

The President's Perspective

The year 2008 marks the 35th Anniversary of the IEEE Foundation! From the beginning, the IEEE Foundation has served as the philanthropic arm of IEEE. By cultivating relationships and resources, the IEEE Foundation works to advance IEEE's core purpose to foster technological innovation and excellence to benefit humanity.

Programmatically, the IEEE Foundation has two primary focuses. First, it awards project grants to new and innovative projects that seek to improve the world's technological literacy (see the 2008 grant application deadlines on page 4). I am happy to report that beginning in 2008 all applications submitted through the IEEE Foundation's online grant application form (www.ieeefoundation.org) will be reviewed and considered for funding by the IEEE Foundation Board and the IEEE Life Members Committee (LMC). The LMC, through the IEEE Life Members Fund (LMF), supports projects that are of interest to IEEE Life Members, beneficial to potential engineers and engineering students, and promulgate the history of electrical and information technologies. The LMF is one of the over 120 funds administered by the IEEE Foundation.

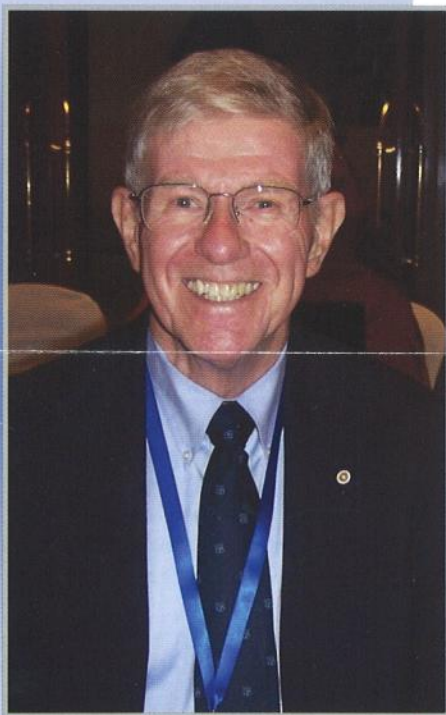
Secondly, the IEEE Foundation administers over 120 restricted funds that support a variety of educational, historical preservation, and peer recognition programs of IEEE organizational units. During 2007, seven new restricted funds were added to the IEEE Foundation that will support new scholarships, peer recognition awards and a special historical preservation program. The IEEE Foundation is currently working with a number of donors and IEEE organizational units to develop new philanthropic programs that will have a positive impact on our community.

I invite you to take a few moments to review this issue of the IEEE Foundation Focus. Inside you will find articles demonstrating how the IEEE Foundation is using the resources entrusted to it by our donors to advance IEEE's core purpose to foster technological innovation and excellence to benefit humanity.

Best Regards,



Richard J. Gowen
2008 President, IEEE Foundation



Richard J. Gowen 2008 President,
IEEE Foundation

To get the latest news from the IEEE Foundation, sign-up for our free quarterly E-newsletter by visiting www.ieeefoundation.org.

A Thank You to Three Departing IEEE Foundation Board Members

The IEEE Foundation thanks our three exiting Board Members for their years of dedication and service. Diana J. Bendz served on the Board for nine years, from 1999 through 2007. She was Secretary for three of those years and Chair of the Audit Committee for three years in addition to serving on various other committees. Also leaving is Peter A Lewis, a board member since 2002. Lewis served as First Vice President for his final two years on the Board and also had stints as Vice President of Projects and Vice President of Grants. The final member leaving the Board is Dr. Tsuneo Nakahara. Nakahara served on the Board from 2000 to 2007, and was a member of the Grants, and Nominating and Corporate Governance Committees during his service. Thanks again to Bendz, Lewis and Nakahara for their time and dedication to fulfilling the mission of the IEEE Foundation to support the scientific and educational purposes of the IEEE.



