IEEE Madison Section Newsletter

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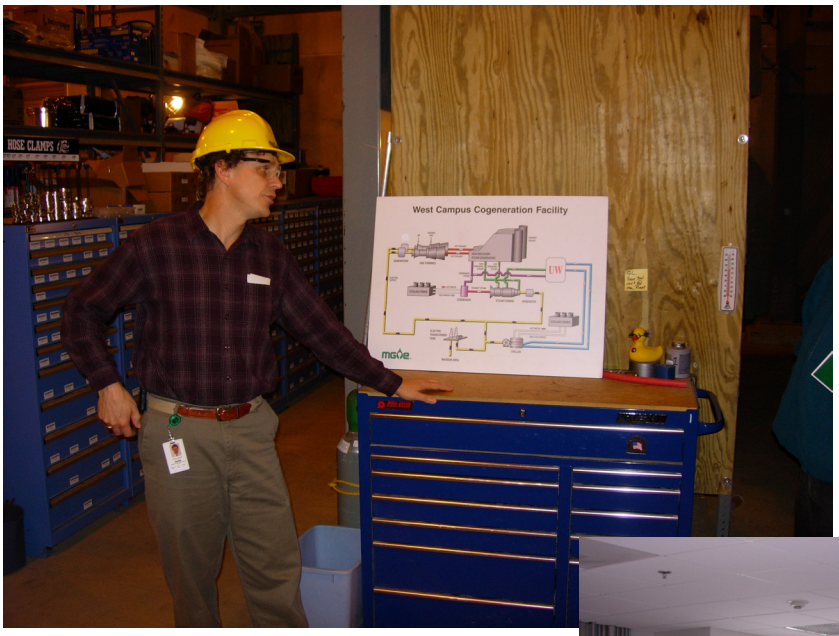
Medtronic: Probability, Testing, Measurement...

Date/Time: Thursday, December 15, 2005, 11:45 AM - 1:00 PM
Speaker: Dave Schaenzer, Medtronic
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 December 12th to Les Schroeder via email (l.schroeder@ieee.org) or call 608.444.9144

Non-member guests are always welcome!

A full abstract for this presentation and a bio of the speaker were not available at press time. As information becomes available, it will be posted on the IEEE Madison Section website at <http://www.bugsoft.com/ieee/meetings.html>.



The November tour of the West Campus Cogeneration facility was a great success with over 50 members participating. Here are a few photos from the tour courtesy of Sasa Jakovljevic from Realtime Utility Engineers.

Our intrepid tour guide describes the basic operation of the plant.

One of the three tour groups learning how the operators run the plant from the control room.

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How Much Are You Worth?

By Chris McManes

Let's say you'd like to find out what salary you can command in today's U.S. electrotechnology job market. You can get a rough idea by talking to colleagues and doing some research online. But wouldn't you rather get a more precise picture of your market value?

The IEEE-USA Salary Service offers IEEE members precise estimates of base pay and primary-source income (bonuses, commissions, and net self-employment income) for a wide range of technical fields and geographic areas within the United States. The hallmark of the service is the Web-based IEEE-USA Salary Calculator, with which you can find out very quickly what you're worth in today's job market. The Salary Service also has online tools for employers to benchmark technical professionals' compensation.

Individual IEEE members will find the Salary Calculator invaluable. It factors in numerous variables in a regression model based upon annual survey data obtained from more than 15 000 U.S. IEEE members and is considered the most precise salary estimator ever developed for electrotechnology professionals.

Gregg L. Vaughn IEEE-USA vice president of Member Activities, who is chair of the department of electrical and computer engineering at the University of Alabama at Birmingham, says he often speaks to IEEE student members and recent graduates to make sure they know about the Salary Calculator. And he uses the calculator to promote IEEE membership to nonmembers.

"Young engineers can use the Salary Calculator to estimate what their salary should be," Vaughn says. "When they interview with companies and receive offers, they don't have a basis for comparing the salary of the position they're considering or have been offered. Sometimes all they know is what they've heard from friends that a company has good pay, but they don't know what that means.

"Armed with the salary service, they can analyze an offer to see how it compares with other salaries in their area of expertise."

The Salary Calculator also is useful before an annual salary review and in evaluating a prospective career change or a move to another part of the country. A good compensation level in one part of the United States might not be good in an area with a higher cost of living.

"The calculator allows applicants who are considering a move to different parts of the country to compare offers," says Vaughn. "Otherwise, how do you know which one is the best financially? This service allows you to know. You're not walking in the dark, basing your judgment on what your friends might have told you."

