The President's Perspective

In October 2005, I had the privilege of representing the IEEE Foundation at the 2005 Sections Congress in Tampa, Florida. This impressive event provided the opportunity to meet with IEEE delegates from all over the world and confirm their interest in the IEEE Foundation's new initiative - Technological Literacy *Matters!* Members from throughout the IEEE Regions addressed the importance of improving the understanding of technology.

Richard Gowen, IEEE Foundation President, addresses the delegates at Sections Congress 2005.

The Technological Literacy *Matters*! initiative is the result of extensive member and donor recommendations to advance the education and scientific mission of the IEEE. This initiative provides opportunities for IEEE sections and societies to develop activities supported through gifts and donations. The IEEE Foundation currently administers over 80 donated funds that support awards, scholarships, student travel grant programs and educational projects of IEEE sections and societies. The IEEE Foundation is available to assist IEEE organizations in the preparation of new activities to be supported through gifts and donations.

The IEEE Foundation also provides developmental funding for projects and events that enable members to provide activities that enhance the educational and scientific purposes of the IEEE. The funding provided by the IEEE Foundation to support events at the 2005 Sections Congress is an example of the type of funding available. Another example of the use of development funding is the project grant to IEEE Educational Activities in 2001 that led to the new program to prepare teachers with technologically oriented projects for students.

The visits with delegates at the Sections Congress provided the opportunity to thank donors for their contributions. It is through events like Sections Congress, publications like this one, and you, our donors, that the IEEE Foundation is able to increase the understanding of the many successes in the use of donated funds to support the scientific and educational purposes of the IEEE.

Warm wishes for a happy new year,

Richard J. Gowen

Richard J. Gowen
2006 President, IEEE Foundation

Ralph Russell (right), lead volunteer for IEEE Emeritbadge.org program, shows Richard Gowen, IEEE Foundation President, the microprocessor kit several hundred Boy Scouts completed during the 2005 National Scout Jamboree, thanks to a grant from the IEEE Foundation.

Check out our new website! Visit www.ieeefoundation.org

The IEEE Pre-University Engineering Activity Search
Find a Pre-university Engineering Activity to Bring Back to Your Community

By: Allison Ickowicz, IEEE Educational Activities

Have you or other members of your local IEEE Section ever wanted to help your local pre-university community, but just did not know where to begin? Thanks to a grant from the IEEE Foundation, you can start by visiting the IEEE Pre-university Engineering Activity Search page. This new section of the IEEE web site, created by IEEE Educational Activities, was developed to help members and volunteers around the world find the right activity for their Section without having to re-invent it.

"The activities are sorted into 12 categories, such as Classroom Activities, Organized Competitions and Activities, and Careers in Engineering."

The IEEE Pre-university Engineering Activity Search identifies a wide variety of pre-university science, engineering, mathematics and technology education activities being conducted by IEEE sections throughout the world. The activities are sorted into 12 categories, such as Classroom Activities, Organized Competitions and Activities, and Careers in Engineering. Simply by

E-campers in Thailand construct simple electronic circuits.

clicking on a category, members will find a list of engineering activities that they can organize and implement in their local communities. The site also allows members the opportunity to submit an activity that is not already listed in which they have participated and wish to share.

Examples of activities available on the IEEE Pre-university Engineering Activity Search include:

• E-camp – Thailand Section
This is a four day camp in which IEEE members teach basic electronics, conduct hands-on activities, and take high school students to visit research laboratories. The camp is free to the students, including meals and lodging.

• Robots 101 – Panama Section
This is a five hour program conducted by IEEE members for students in grades 7 – 9 that consists of 90 minutes of lectures with the remaining time dedicated to hands-on activities. The program shows the students the value of engineers and engineering, introduces engineering and robotics basics, and allows the students to work and maneuver a robot.

www.ieee.org/eab/preudatabase

To access the IEEE Pre-university Engineering Activity Search visit http://www.ieee.org/eab/preudatabase. For more information about the site, contact IEEE Educational Activities at +1 732 562 5496 or email a.m.ickowicz@ieee.org.

