** Thursday, March 17, 2004, 11:45 AM - 1:00 PM

**Speaker:** Roy Leventhal

**Location:** Rocky Rococo's Pizza, 7952 Tree Lane (Madison Beltline Hwy. at Mineral Pt. Rd.), 608.829.1444

**Menu:** Pizza buffet, salad and soft drinks (cost \$10.00, free for student members)

**RSVP:** by March 14th to Les Schroeder via email (l.schroeder@ieee.org) or call 608.444.9144



*Non-member guests are always welcome!*

IEEE-EMC Society member Roy Leventhal will present a review of Electronic Design Automation (EDA) tools as applied to simulation of high-speed circuits to design for Signal Integrity, Crosstalk, Power Integrity, and EMI/EMC. The main modeling focus will be on the IBIS (Input/Output Buffer Information Specification) model. SPICE and Scattering-Parameter models will also be discussed. In addition to technical descriptions, the discussion will cover some aspects of design process flow, and model accuracy and availability. The conclusion of the presentation will be a question and answer session where experiences on these matters can be shared.

Roy Leventhal is an independent consultant. He has spent 45 years in electronics design at large OEMs. He holds a BSEE/MSEE from Illinois Institute of Technology plus additional graduate work at the University of Wisconsin - Milwaukee, concentrating on RF and microwave subjects. His engineering experience is specialized in semiconductor modeling, device physics, component reliability, failure analysis and simulation for signal integrity, EMI, and RF circuit design.

## California Middle School Wins IEEE-USA Future City Competition Award



WASHINGTON (25 February 2005) -- Martin Luther King Jr. Middle School of Oceanside, Calif., won the fifth IEEE-USA Best Communications System Award at the national finals of the National Engineers Week Future City Competition on Wednesday. The honor, one of 31 special awards presented at the Hyatt Regency Crystal City in Arlington, Va., was for the most "efficient and accurate communications system."

Students Karina Coscuna, Alisa Wyman and Peter Vo comprised the team with King teacher sponsor Joanne Norlander and engineer mentor Paul Vo. The team advanced to Washington by winning the Southern California regional competition last month. Its city, Constante Fonte (Portuguese for "Constant Source"), is set in the Amazon rain forest in 2150.

The city's "NET" communications system, which stands for "Nano Ear and Teeth," consists of a nanotechnology-based chip embedded in a person's eardrum and tooth. A wireless voice signal is transmitted to a communications tower, then to the "head end" at city hall, back to a tower and out to the recipient. The system, as described by the students, can translate any language into the hearer's native tongue.

The award, funded by the IEEE-USA Precollege Education Committee, was judged by IEEE members Lowell Smith of Fairfax, Va., Lee Stogner of Greenville, S.C., and Ananthram Swami of Silver Spring, Md.

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"The students' ideas were practical and they had a good grounding in what was possible," Stogner said. "They recognized they had to build on an existing technology to provide a communications infrastructure that people could use in the office and on a personal level."

IEEE Senior Member Michael Andrews, co-regional coordinator of the Phoenix area competition, presented each team member with a plaque. Each student will also receive a \$100 U.S. Savings Bond. King also garnered the Most Innovative Power Generation System Award from the U.S. Navy Nuclear Propulsion Program.

Other IEEE members serving as regional coordinators included Jean Eason (Dallas/Fort Worth); Todd Hiemer (Oklahoma); Osama Mohammed (Florida); and Zafar Taqvi (Houston).

The Future City Competition, which IEEE-USA introduced to Engineers Week in 1993, is designed to encourage the future generation of engineers. Seventh and eighth grade students create their own vision of a city of tomorrow, working first on computer and then constructing three-dimensional scale models. About 30,000 students competed this past year. A longitudinal study of the Future City Competition, funded by the IEEE in 2004, found that half of the respondents who had participated in the competition said they would like to pursue engineering in high school and college.

Louisiana regional champion St. Thomas More School won the overall competition Wednesday. Go to [http://www.eweek.org/site/News/Eweek/2005\\_FC\\_champions.shtml](http://www.eweek.org/site/News/Eweek/2005_FC_champions.shtml) for more information.

## IEEE-USA Supports Reverse Engineering in Brief Before Eighth Circuit Court of Appeals

WASHINGTON (9 February 2005) -- IEEE-USA filed an amicus curiae brief on 24 January in support of reverse engineering for interoperability in the U.S. Court of Appeals for the Eighth Circuit in the case of Blizzard Entertainment v. Internet Gateway (No. 04-3654).

IEEE-USA's "friend-of-the-court" brief seeks reversal of a September 2004 Federal District Court decision in favor of Blizzard, a computer game company. The Court basically ruled that by opening the shrink wrap of a software package, or clicking on a button during installation, the end user gives up fair use rights, including reverse engineering, granted under Section 107 of the Copyright Act.

