FOCUS
Transforming Lives Through the Power of Technology and Education

President’s Perspective

Technology connects us, warms us, heals us, and illuminates our world. Yet, access to technology is not universal. On every continent, people are suffering the effects of diminished health, education, and safety for lack of life-saving and life-enhancing technologies. All over the world – including in our most prosperous nations – the future is uncertain. The IEEE Foundation works with IEEE to change that.

Since 1973, the IEEE Foundation – the charitable arm of IEEE – has inspired vital philanthropic support enabling IEEE programs that enhance technology access, literacy, and education. Your ongoing support allows us to transform the knowledge, scope and reach of IEEE into solutions designed to address needs worldwide.

Looking ahead, we know 2015 will be a bold year. IEEE Foundation is making significant progress toward meeting the social imperatives important to IEEE members and I am pleased to share some of the highlights.

The Grants program has been enhanced for impact. Grants will be awarded to IEEE projects that will increase the understanding of technology and its critical role in meeting global challenges and improving the human condition. You can read more about the Grants Program and the impact grants awarded to IEEE projects are making on pages 2 and 3.

Four IEEE-run public imperatives are now IEEE Foundation Signature Programs. These programs are keyed to strategic needs and opportunities for which we are actively raising awareness and funding. You can learn more about EPICS in IEEE, IEEE Power & Energy Society Scholarship Plus Initiative, IEEE Smart Village and REACH (Raising Engineering Awareness and Appreciation through the Conduit of History) on page 4.

We have a clearly defined catalog of IEEE initiatives that nourish brilliant minds, promote our heritage, and honor innovation. Our professional core has been realigned and key staff has been added to accomplish our bold goals. We implemented an all-inclusive online solution while updating our Web presence. Please visit our new site at www.ieeefoundation.org. And we expanded our support of and participation in Sections Congress, details of which are on page 5. All of the programs and initiatives we support are even more clearly defined and poised for success.

At the heart of the IEEE Foundation are the programs we fund thanks to the investment of our donors – our most valuable asset.

I invite you to join me, in this BOLD year ahead, in bringing the promise of technology – and the knowledge to use it – to individuals and communities all over the world. Those served by the IEEE Foundation are grateful to everyone who helps us transform lives through the power of technology and education.

Respectfully,

Leah H. Jamieson
IEEE Foundation President
Grants Program Enhanced for Impact

The Grants Program is a vital element of the Foundation’s mission to enable IEEE programs that enhance technology access, literacy, and education. It is designed to facilitate wide participation from throughout the technology professions, eliciting a rich array of proposals.

Beginning in 2015, the Grants Program has been enhanced to ensure more innovation and impact. Once per year, IEEE organizational units (OUs) will be invited to submit funding requests focused on a designated strategic need important to IEEE members. This highly competitive program will invest in innovative and promising grassroots OU projects.

Thanks to the generosity of our donors, in 2015 the Foundation will invest approximately US$400,000 in up to 20 grants ranging from US$5,000 to US$100,000 that increase the understanding of technology and its critical role in meeting global challenges and improving the human condition.

Proposals are invited from IEEE organizational units for projects that inform the public about technical issues such as, but not limited to: energy, health care, cyber security, Internet governance, and environmental change for the purpose of fostering balanced factual discussion and understanding of a current public issue. Eligible projects should result in the creation of materials and activities such as presentations and/or simulations that are suitable for one or more of the following audiences: secondary school/college students, secondary school teachers, IEEE groups, local community groups, and technology policy makers.

We are able to award grants thanks to our generous donors. Your donations make it possible to fund innovative projects of interest to IEEE. In 2014, The IEEE Foundation Grants and IEEE Life Members Committees identified 32 worthy projects, conducted all around the world, and awarded a total of US$748,238 in grants.

Grant applications are reviewed once per year. Applications are being accepted from now until 1 August 2015. For more information about applying for a grant, please visit the IEEE Foundation Web site www.ieeefoundation.org/Grants.

