



# Buffalo Section Electrifying News

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If you would like to contribute thoughts or articles please send them to

[sec.buffalo@ieee.org](mailto:sec.buffalo@ieee.org)

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## EMBS – 2<sup>nd</sup> Request

As you know, the changing nature of the health care and biomedical industries may bring additional growth opportunities to this area. As a result, the Buffalo Section would like to provide a local forum to explore synergies between technology and industry. The IEEE Buffalo Section of Region 1 currently has approximately 30 members who are also members of the Engineering in Medicine and Biology Society (EMBS). The University of Buffalo, Roswell Park Cancer Institute, Hauptman Woodward Medical Institute as well as other local biomedical companies are investing in many biomedical and engineering applications.

In order to maximize the Buffalo region's advances and to collaborate and share thoughts, ideas and solutions, we would propose establishing a Buffalo Chapter of EMBS.

We have tried to establish this before and fell a few names short. We need your help. In order to begin the chapter, we will need the approval of current members. You can indicate your approval by completing the letter enclosed. The letter should be U.S. mailed to:

IEEE Buffalo Section  
1045 Colvin Blvd  
Buffalo, NY 14223

Or emailed to [sec.buffalo@ieee.org](mailto:sec.buffalo@ieee.org)

## IEEE and Eta Kappa Nu Honor Society Sign Merger Agreement

IEEE signed a merger agreement with the honor society ETA Kappa Nu (HKN), a nonprofit, public-service organization comprising nearly 200 university chapters on 14 February 2009. The merger, which will go into effect by mid-2009 pending final approval, will make HKN the official honor society of IEEE, recognizing scholarship and academic excellence and identifying

student leaders, young professionals and eminent scholars in the IEEE's technical fields of interest.

Under the agreement, HKN will become an organizational unit of IEEE, governed by the new IEEE-HKN Board of Governors. A restricted endowment will be created in the IEEE Foundation to support HKN's educational, societal, and recognition activities. In addition to holding HKN's current assets, the new endowment will receive an initial donation of US\$1.2M from IEEE.

## Participants Sought for Humanitarian Technology Challenge

The Humanitarian Technology Challenge (HTC), a partnership between IEEE and the United Nations Foundation, designed to bring together technical professionals and humanitarians to develop technological solutions for pressing challenges facing humanity, is seeking participants for its June conference in Washington, DC.

The conference, scheduled for 1-2 June, is the first of a series of meetings (in person, as well as online) where participants will be engaged in the solution development process for three initial challenges. The following challenges were identified by focus groups composed of representatives from ten humanitarian organizations:

- \* Reliable Electricity - Availability of power for electronic devices
- \* Data Connectivity of Rural District Health Offices - Capability to exchange data among remote field offices and central health facilities
- \* Patient ID Tied to Health Records - Maintenance of consistent patient records, including when patients visit different clinics and when they relocate.

The program will begin the afternoon of 1 June with a keynote speaker, followed by a panel discussion among select humanitarians and technologists. A networking reception will be held in the evening. A full-day working session will be held 2 June for those who will be active participants in the solution development process for the identified challenges. For questions regarding the Humanitarian Technology Challenge, please e-mail project manager Harold Tepper.

## Help Wanted

We are in need of two society chairs. If you are a member of either the Control Systems or Communications society and would like to be more involved in IEEE please contact [sec.buffalo@ieee.org](mailto:sec.buffalo@ieee.org). There is about a 3 hour a month time commitment. Volunteers can be recognized by IEEE to their employers. Furthermore, working with the local chapter can provide numerous networking opportunities to benefit your career.

## Advertise?

Would your company like to reach over 500 engineers and businesses with minimal effort and cost? Contact us by email: [sec.buffalo@ieee.org](mailto:sec.buffalo@ieee.org) or by U.S. mail at: Dr. J.L. Zirnheld, 312 Bonner Hall, Buffalo, NY 14260

IEEE's 125th anniversary celebration is underway - take a look at some of the ongoing activities:

- "Engineering the Future" Event Series focusing on emerging technologies and the benefit to humanity.
- "Change the World" Competition: Students create solutions to real world problems, competing for a top prize of US\$10,000.
- Post messages, videos and more on the anniversary website at [www.ieee125.org](http://www.ieee125.org).

## Job Hunting?

The IEEE Job Site, available exclusively to IEEE members, can help you locate career opportunities easily and confidentially. Just complete a profile of your qualifications and requirements, and you'll be notified via email when a suitable job becomes available. IEEE Job Site was named one of the top online recruitment sites by Weddle's Guide to Employment Web Sites. And top employers know that IEEE members are the most qualified electro technology and information-technology professionals in the world. Take a few minutes to register with the IEEE Job Site and check out your career options today! <http://www.ieee.org/jobs> on (or Geographic Council) may not receive the current annual rebate payment. For questions regarding officer reporting, please contact MGA Staff.