IEEE Member Recognition through IEEE Society Awards

By Michael Deering, IEEE Development Office

Through the diligent efforts of IEEE Industry Applications Society (IAS) members, and financial underwriting by General Electric Company, a new IAS award is now available. This annual award, called the IEEE IAS Industrial Power Conversion Systems Department Gerald Kliman Innovator Award, honors innovators for meritorious contributions to the advancement of power conversion technologies through innovations and their application to industry. The technical field for the Kliman Innovator Award includes, but is not limited to, electrical machines, electrical drives, power electronic systems and power electronic devices. Prize items include a US$500 honorarium and a plaque.

This award not only recognizes the many innovators of the future, but also pays tribute to Dr. Gerald Kliman, whose many innovations in the field of rotating machines, electric traction drives, and electromagnetic pumps are still widely used in industry today. Jerry (as he was known to all his colleagues) received all of his electrical engineering degrees from MIT, culminating in his Ph.D. in 1965.

After serving in the US Air Force, and as a faculty member at Rensselaer Polytechnic Institute, he joined General Electric Company. He was a Life Fellow of the IEEE and member of several IEEE IAS technical committees. At the time of his death, he

"The technical field for the Kliman Innovator Award includes, but is not limited to, electrical machines, electrical drives, power electronic systems and power electronic devices."

had 88 US patents with about 20 applications pending. Sadly, this highly accomplished and well respected engineer passed away in a tragic automobile accident on 30 January 2004.

According to Tomy Sebastian, IAS-Industrial Power Conversion Systems Department Chair, "It was most gratifying to work with IEEE volunteers to bring about this award in honor of the late Dr. Gerald Kliman, and to remember his many contributions and innovations to the technical areas of the Industrial Power Conversion Systems Department".

Tomy Sebastian (right), IAS Industrial Power Conversion Systems Department Chair, IEEE IAS presents the first IEEE IAS Industrial Power Conversion Systems Department Gerald Kliman Innovator Award to Dr. Russel J. Kerkman (left) for his contributions to "the control and reliability of ac motor drives".

Update:
IEEE Virtual Museum

By: Kim Breitfelder, Manager, IEEE Virtual Museum

The last twelve months marked another year of growth for the IEEE Virtual Museum (VM) with the addition of two new exhibits. The first, Songs in the Key of E explores the world of electronic instruments and music, and examines the linkage of art and technology. The second, Nanotechnology, investigates the 30-year history of that "cutting edge" field of technology. These two exhibits, plus additional content added to preexisting exhibits, brought the page count of the VM to over 600 pages of unique content divided into eight exhibits. VM viewership also grew. Going into 2006, the VM could expect between 30,000 and 50,000 visitors per month, depending on the time of year, making it one of IEEE's most popular web areas. To check us out, visit www.ieee.org/museum.

From the Songs in the Key of E exhibit – Robert Moog shows off a Moog synthesizer, a device he pioneered that creates sound electronically.

> ### "VM continues to seek funding from traditional sources, such as grants like those generously provided by the IEEE Foundation"

Despite these improvements, growth of the VM remains constrained by financial considerations. Indeed, the only hindrance to adding more exhibits and new material at a faster rate is the lack of resources to generate the material. To that end, the VM continues to seek funding from traditional sources, such as grants like those generously provided by the IEEE Foundation, while also seeking new revenue streams, such as advertising, on the site. It is hoped that these various revenue streams will meet and provide the VM with the resources to add new material as well as make technical and aesthetic upgrades that keep the site fresh, evolving, and relevant to IEEE members, students, and the general public.

Prefer to make your gift online? Visit www.ieeefoundation.org and select "Donate Online".

IEEE Volunteer Leadership Receives Training

By: Jim Howard, Chair, IEEE Sections Congress 2005 Steering Committee

In keeping with the IEEE Sections Congress 2005 theme "Promoting a World Class Volunteer Community", delegates from 81 countries representing 260 Sections came together in Tampa, Florida this past October. This Sections Congress saw the largest attendance ever with 947 total registrations. The purpose of the IEEE Sections Congress is three-fold: 1) leadership training; 2) networking; and 3) guiding the future of the Institute through the development and prioritization of recommendations for action.