IEEEmadC Encourages Mobile Applications Development

By Josip Balen, Assistant Faculty of Electrical Engineering in Osijek Software Engineering Department IEEEmadC chair

IEEEmadC - Mobile Applications Development Contest for IEEE student members

The BOOM in mobile applications development is happening today and mobile applications market is one of the fastest growing parts of the world’s IT sector. Furthermore, smartphones and mobile applications are very popular among students, especially among engineering students. Therefore, at the end of 2013 the first IEEEmadC Mobile Applications Development Contest for IEEE student members was started at the University of J.J. Strossmayer in Osijek, Croatia. The project received a first grant of US$7,000 from IEEE Foundation, which was enough to organize IEEEmadC at the Region 8 level. The results from the IEEE Region 8 level are:

- 82 ideas submitted
- 28 mobile applications developed
- 165 student participated
- 60000+ people reached through Facebook
- IEEE Enterprise award received

Encouraged by the great success from the first IEEEmadC at the Region 8 level, this year IEEEmadC (again with huge help from the IEEE Foundation with a second grant of US$9,775) is going global. IEEE students across the globe are invited to submit their ideas and mobile applications to the IEEEmadC contest.

The goal of the IEEEmadC is to bring additional practical activities to IEEE students and to motivate other students to join the IEEE. The uniqueness of this competition is that only IEEE members can compete and that the developed mobile applications must be focused

continued on page 3
IEEE Young Professionals Inspire the Future

By: Steven J. Foland, PhD
Senior Lecturer | Department of Bioengineering,
The University of Texas at Dallas

This summer, IEEE Dallas Young Professionals, under the leadership of Dr. Dhishan Kande, collaborated to inspire the next generation of scientists and engineers. With the support of the IEEE Foundation and the hard work and dedication of many talented volunteers over the past two years, the Engineering Discovery Program reached hundreds of Dallas area elementary students through free programs offered at the Dallas Public Library.

More than 36 hours of hands-on science and engineering curriculum were developed in the workshop of The Shoulders of Giants, Inc., a local nonprofit organization which opened their doors to the Young Professionals (YP) as they created the kits and demonstrations that would become part of the program. The 12 part program covered select areas in science and engineering, from chemistry and biology, to physics and electronics. Among the many diverse activities, students who participated in the program learned how to identify the signs of a chemical reaction, searched for life on another planet, tested the aerodynamics of their own rockets in a working wind tunnel, and heard their electronics come to life as they built a speaker from a plastic cup.

The program received praise from its participants, their parents, and the volunteers who helped make it all possible. Staff of The Shoulders of Giants have agreed to continue running and maintaining the curriculum, creating a sustainable home for the program and expanding its impact in the Dallas area and beyond. Now that the work of the IEEE Dallas Young Professionals is complete, their accomplishments will continue to inspire students for years to come.

IEEEmadC continued from page 2

to contribute to the IEEE community, technology, science or education.

More information about IEEEmadC can be found on http://ieeeamadc.org/. Also everyone can follow the IEEEmadC official Facebook page https://www.facebook.com/IEEEmadC.

We invite all IEEE students to learn how to develop useful mobile applications, submit them to IEEEmadC and win great prizes - and of course to have fun while doing it.

Galuchie To Lead IEEE Foundation

IEEE Executive Director & COO, Jim Prendergast, recently announced the appointment of Karen Galuchie as the new Executive Director of the IEEE Foundation.

Prendergast lauded Galuchie’s tenure with IEEE by saying, “It gives me great pleasure to announce the promotion of Karen Galuchie into the role of Executive Director of the IEEE Foundation. Karen brings more than fifteen years of experience working with the IEEE Foundation. Through her work to develop and deploy a new strategic direction and performance in the role of Acting Executive Director, IEEE Foundation, she has proven to be a strong leader who is well positioned to help the Foundation achieve its goals.”
Signature Programs:
Inspiring Connections with IEEE and the World

At the heart of the IEEE Foundation’s work is its innovative Signature Programs – each one delivering immediate impact coupled with long-term growth in intellectual capital, human resources capacity, and technological literacy. These are IEEE-run public imperatives with which the Foundation partners to proactively raise external philanthropic dollars.

**EPICS (Engineering Projects In Community Service) IN IEEE**

Kasiluni EPICS project lead, Gerald K. Too, from the IEEE Kenya Section hands over a solar panel during installation on the standard 6 classroom schoolhouse at Kasiluni Primary School in Northern Kenya.

Photo by Caleb Leseine of the JKUAT Christian Union

EPICS in IEEE delivers innovative technology solutions while providing young professionals with real-world learning experiences. Teams—typically composed of university engineering students, faculty advisors, high school students, non-governmental organization (NGO) staff, and volunteers—are deployed to envision, develop, and install technologies that meet individual and societal needs in their local communities around the world. EPICS in IEEE will help diversify our future talent pool, provide students with a spectrum of valuable skills, and establish effective community-based partnerships to build and sustain infrastructure.