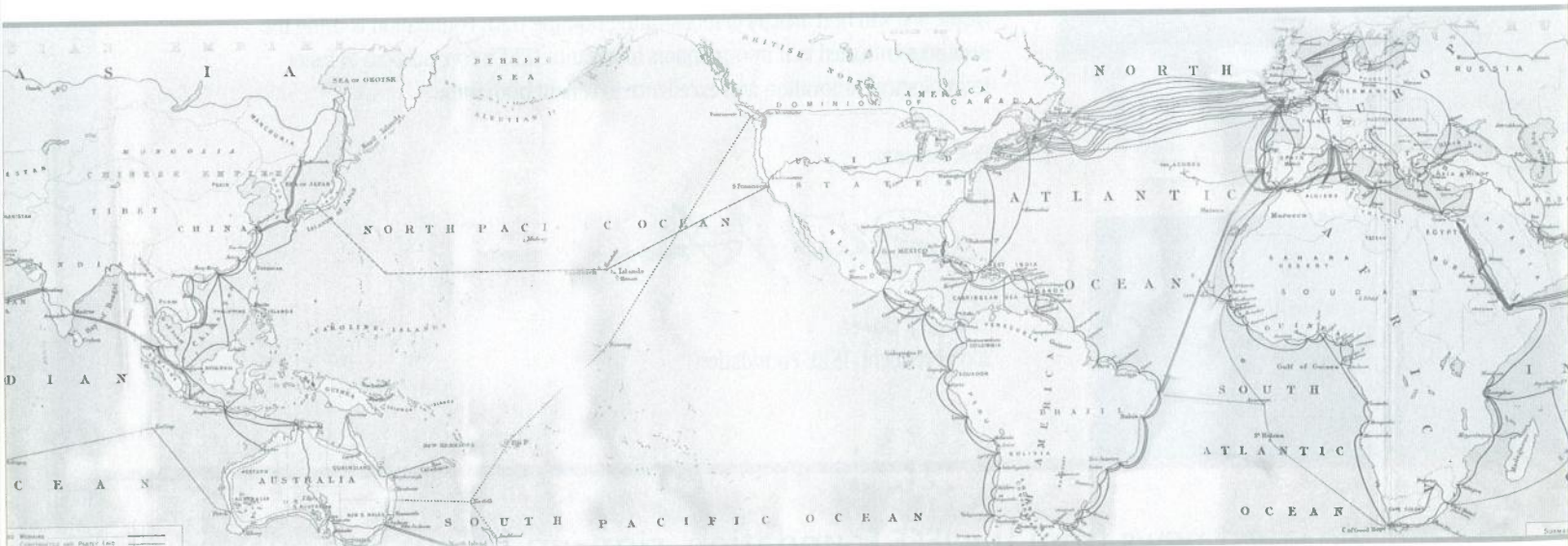
FRONT: **Richard J. Gowen**, IEEE Foundation President, thanks **Diana J. Bendz**.
LEFT: **Peter A Lewis**. CENTER: **Tsuneo Nakahara**.

IEEE Global History Network

By **Michael N. Geselowitz**, Ph.D., Staff Director, IEEE History Center

The mission of IEEE's history activities is to enhance the preservation, research, and dissemination of the history of electrical science and technology and the technological history of the IEEE, its members, and their professions. Overseen by the IEEE History Committee and provided through the IEEE History Center, these activities, contribute to IEEE's core value of service to humanity. In furtherance of the IEEE history activities' mission, the History Center has undertaken to build the IEEE Global History Network (GHN). Combining IEEE's history resources with the capabilities of the web for collaboration, the GHN will provide the premier global network of the history of electrotechnology. The site will encourage and enable participation in IEEE's historical mission by promoting collaboration by individuals and organizations worldwide, especially the 370,000 IEEE members in 160 countries and the organizational units that represent them.

The GHN will combine existing IEEE historical materials with a wiki environment. IEEE members and members of selected partner organizations will have broad access to develop and collaborate on content. It is believed this will give IEEE members increased value and enjoyment as well as a sense of participation in preserving their own history. At the same time the GHN will provide historians and other scholars increased access to primary source materials of technology developments, while the general public will be able to read stories highlighting the importance of engineering history. The initial launch of the GHN is planned for September 2008 at IEEE Sections Congress.



1897 MAP of all transoceanic telegraph cables prepared by Charles Bright

Meeting the Growing Demand for Engineers and Their Educators 2010-2020 International Summit

By: **Douglas Gorham**, Managing Director, IEEE Educational Activities

The IEEE Foundation, Siemens Corporation, the IEEE Education Society and the IEEE Educational Activities Board supported a first of its kind conference titled "Meeting the Growing Demand for Engineers and Their Educators 2010-2020 International Summit" which was held in Munich, Germany 9 to 11 November 2007.

One primary focus of this conference was to address the trend in the labor market for engineers' that has seen noticeable turmoil in the last decade, experiencing growing demand for engineering talent and migration of engineering work to new markets. In some countries fewer young people chose engineering as a course of study and career choice. In other countries, such as China and India, there was a dramatic growth in the number of students in the engineering disciplines.