Reverse engineering is a common and recognized practice, particularly in computer software, and is extremely important to technological advancement. IEEE-USA defines reverse engineering as the discovery by engineering techniques of the underlying ideas and principles that govern how a machine, computer program or other technological device works.

"Ultimately, the greatest benefits from reverse engineering are reaped by the public at large," IEEE-USA's brief said. "The positive exploitation of ideas expressed in copyrighted works over the

past two decades is readily apparent: advanced, competitive computer software industries have fueled the explosive and enlightening development of the Internet as well as many technology-based modern products.”

According to IEEE-USA, by exploiting shrink-wrap and click-wrap agreements, software publishers have attempted to use state-based contract law to trump fair-use rights granted under federal law. The organization believes that such agreements pose a danger to “the nation’s intellectual property system” and will chill innovation.

## IEEE-USA Supports Prolonging Life of Hubble Space Telescope in Statement to House Science Committee

WASHINGTON (2 February 2005) -- NASA should explore all possible avenues toward prolonging the useful life of the Hubble Space Telescope, IEEE-USA said today in a statement to the House Science Committee.

The most urgent need is a servicing mission to refurbish and upgrade the Hubble so that it can continue gathering high-resolution images of astronomical objects. News reports, however, indicate that The White House might eliminate mission funding from its 2006 budget request.

“The Hubble telescope has resulted in some of the most important scientific discoveries in the last decade,” said Dr. Russell Lefevre, IEEE-USA vice president, technology policy. “Our understanding of the universe has grown immensely, and it would be a tragedy for the world’s scientific community if the servicing mission was cancelled.”

Launched on 25 April 1990 by the crew of the Space Shuttle Discovery, the Hubble is a cooperative program of NASA and the European Space Agency to operate a space-based observatory for the benefit of science and humanity. Just last year, it detected more than 100 planets around distant stars, captured images of distant galaxies and recorded the first images of the edge of the known universe. Space-shuttle astronauts have serviced the Hubble four times, the last servicing in 2002.

A service mission would keep the Hubble operational until the James Webb Space Telescope is launched in 2011, at the earliest. Without such a mission, the 2.4-meter reflecting telescope could stop sending its photos as early as 2007.

“Prospects for continued operation of Hubble until that date without a servicing mission are small,” the IEEE-USA statement said. “The absence of the Hubble’s extraordinary abilities would adversely impact astronomical research.”

IEEE-USA’s November 2004 position supporting servicing of the Hubble is available at <<http://www.ieeeusa.org/policy/positions/hubble.asp>>. You can view today’s statement to the House Science Committee at <<http://www.ieeeusa.org/policy/policy/2005/020205.asp>>.



## Spring/Summer 2005 Short Courses from Engineering Professional Development

- **Basic Telephony and Digital Switching**  
*March 15–18, 2005 in Madison, WI*
- **Introduction to Right-of-Way for Utility Engineers, Technicians and Managers**  
*April 6–7, 2005 in Madison, WI*
- **How to Develop an Effective Business Case for Engineers and Technical Managers**  
*April 26–27, 2005 in Madison, WI*
- **The Engineer in Transition to Management**  
*May 2–4, 2005 in Madison, WI*
- **DC Power System Design for Telecommunications**  
*May 18–20, 2005 in Madison, WI*
- **Modern Wireless Data Communications: Preparing for Next-Generation Systems**  
*June 8–10 in Madison, WI*

For further information...

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## IEEE Launches Membership Portal

The IEEE has launched its new membership portal along with a members-only area called myIEEE.

The public site boasts the value and benefits of IEEE membership while showcasing the availability of additional membership opportunities, such as Societies, Affinity Groups and the Standards Association. Links to member-benefit information are consolidated into drop-down menus on the top navigation bar. Also included are a “Featured Benefit” module, member profiles, membership-related announcements and more.

Members who login to the myIEEE area with their IEEE Web account will see personalized information, such as their grade, section affiliation and additional active memberships. A new feature called “Service Advisor” uses a member’s technical interest profile to offer recommendations for IEEE membership offerings, conferences and publications. Links to the most commonly-used membership-management functions - joining the IEEE, renewing membership, adding services and changing profile information - are included in a single module for easy access.

The membership portal and myIEEE project was initiated in response to member feedback about the IEEE Web presence, as well as to improve communications about the value of IEEE membership.

The portal is accessible from the Membership menu on the left navigation bar of the main IEEE Web site. The URL is <<http://www.ieee.org/myieee>>.



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**For more information, contact John Hicks at (608) 233-4875 or [jhicks@wisc.edu](mailto:jhicks@wisc.edu).**

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