Saturday morning started with each delegate assigned to one of the Core Track training sessions. The topics of the sessions included an IEEE Overview, Financial Management, Electronic Communications, and Products & Services. Through these sessions, each attendee received the leadership basics they need to take IEEE into the future, and information to assist their individual Sections and Chapters to provide its membership with continuing services.

> ### "Promoting a World Class Volunteer Community"

Delegates prepare for a Core Track training session to begin.


Another important element of Sections Congress is the exhibits. Here, a delegate visits the IEEE Florida West Coast Section booth.

How You Can Help

You can help keep the doors of the IEEE Virtual Museum (VM) open by making a charitable contribution to the IEEE Virtual Museum Fund. Launched in early 2003 by the IEEE History Center as an outreach program for pre-college aged students and the general public, the VM integrates science, engineering, and the humanities to raise awareness of the importance of technology.

Charitable contributions may be made by using the business reply envelope enclosed with this newsletter, or making an online contribution by visiting the IEEE Foundation at www.ieeefoundation.org.
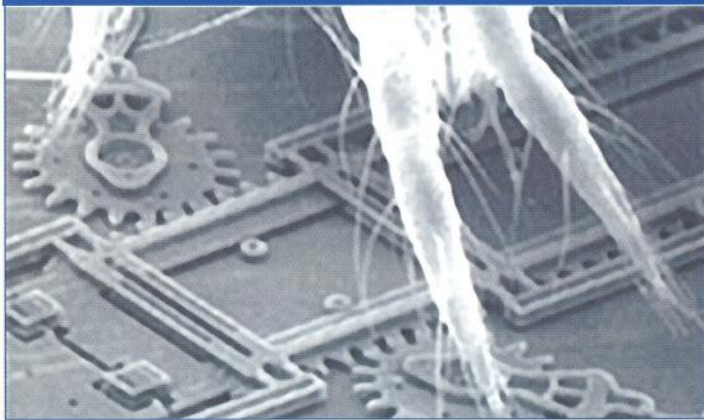
From the Nanotechnology exhibit – Micromachining is a form of nanotechnology that involves the creation of microscopic mechanical devices, like that shown here. The legs in the image belong to a spider mite placed there to demonstrate scale. Photo Courtesy: Sandia National Laboratories.

It was through these Core Track sessions that we were able to truly carry our theme forward in "Promoting a World Class Volunteer Community". These sessions, along with the CD Rom each attendee received with all the Sections Congress information and presentations on it, will make us the best lead volunteer organization in the world. Both of these key components to the success of Sections Congress 2005 were made possible thanks to a grant from the IEEE Foundation.

You can access all the information found on the CD Rom, along with other Sections Congress information and pictures on the web at http://www.ieee.org/sc2005. The information is there for anyone and everyone to utilize in helping their volunteer efforts, so please take advantage of this excellent tool.

Charles Hickman, Don Bramlett, and Diane Collier answer questions during the session on Section Operations, Awards & Recognition.

◈ IEEE FOUNDATION

The IEEE Foundation, Incorporated raises and distributes funds to support activities that further the scientific and educational purposes of the IEEE for the benefit of society as a whole. It is an organization qualified under U.S. Internal Revenue Code 501(c)(3) and is eligible to receive tax-deductible contributions in the United States. For other countries, please check with your local tax advisor regarding tax deductions of charitable contributions.

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A Round Trip Ticket to Success!

By Raj Mittra, IEEE Life Fellow

Many moons ago, when I was a young graduate student at the University of Toronto, I always dreamed of participating in the IEEE meetings, and presenting a paper describing my research. For me, traveling to New York for the first time in the early 1950's to attend the IEEE (then IRE) annual convention at the Waldorf Astoria was really a dream come true. To this day, I remember that my trip was made possible thanks to the generosity of the University of Toronto and the availability of special funds to support such travel.

Later, when I was established in my career and in my field, I visited a whole host of countries to participate in various meetings and symposia, and found that many scientists—both young and old—were anxious to have similar opportunities to attend the IEEE Antennas and Propagation Symposium and USNC/URSI National Radio Science Meeting. However, I also learned that it is a really difficult proposition for many aspiring scientists to fund such travel on their own, or to get some help from their institutions. So, remembering my old student days, the thought came to me to establish an IEEE fund that would award travel support to those in need, and let them fulfill their dreams, just as someone had once made it possible for me to realize mine.