The result is that many young students never discover engineering as a viable program of study and career choice

The second primary focus of this conference was to address the shortage of qualified science, technology and mathematics educators at the pre-university level. Most pre-university teachers know little about engineering and engineering design. There are also prevailing stereotypes about engineers that are deepened in the pre-university years that discourage women and certain minorities from considering engineering. The result is that many young students never discover engineering as a viable program of study and career choice. Many others make uninformed choices that block their path to engineering.

These trends are in discord with predictions about the demand for engineers and the need for science, mathematics and technology educators at the pre-university level.

The conference featured invited speakers, presentations, a panel session and breakout groups. Keynote speakers included: Leah Jamieson, 2007 IEEE President and CEO, Nicholas Donofrio, Executive Vice-President IBM, Reinhold E. Achatz, Siemens Corporate Technology, and Peter Friess, from the European Commission. More than 100 abstracts to present papers were received, far exceeding expectations. Over 60 papers were accepted for this two and one half day conference.

A total of 138 people, representing decision and policy makers from twenty-six countries, attended this first time conference. Approximately forty percent of the attendees represented industry, approximately 50% of the attendees represented academia and the remaining attendees were from government

A primary outcome of the conference was to develop recommendations to the relevant constituents (school systems, ministries of education, private industry, and engineering and education colleges) based on data and the best available forecasts and projections.

Breakout groups played a significant role in providing recommendations for future work including:

- improving the image/perception of engineers and engineering
- developing resources (hands-on and informational) for pre-university teachers and counselors



Attendees vote on recommendations

- working to get engineers in the classroom
- providing teacher in-service training
- identifying best practices in collaborations between industry, academia, government
- creating internships for high school teachers
- building holistic engineering degree program
- starting innovation think tanks at universities
- establishing curriculum standards for engineering

Thanks in part to the support from the IEEE Foundation "Meeting the Demand for Engineers and Their Educators 2010-2020 International Summit" was a success based on the number of papers submitted and the conference surveys received at the conclusion of the event. This conference has provided recommendations for the path forward in addressing the shortage of engineers and their educators. A full report of the conference in the form of a Proceedings is currently in production and is expected to be completed during February 2008. Once published, the results will be analyzed to determine the next steps and role the IEEE might play in the implementation of those steps.

IEEE Foundation Grant Helping Connect Humanitarian Efforts and Technology

By: **Susan Frentz**, IEEE Development Office Intern

The IEEE is working to lend a hand in humanitarian efforts with help from a grant awarded by the IEEE Foundation in November 2007. The grant will fund the Humanitarian Technology Challenge 2008 Kick-Off Conference. The Humanitarian Technology Challenge (HTC) is a partnership between the IEEE and the United Nations Foundation. The goal of the partnership is to identify relevant technological challenges that humanitarian aid workers face in the field and then tap into the innovation and solution-building capacity of IEEE's members to provide focused solutions to all or some of the challenges. The conference will bring together representatives from non-governmental organizations (NGOs), IEEE members and volunteers, corporations, philanthropic foundations and user gateway NGO's (organizations that can help implement the solutions) to begin to identify challenges and approaches to solving them. The conference is planned for late 2008, with a location to be announced soon.

Tryengineering.org Goes Global

By: Yvonne Pelham, IEEE Educational Activities

A 2005 review by the Educational Activities Board (EAB) determined that most online resources about engineering tended to focus on Mathematics and Science. It further identified that the resources for the pre-university education community contain inadequate messaging regarding the nature of engineering and the life of engineers.

To address the areas of need identified by the 2005 review, during June 2006, EAB, in partnership with IBM and The New York Hall of Science, developed TryEngineering.org. This comprehensive on-line resource is designed to educate counselors, teachers, parents, and students of all ages about engineering disciplines and the impact engineers have on society by providing interactive activities and information on engineering careers. TryEngineering.org provides visitors with preparatory guidelines for students looking into an engineering career and classroom activities that demonstrate engineering principles. It also provides visitors with the unique ability to find accredited engineering and engineering technology programs at universities in 23 countries. TryEngineering.org seeks to demystify the profession of engineering to increase the propensity of students to choose engineering as a program of study and career choice.

In the first year after launch, the site received 1.3 million hits averaging over 30,000 unique

visitors per month. To expand the global reach of TryEngineering.org, a project was initiated to provide versions of the site for non-English speaking visitors. The site was translated into six additional languages – Chinese, French, German, Russian, Japanese and Spanish. These translations provided:

- IEEE members with a resource to assist pre-university education outreach in those regions where these languages are predominant,
- teachers with classroom activities written in several languages to reinforce engineering concepts and design principles,
- school counselors, parents and students with information to inform them of the opportunities in engineering and technology careers, and
- the general public with information about engineering and the diverse disciplines within engineering.