## Engineers Should Contribute to Renewable Energy Policies, and Consider Ethical Implications

Engineers working in renewable energy fields should participate in public policymaking and consider ethical

implications, the opening speaker at the IEEE Green Technology Conference said today.

"Engineers have a special role to play with regard to the ethical development of renewable energy technology and associated public policies," said Dr. William Marcy, P.E., executive director of the Murdough Center for Engineering Professionalism at Texas Tech University.

The goal of the Murdough Center ([www.murdough.ttu.edu](http://www.murdough.ttu.edu)) is "to increase the awareness of the professional and ethical obligations and responsibilities entrusted to individuals who practice engineering." The center also operates the National Institute for Engineering Ethics and the Applied Ethics Case of the Month Program.

As the push for renewable energy (solar, wind, biomass, hydropower, among others) advances, Marcy thinks it's important for engineers to use their technical expertise to help lawmakers devise new energy policies.

"The role of public policy in promoting and enabling green technologies may turn out to be as important as the innovations themselves," he said.

Marcy said ethical issues can arise from developing renewable energy technologies and from implementing the policies designed to promote their use.

"Ethics has a role to play in the design, engineering and implementation of complex technical systems and, more importantly, the associated public policies," he said.

When engineers assist in formulating public policy, they should take into account the many possible outcomes that could arise from a specific policy. This helps to prevent unforeseen or unintended consequences.

Marcy cited the example of producing ethanol from corn. Because corn serves as the basis for much of the U.S. food supply, as demand for corn as energy increased, the cost of food rose. This unintended result is a hardship for low-income families.

"To make an ethical case for a new renewable energy policy one must take into account not only the consequences of actions individuals may take," Marcy said, "but also the consequences that will accrue to society on a local, regional, national and global level."

The 2010 IEEE Green Technology Conference was in Fort Worth, Texas, 15-16 April. Technical papers, workshops, panels and tutorial submissions can be sent to Edward L. Safford, technical program chair, at [e.safford@ieee.org](mailto:e.safford@ieee.org).

## Patent Attorney? Engineer? Both.

Because our intellectual property attorneys hold dual degrees, we are able to speak your language when it comes to protecting your inventions. So get connected with one of our patent attorneys today by calling 716-847-7078.

Michael J. Berchou – Attorney/B.S., Electrical Engineering

Taylan Sen – Attorney/B.S., Electrical Engineering;  
M.S., Biological Engineering

Peter K. Sommer – Attorney/B.S., Mechanical Engineering

Rowland Richards – Attorney/B.S., Biological Engineering



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### Recent Local TV Report Technologies that Benefit from Society- -From Tracking Pollution to Monitoring a Baby's breathing while sleeping

As part of its public awareness program to promote engineering and technological literacy, IEEE-USA has helped to underwrite more than 600 local television news reports on engineering and science since 2005. From October 2008 through March 2009, TV news reports aired on IEEE technologies that benefit society have included segments on:

- How engineers have processed data from NASA's Aura satellite to track and predict the movement of airborne pollution
- How engineers and computer scientists have developed software to coordinate the movement of thousands of cars in case of an emergency evacuation
- How electrical and computer engineers have designed a monitor that keeps track of a baby's breathing while asleep with the goal of saving infants from Sudden Infant Death Syndrome
- How electrical and computer engineers have created a system based on magnets that enables disabled persons to use the tongue to control the movement of a wheelchair
- How human development scientists and computer game developers have designed a video game that

teaches youngsters how to resolve conflicts peacefully amongst themselves

In 2008, 16 segments on IEEE technologies were aired with an estimated 83 million views. Additionally, IEEE-related technology stories have their own Web site at <http://www.aip.org/dbis/IEEE>. To view selected reports as they were aired by local TV stations, e-mail <[p.mccarter@ieee.org](mailto:p.mccarter@ieee.org)>.

The "Discoveries & Breakthroughs Inside Science" TV news reports are distributed to local U.S. television stations in more than 100 cities, transit systems in seven U.S. cities, at the Mall of America in Minnesota, as well as through the Voice of America and the Roo Online Video Network in more than 60 countries. Stations airing the IEEE-related spots in the United States include a mix of ABC, CBS, NBC, Fox, Univision, cable and independent affiliates. An estimated 200 million viewers watch "Discoveries & Breakthroughs" originating from the Middle East Broadcasting Center.

Academic research has documented that the public obtains most of its information about engineering and science from local TV news and that viewers of the "Discoveries & Breakthroughs" TV reports are more likely to support engineering and science than those who are not viewers.

Former IEEE-USA Mass Media Engineering Fellow Sourish Basu and former IEEE Washington Internships for Students of Engineering Participant Elizabeth Johnston collaborate with other society representatives in weekly telephone conferences to develop and vet story ideas.