**IEEE POWER & ENERGY SOCIETY SCHOLARSHIP PLUS INITIATIVE**

The need for smart energy solutions tops the public agenda. More than 60% of power and energy professionals in the US may retire or leave the profession by 2020. The U.S. Power & Energy Engineering Workforce Collaborative recommends doubling the number of power engineering graduates by providing scholarships for university students—such as those awarded by the IEEE Power & Energy Society (PES). IEEE’s PES Scholarship Plus Initiative provides tuition support, mentoring, career networking, and other benefits to top electrical engineering students in the US and Canada. The program is poised to go global.

**REACH (Raising Engineering Awareness/Appreciation Through the Conduit of History)**

The IEEE History Center’s new REACH initiative aims to bring History to life in a series of dynamic teaching modules designed to engage young people, support STEM education, and create a more technologically literate society. It will inspire students to pursue technology careers and to encourage all to become technologically conversant and responsible community leaders. REACH will develop and distribute teaching tools and enhancement materials to secondary school teachers for use with secondary students through several channels, including web-based vehicles.

**IEEE SMART VILLAGE**

Electricity is considered to be a major driver to eliminate poverty and build sustainable community prosperity. IEEE Smart Village, formerly known as “Community Solutions Initiative,” addresses this need in a new way. Combining the talents of IEEE members with sustainable-development partners in education, business and technologies, IEEE Smart Village delivers immediate, life-changing impact to the world’s poorest and most energy-deprived populations. Micro-utility equipment is seed-funded to in-country, non-governmental organization (NGO) partners to create self-sustaining, community-owned and -operated micro-utilities in off-grid areas.

To learn more about IEEE Foundation Signature Programs or to invest in their success, visit https://www.ieeefoundation.org/signature-programs.

*Photo courtesy of Richard Keller*
IEEE Event Inspired Us All

By Adrian Pais, IEEE Foundation Secretary

More than 1,000 IEEE members from all around the world descended upon Amsterdam, Netherlands, for a weekend of learning, networking, and celebrating the achievements of IEEE members. This was especially exciting for me as a resident of The Hague, which is only a stone’s throw away from Amsterdam.

The Section’s Congress mobile app, funded by an IEEE Foundation Grant, was a new addition to the event that enhanced the experience for all in attendance.

IEEE Foundation’s booth received visits from many IEEE members interested in the Foundation’s new strategic direction, which was discussed in depth at break-out sessions led by Foundation volunteers. IEEE Foundation President Leah H. Jamieson presented a Learning Lab, “Transforming Lives through the Power of Technology and Education.” The session encouraged the creation of partnerships between IEEE Foundation and IEEE. IEEE Foundation VP of Development Lyle Feisel presented two fast-paced Ignite Sessions, “Investing in Innovation through the IEEE Foundation Grants Program.”

It was inspiring to hear firsthand from IEEE volunteers about their educational and socially impactful projects that would not have been possible without the Foundation’s philanthropic support. These projects have positively affected the lives of thousands of people around the world! The difference that IEEE Foundation makes was palpable.

The theme of the congress Inspiring Our Leaders of Tomorrow was especially appropriate given the number of young professionals participating. Young professionals are our lifeblood and it is their enthusiasm that makes IEEE come “alive”. In IEEE Foundation’s quest to create a culture of philanthropy in IEEE, it is clear that young professionals have a major role to play by inspiring interest in donors and executing impactful projects.

The IEEE Honors Ceremony allowed us to celebrate the achievements of great engineers and technologists who have changed the world. This ceremony, as well as our overall participation in SC2014, was made possible through the generous support of donors to the IEEE Foundation.

IEEE Life Fellow B. Jayant Baliga is considered the world’s preeminent power semiconductor scientist. His accomplishments were recognized with the IEEE Medal of Honor during the IEEE Honors Ceremony. Twenty technology giants were recognized. The IEEE Foundation proudly sponsors the IEEE Honors Ceremony and the IEEE Medal of Honor, the IEEE Haraden Pratt Award, and the IEEE Founders Medal received by Eric Schmidt.

The 2014 IEEE Honors Ceremony was held in conjunction with IEEE Sections Congress and hosted by IEEE President Roberto de Marca (l) and IEEE President-Elect Howard E. Michel (r). IEEE Foundation Board Member Wanda Reder recipient of the IEEE Richard M. Emberson Award (second from l) and V. Prasad Kodaké recipient of the Haraden Pratt Award (second from r) both donated their cash prize to the IEEE Foundation. IEEE Foundation President and 2007 IEEE President Leah Jamieson (center) was present to honor the recipients.