Two months after the launch of the expanded site, the number of unique users visiting the non-English versions jumped an average of 2,400 per month. This increase in visitors resulted in an average range of 17,000 to 25,000 additional hits per month.

With its recent grant from the IEEE Foundation General Fund, TryEngineering plans to build on this success and create, launch and promote an additional version in Portuguese in July 2008.



Visit TryEngineering.org on the web at <http://tryengineering.org>

IEEE Foundation Announces 2008 Grant Application Deadlines

The IEEE Foundation, Incorporated, the philanthropic arm of the IEEE, is committed to improving the technological literacy of society from childhood through adulthood. One way the IEEE Foundation seeks to achieve this goal is by awarding grants to new and innovative projects. During 2008, unsolicited applications will be accepted in three cycles from IEEE units and other organizations working in areas of relevance and importance to the IEEE and its membership. Projects should achieve one or more of the following objectives:

- **Improve** primary and secondary science, technology, and math learning
- **Encourage** pre-university students to consider engineering as a career path
- **Increase** the public's understanding of the role of engineers and technology in society
- **Preserve** the history of IEEE associated technologies
- **Tap** the technological expertise of IEEE members
- **Demonstrate** ability to be replicated

Application deadlines:

Deadline	IEEE Foundation Meeting Date
4 Jan 2008	Mar 2008
18 Apr 2008	Jun 2008
5 Sep 2008	Nov 2008

Before submitting the online application, please review "How to Apply for a Grant" (<http://www.ieee.org/organizations/foundation/grants.html>). All applications will be considered for funding by both the IEEE Foundation Board of Directors and the IEEE Life Members Committee. Questions should be directed to the IEEE Foundation Administrator at +1 732 981 3435 or foundation-office@ieee.org.

Launching History Activities in Region 8

By **Dr. Jacob Baal-Schem**, IEEE Life Senior Member and Member of the 2008 IEEE History Committee

The history of electrical technology dates back to the Romans and Greeks and through the ages, it has been developed by scientists and engineers worldwide. Technological change has so accelerated in recent times that developments that occurred during the last 50 years are now considered historical events. To help promote the research and publication of information related to the history of IEEE associated technologies, IEEE Region 8 approved including history activities on its agenda beginning in 2007.

The first step was for the Region 8 Director to appoint a Regional History Activities Coordinator as a member of the Region 8 Committee. The author of this article had the honor of being the individual selected. The next step was to create the IEEE Region 8 History Advisory Council.

In order to have the funds needed to launch history activities in the Region, an IEEE Foundation grant was sought and received. The grant from the IEEE Foundation has led to many exciting activities. These activities include:

- The development of a history network to connect members interested in history to information pertaining to their interests. A website, accessible through the Membership Activities link on the IEEE Region 8 site at <http://www.ieee.org/r8>, was also established that includes information on activities and is aimed to include historic documentation.
- The IEEE Region 8 History Advisory Council was taught by IEEE Historian Dr. Frederik Nebeker how to conduct oral histories. Oral histories document, as source material for future historians of technology and the public, the personal memories of the pioneering electrical and computer engineers who transformed the world. To date, the Council is seeking permission to conduct oral histories with three individuals currently residing in IEEE Region 8.
- Organization of a history session during the EUROCON 07 Conference in Warsaw, Poland where 6 papers were presented to an audience of 30 participants.
- IEEE HISTELCON 2008, a History Conference to be held in Paris, France on 11–12 September 2008. A call for papers has been issued and several abstracts have been received. The theme of the conference is: *"From Semaphore to cellular radio telecommunications."* HISTELCON 2008 is co-sponsored by the IEEE History Committee and IEEE History Center. It will be conducted with assistance from the French National Society of Electrical Engineers (SEE) and other professional societies. The website for HISTELCON 2008 is found at <http://www.isep.fr/histelcon>

The IEEE Foundation has enabled the launching of a set of history focused activities in Europe, Africa and the Middle East. Through these activities IEEE members in Region 8 can play an active role in preserving, researching, and disseminating the history of our profession. The ultimate objective is to raise the public's awareness to the positive impact electrical and information technologies have had on mankind.



IEEE Region 8 History Advisory Council

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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The IEEE Foundation Focus is published twice a year. It reports on the programs supported through the IEEE Foundation and the individuals and organizations whose charitable gifts make the programs possible. Questions or comments on the newsletter should be directed to:

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