Members may obtain free, unlimited access to the Salary Service for one year by going to http://salary.ieeeusa.org or log in using your IEEE Web Account and complete the Salary Survey. Once the survey is submitted, you may log in again at the same site to use the Salary Calculator.

For Employers

By linking powerful relational databases and sophisticated regression modeling with IEEE-USA Salary Survey data, the service provides employers with detailed information on every industry, line of business, job function, technical specialty, and U.S. location in the technical workforce.

"Employers can use the service to gauge compensation for a large number of technical employees or for a specific individual," says Jean Eason, IEEE-USA vice president of Professional Activities and chair of the organization's Employment and Career Services Committee. "Just as an employee doesn't want to be underpaid, a manager or employer needs to know the current market rate for the technical workforce."

Employer versions of the Salary Service, which come in standard and premium packages, also include analytic tools not found on other compensation products on the market. The premium package has a Satisfaction Analyzer that helps optimize employee compensation with employee retention. This allows employers to find out how compensation for positions with specific characteristics varies according to employees' job-satisfaction levels.

The Recruitment Analyzer, also included with the premium package, enables its users to focus their recruitment efforts in areas of the country where professionals with the characteristics they seek are most likely to be found.

For a demonstration of the Salary Service employer version, visit http://salaryapp.ieeeusa.org/rt/salary_database/about/salaryservice.

History Center Celebrates Quarter Century

By Lindsay Elkins

Celebrating its 25th anniversary this year, the IEEE History Center has come a long way since it started in 1980 in a one-person, one-room office.

The History Center—initially called the Center for the History of Electrical Engineering—started with a single employee at the IEEE's headquarters on East 47th Street in New York City, in August 1980. That staff member—director and technology historian Robert Friedel—focused on collecting biographical information on key players in electrical engineering and computing and in locating important engineering papers. A volunteer-run IEEE History Committee has guided the center.

As time went on, the center's role expanded to include informing the public—and young people in particular—about the history of technology by conducting and publicizing scholarly research. Between 1981 and 1986, it introduced three nationally circulated exhibits, one each on electrical engineering pioneers Michael Faraday and James Clerk Maxwell and one on the electric light. In 1990 the History Center, by then staffed by three researchers, moved to the campus of Rutgers, the State University of New Jersey, in New Brunswick, which is now a cosponsor that helps the center carry out its work with financial and staff support. Today the center has five full-time employees, of which three are researchers, a postdoctoral researcher, and five part-time Rutgers graduate students researching the history of technology.

The History Center continually introduces new programs to keep the past alive. In 1983, it established the IEEE Milestones in Electrical Engineering and Computing Program to recognize the locations of important achievements—be they important experiments successfully performed or noteworthy systems built—in these IEEE fields of interest. So far the center has designated more than 70 milestones around the world. One of the most recent is Hydro-Québec's 735-kV transmission system, whose construction was completed in 1965.

The center also collects oral histories—transcribed interviews with pioneering engineers—and has published about half of its more than 400 interviews on its Web site. These interviews are meant to preserve the engineers' memories and insights about their achievements as source material for future historians of technology.

The IEEE Virtual Museum (http://www.ieee-virtual-museum.org) introduced in 2000, is a Web site geared to helping young people, their teachers, and the general public explore technology, find out how things work, and learn about technology's innovators. The newest exhibit, "Songs in the Key of E," explores the development of electronic music from its beginnings, with a 60-hertz hum—a by-product of alternating current—to modern electronic music synthesizers.

The center plans to celebrate its anniversary with an exhibit of its work over the last 25 years, opening in December in the IEEE Operations Center in Piscataway, N.J. For more information on the IEEE History Center, visit http://www.ieee.org/history_center.

Historical FAQ

Why did the US choose 120v for household current and Europe choose 220v?

It appears that the 120v and 220v were chosen somewhat arbitrarily. Edison came up with a high-resistance lamp filament he thought desirable to keep distribution losses down. In 1882, he applied for patents on a 3-wire system which gave 220v transmission with 110v lamps.

IEEE Madison Section Elections

At the December 2005 monthly meeting, the IEEE Madison Section will conduct its annual officer elections prior to the technical presentation. The positions include chair, vice-chair, secretary, treasurer, and multiple member-at-large positions. Job descriptions can be found online at <http://www.ieee.org/organizations/rab/scs/Officer_Training/job_desc.html>. Nominations may be made by telephone or via e-mail to the Chair (278- 0377, rotter@ieee.org). Additional candidate nominations are welcome and encouraged for all positions. The nominations to date include:

Chair:	Mitchell Bradt
Vice-Chair:	Ken Hartman
Secretary:	Les Schroeder
Treasurer:	John Hicks
Mem. at Large:	Tom Yager
Mem. at Large:	Clark Johnson

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