"Discoveries & Breakthroughs" is seeking new story ideas to include in its TV reports that are incorporated in local TV news broadcasts. IEEE-USA Communications and Public Awareness Vice President Paul Kostek has asked IEEE student chapters to consider submitting stories about engineering breakthroughs themselves or through their universities' public information officers. Pitches should be directed to Emilie Lorditch, the series' manager and senior science editor, who can be reached at <elorditc@aip.org>.

The "Discoveries & Breakthroughs" TV news service was developed by the American Institute of Physics with a coalition of 23 technical professional organizations including IEEE-USA. The service delivers 12 vetted 90 second TV reports monthly -- in English and Spanish -- with a potential reach of up to 75 million TV viewers, and an estimated 47 million online views per month through local TV stations' Web sites.

**DHS Official to Discuss Innovative Private-Public Partnerships to Make Country More SECURE at IEEE Homeland Security Conference**

WASHINGTON (1 May 2009) -- If you have a technology that can make the United States more secure, the Department of Homeland Security's Science and Technology Directorate (DHS-S&T) wants to hear from you.

Dr. Thomas A. Cellucci, DHS chief commercialization officer housed at DHS S&T, will discuss "Opportunities for the Private Sector" through DHS' SECURE program during the 2009 IEEE International Conference on Technologies for Homeland Security (HST 09) at the Westin Waltham Boston Hotel, 11-12 May.

SECURE, which stands for "System Efficacy through Commercialization, Utilization, Relevance and Evaluation," seeks "win-win" partnerships between DHS and private companies to develop solutions that meet the needs of the department's operating components, first responders and other stakeholders such as critical infrastructure/key resources owners and operators.

Cellucci will explain to HST 09 attendees that, in addition to providing detailed operational requirements of DHS stakeholders, DHS includes an estimate of the potential available market. This program is not only a "win" for DHS and the private sector, but most importantly, for the American taxpayer who benefits from a cost-effective

and efficient development of products and services to help keep the country safe.

SECURE helps create jobs and acts as a catalyst to enable small firms (that possess vital innovation) to partner with larger firms and investors. The end result is found in much higher speed-of-execution of government programs at a high return-on-investment of taxpayer dollars.

Cellucci will also preview a new innovative partnership program focused on basic research and innovation that DHS Secretary Janet Napolitano will announce on 19 May.

IEEE Boston Section is producing HST 09 with organizational support from IEEE-USA. The event, which began in 2002, focuses on innovative technologies addressing some of the nation's most-pressing national security problems. About 500 people attended the 2008 conference, including representatives from 17 foreign countries.

Presentations will be made in the following tracks: weapons of mass destruction detection; border & maritime; counter IED (improvised explosive device); disaster response; and critical infrastructure protection. Rear Admiral Richard Gurnon, USMS, president of the Massachusetts Maritime Academy, will deliver the keynote address.

**Student News**

Congratulations to the participants from the University at Buffalo IEEE student section for earning 3rd place in the Micromouse competition! The competition was part of the 2009 IEEE Region 1 Student Conference held on April 25, 2009 in Trenton, NJ. The participants were: Richie Brosius, Matt Bowers, Thomas Smith, Jimmy Wu, Tom Piwitorak, David Berquist, Adriane Wotawa-Bergen, Matt Swasey, Eric Musuta and Rich Bell. The Micromouse contest is a technological competition dedicated to the creation of an automatic machine that could explore autonomously a labyrinth, reach its center, and eventually find the shortest path between the start and end. The team came away with a \$500 reward for their excellence.

MEMBER LETTER  
TO ESTABLISH A BUFFALO CHAPTER OF  
THE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY (EMBS)

I, \_\_\_\_\_, am a current member of the Engineering in Medicine and Biology Society and request that a Buffalo Section of the Engineering in Medicine and Biology Society be established for the benefit of furthering the professional, scientific and business related developments of this society.

This chapter will support the mission of The Engineering in Medicine and Biology Society of the IEEE, which is stated below:

“The Engineering in Medicine and Biology Society of the IEEE advances the application of the sciences and technology to medicine and biology, promotes the profession, and provides leadership for the benefit of its members and humanity by disseminating knowledge, standards, fostering professional development, and recognizing excellence”.

The field of interest of the IEEE Engineering in Medicine and Biology Society is the application of concepts and methods of the physical and engineering sciences in biology and medicine in very broad spectrum ranging from formalized mathematical theory through experimental technological development to practical clinical application. It includes support of scientific, technological and educational activities”.

Please Complete the Following Information:

Name: \_\_\_\_\_ IEEE Member Number: \_\_\_\_\_

Date: \_\_\_\_\_ Contact Phone Number: \_\_\_\_\_

Employer: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_



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