Raj Mittra, IEEE Life Fellow and benefactor of the Raj Mittra Travel Grant presented by the IEEE Antennas and Propagation Society

So, the RMTG (Raj Mittra Travel Grant) was born and is now awarded—competitively, of course, by a committee presently headed by Prof. Don Wilton of the University of Houston. Annually, travel grants are given to Senior and Junior Scientists, to make it possible for them to attend the AP-S/URSI meeting. The recipients of the RMTG are recognized during the award ceremony, which is held during the symposium banquet. The winners share the banquet table with the Mittra's and the Wilton's, thereby giving us an opportunity to get to know them on a personal basis, and not just think of them simply as obscure names in grant applications.

There have been over 20 winners since the program's inception in 1996. They have come from many different countries and backgrounds, but they have one attribute in common that binds them all, namely, a gleam in their eyes that unmistakably says: **"Thank you RMTG for making this possible. I wouldn't be here without it!"**

For me, that makes the rate of return from the investment that I made some time back in the IEEE Foundation far more attractive than I could ever get from any financial institution in the world—because it gives me a real good feeling inside that money just cannot buy—ever.

Established in 1996, the Raj Mittra Travel Grant Program (RMTG) of the IEEE Antennas and Propagation Society supports the attendance of graduate students and faculty researchers at the Annual IEEE Antennas and Propagation Society International Symposium and USNC/URSI National Radio Science Meeting. Candidates for the program do not have to be members of either IEEE or URSI, but their paper must be accepted for presentation at the IEEE AP-S/URSI Symposium. Selection of the Awardees is based upon the candidate's potential or demonstrated aptitude for research.

If you are interested in establishing a similar program with your Society or Section, please contact the IEEE Development Office at +1 732 562 3915 or email supportieee@ieee.org.

# Wallace S. Read Donates 2005 Steinmetz Honorarium

By Karen Galuchie, IEEE Development Office

When Wallace S. Read learned that he had been selected as the 2005 recipient of the IEEE Charles Proteus Steinmetz Award, he took great pleasure in refusing the cash award in favor of donating it to two of his favorite IEEE units. The IEEE History Center, specifically the IEEE Virtual Museum (VM), is one of the two beneficiaries of Dr. Read's generosity. The VM received US$5,000 in much needed support to continue its work to present web-based exhibits in a non-intimidating way that explore how technology works and explain how these technologies have shaped the world in which we live.

Dr. Read received the 2005 IEEE Charles Proteus Steinmetz Award, which recognizes exceptional contributions to the development of standards in electrical and electronics engineering, during the IEEE Standards Association Award Ceremony in December 2005. The prize honors him for sustained leadership in organizing IEEE standards activities to be responsive to industry and the global marketplace. In addition to the US$10,000 cash honorarium Dr. Read decided to donate, the other prize items he received include a bronze medal and certificate.

Raymond D. Findlay (right), 2002 IEEE President, presents Wallace S. Read (left) with the 2005 IEEE Charles Proteus Steinmetz Award.
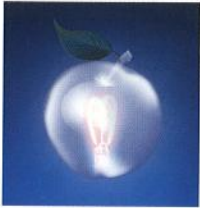
IEEE Foundation Announces 2006 Application Deadlines

The IEEE Foundation, the philanthropic arm of the IEEE, will accept unsolicited applications for new and innovative projects that seek to improve the worldwide technological literacy of society from childhood through adulthood in three cycles in 2006. Projects should:

✓ IMPROVE primary and secondary math and science learning,

✓ PREPARE pre-university students to consider engineering as a career path

✓ INCREASE active interest in engineering and science,

✓ PRESERVE the history of IEEE associated technologies,

✓ TAP the technological expertise of IEEE members,

Application deadlines:

Applications due	IEEE Foundation Meeting Date
January 7, 2006	March 2006
April 15, 2006	June 2006
September 16, 2006	November 2006

To learn more about the IEEE Foundation's grant guidelines, and to submit an online application, visit http://www.ieeefoundation.org.