IEEE Foundation’s booth was in a prime position in the exhibition hall. Foundation staff were on hand and Directors volunteered to discuss the Foundation’s new strategic direction, signature programs, and grants program with IEEE members. Standing from the left are Karen Galuché, John Meredith, Adrian Pais, Leah Jamieson, Lyle Feisel and Karen Kaufman. In the front are John Impagliazzo and Richard Allen.
History Center Enjoys A New Partnership

By Robert Colburn
Research Administrator, IEEE History Center

After 24 years on the campus of Rutgers University, in New Brunswick, NJ, USA the IEEE History Center relocated to Stevens Institute of Technology, in Hoboken, NJ, USA on the third floor of the school’s Samuel C. Williams Library.

The History Center is excited to work closely with Stevens’ College of Arts and Letters (CAL)—the academic unit dedicated to teaching and research at the intersection of science, technology, the humanities, and the arts.

A private university founded in 1870 as the first U.S. school to use a science-based engineering curriculum, Stevens is focused on IEEE’s fields of interest. Last year U.S. News & World Report ranked it the “fastest-rising” of the best national universities. It is a leader in distance education and in engineering curriculum development.

Stevens and IEEE enjoy a number of synergies. Its CAL focuses on the history and social study of science and technology, as does the IEEE History Center. The location provides the History Center with access to academic resources and colleagues that will enable it to better fulfill its mission to preserve, research and make known the history of IEEE-related technologies. Additional benefits of the move include expanded and public display space, access to the Stevens archival and library collections, direct interaction with innovative engineering educators, and increased opportunities for staff development through teaching and planning public programs.

As part of the partnership, History Center staff teach courses on the history of engineering and help organize historical exhibits and other appropriate historical activities on the school’s campus. ”Having the History Center staff on campus and part of the Stevens community will allow the History Center to further [Stevens’] goal of promoting an understanding of the past so that we not only become more responsible in the present, but also explore what is possible in the future,” says Lisa M. Dolling, dean of CAL.

Recognizing Donors in a New Circle

The IEEE Foundation has created a new donor recognition group to celebrate leadership level institutional donors (corporations, foundations and organizations). The IEEE Circle of Honor highlights the generosity of institutional donors that give cumulative cash and stock gifts totaling US$100,000 or more, calculated from 1 January 1998. Qualifying donors will be added to one of six giving levels, which are named for laws and operations commemorating electromagnetic phenomena that underpin all modern information and communication technologies. The categories are:

**Giving Level Level Name**

<table>
<thead>
<tr>
<th>Gift Range</th>
<th>Level Name</th>
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<tr>
<td>US$10,000,000 +</td>
<td>Coulomb</td>
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<tr>
<td>US$5,000,000 - US$9,999,999</td>
<td>Ampère</td>
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<tr>
<td>US$1,000,000 - US$4,999,999</td>
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<td>US$500,000 - US$999,999</td>
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<td>US$250,000 - US$499,999</td>
<td>Boole</td>
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<td>US$100,000 - US$249,999</td>
<td>Kirchhoff</td>
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IEEE Circle of Honor members receive a congratulatory letter, a plaque of membership, recognition in the annual print and electronic Honor Roll of Donors and on the IEEE Foundation’s “Wall of Honor.” The IEEE Circle of Honor membership term lasts five years. To retain membership beyond five years, the donor must make an additional gift(s) valued at US$10,000 or more within five years of joining the IEEE Circle of Honor.

The IEEE Development Office provides confidential information regarding the status of cumulative gifts, of cash, securities, pledge payments and alerts contributors when giving-milestones are reached.

**A Reason to Shop, and Smile**

AmazonSmile provides a simple and automatic way for you to support the IEEE Foundation while you are shopping online.

While you shop at smile.amazon.com, you’ll find the same Amazon.com products with an added bonus – the IEEE Foundation receives 0.5 percent of the purchase price.

Visit: http://smile.amazon.com to set up your IEEE Foundation/AmazonSmile account.
Empowering Young Minds

Memories Live On
Samantha DeLucia, who plans to study chemical engineering at the University of Delaware in Newark, DE, USA received a US$1,000 scholarship and is the 7th annual recipient of the IEEE Daniel J. Senese Memorial Scholarship. Made possible by donations from IEEE employees and volunteers, this scholarship is awarded to a senior from a Piscataway High School, Piscataway, NJ, USA who plans to major in a field of interest of IEEE. The honor was presented to DeLucia during the school’s Senior Awards Assembly right down the road from the IEEE Operations Center.

This scholarship was established as a tribute to former IEEE Executive Director Daniel J. Senese in honor of his interest in encouraging the study of science and technology.

Presidents’ Scholarship
Encouraging students and young professionals to advance their education, live their dreams and create a better future was Ken Laker’s vision when he conceived the IEEE Presidents’ Scholarship in 1999. The IEEE Presidents’ Scholarship recognizes a deserving undergraduate student for outstanding achievement in creating a project that demonstrates an understanding of electrical engineering, electronics engineering, computer science, or other IEEE field of interest during the annual Intel International Science and Engineering Fair. Recipients are awarded a US$10,000 scholarship, a plaque, certificate and free membership to IEEE during the scholarship term.

The 2014 scholarship winner, George David Morgan, is a 16-year-old high school student from Clovis, CA, USA. By the age of 7, he had designed his own portable Game Boy charger. At age 11, he coded a basic computer program and by 14, he was designing a game development right down the road from the IEEE Operations Center.

George is the 16th recipient of the IEEE Presidents’ Scholarship. Six of the past recipients are still pursuing their educations. Two have attained full IEEE membership status; one is an associate professor of physics at Princeton University, Princeton, NJ, USA and the other is a Senior Producer at Gurney Productions.

Help us to ensure this program continues so we may recognize the achievements of bright young minds, like George!

Empowering Student Leaders
Each year, IEEE-Eta Kappa Nu holds the IEEE-HKN Student Leadership Conference to offer our students the opportunity for professional development, career advancement and networking. To assure that many IEEE-HKN students are able to attend there is no registration fee. IEEE-HKN depends on donors and sponsors to offset these costs. In 2014, 64 donors gave in excess of US$5,000 to offset the cost of student attendance.

In March 2014, more than 100 students, Faculty Advisers and the IEEE-HKN Board of Governors attended the annual IEEE-HKN Student Leadership Conference hosted by the Nu Chapter at Iowa State University in Ames, Iowa, USA.

Klouda Scholarship
Inaugural Presentation
James C. Klouda (Jim) founded Elite Electronic Engineering Inc., in 1954. Jim maintained his membership in IEEE and the IEEE Electromagnetic Compatibility Society (EMC) for his entire career. When James Klouda passed away in 2012, his son Ray Klouda worked with EMC to create the IEEE James C. Klouda Memorial Scholarship Award. Ray seeded the dedicated Award Fund with a corporate gift to IEEE Foundation from Elite Electronic Engineering Inc. The undergraduate-level scholarship, awarded annually, memorializes Jim’s professional career in the field of electromagnetic compatibility.

Benjamin Toby was the first recipient of the Klouda Scholarship presented during the 2014 IEEE International Symposium on Electromagnetic Compatibility Awards Luncheon held in Raleigh, North Carolina, USA on 7 August.

IEEE Xtreme 8.0 Competition
IEEE Xtreme is a global challenge in which teams of IEEE Student members, supported by an IEEE Student Branch, advised and proctored by an IEEE member, compete in a 24-hour time span against each other to solve a set of programming problems. IEEE Foundation supported the IEEE Xtreme 8.0 Competition, a project of IEEE Student & Young Professional Program with a US$22,500 grant.

It was held 18 October 2014 and recognized some of the world’s top up-and-coming programmers.

The grand-prize winner was viRUs from Reykjavik University, Iceland. The second-place winner was WhySoConcrete from New York University, USA. The third-place winner was oops from University of Moratuwa, Sri Lanka.

DOUBLE YOUR IMPACT! An anonymous donor who believes in encouraging students and young professionals to advance their education, live their dreams and create a better future has issued a challenge to match donations dollar-for-dollar up to US$5,000 to the IEEE Presidents’ Scholarship Fund. To date generous donors have provided US$3,325 toward this challenge, which will be matched and ensure support of the program for many years to come.

Please help us meet the challenge! Make your gift online at www.ieee.org/donate today. Your donation must be received by 30 June to be doubled automatically. This is a great opportunity to double the impact of your donation! Together we can nourish and empower the next generation of engineers.
IEEE Foundation

As the philanthropic arm of IEEE, the IEEE Foundation is a leader in transforming lives through the power of technology and education. The IEEE Foundation enables IEEE programs that enhance technology access, literacy, and education; supports the IEEE professional community, and inspires the generosity of donors.

The IEEE Foundation is an organization qualified under U.S. Internal Revenue Code 501(c)(3). Charitable contributions to the IEEE Foundation are tax deductible to the fullest extent allowed by law in the United States. For other countries, please check with your local tax advisors.

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