

# FOCUS

*Transforming Lives Through Technology Together*

## President's Perspective



As I prepare to transition to past president of the IEEE Foundation, it is hard to believe how quickly five years have passed. My goal in 2012 when I became IEEE Foundation President was to develop a strategic philanthropic framework for IEEE. Together – volunteer leaders and staff from both the IEEE Foundation and the IEEE – we have made significant progress toward that goal and achieved many successes:

- 2012 - Embarked on a journey to build a culture of philanthropy in IEEE and commissioned a Philanthropic Capability Assessment to evaluate our operational capacity
- 2013 - Received the results of the Philanthropic Capability Assessment, resulting in the definition of a new

IEEE Foundation Vision and Mission focused on investing specifically in IEEE and creating a philanthropy framework based on industry best practices

- 2014 - Adopted our Envisioned Future by approving a BOLD investment in four IEEE Programs as the centerpiece of our philanthropic activities and reinventing the Grants Program with clear goals and focus on grassroots IEEE programs
- 2015 - Began executing our Envisioned Future to advance technology for the benefit of humanity through philanthropy
- 2016 - Designed and prepared to launch a comprehensive campaign initiative to sustain and grow existing IEEE programs, expand the reach of our philanthropy, and open new doors for both the IEEE Foundation and the IEEE

The joint commitment of IEEE and the IEEE Foundation to connecting the power of technology and education to the betterment of human condition has never been more evident. Working together will make our envisioned future a reality.

In this newsletter, I am excited to share that the IEEE programs supported through the IEEE Foundation have been equally productive. You will find the latest news from our Grants Program (pgs. 2-4), EPICS in IEEE and IEEE

Smart Village (p. 5), IEEE Power & Energy Scholarship Plus Initiative and support for students and young professionals (pgs. 6-7), IEEE History Center and its REACH program (p. 8), and the IEEE Awards program (p. 9).

While much has been accomplished, the IEEE Foundation has only just begun to realize the full power and impact of our potential. Your support has and will ensure the deployment of the sharpest minds and most capable hands to solve the challenges of today and tomorrow. It takes a collective effort to make an association like ours viable, and I thank our donors, volunteers, and professional staff for making this work possible.

Serving as the IEEE Foundation President has been an honor, a joy, and an experience that I will always cherish. I am grateful to have been afforded the opportunity to serve you, IEEE, the profession and the world! Together, we can and do transform lives through the power of technology, education and philanthropy.

Respectfully,

A handwritten signature in black ink that reads "Leah H. Jamieson".

Leah H. Jamieson  
IEEE Foundation President

# Local Partnership Wins IEEE Foundation Grant to Support STEM Education

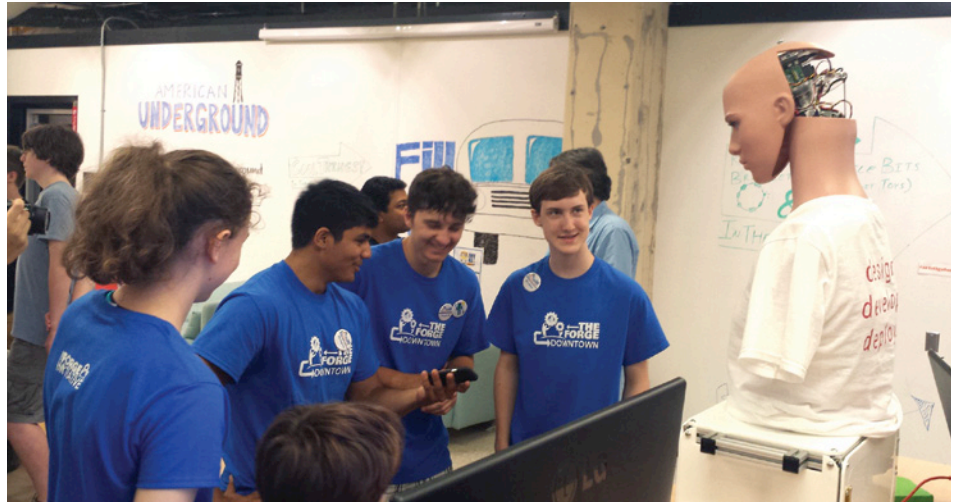
By Daniel McDonald, IEEE Senior Member

For nearly a century, science fiction writers have imagined a future in which robots, indistinguishable from humans, interact and function in normal human societies.

For thousands of students across North Carolina, that future is now. The IEEE Eastern North Carolina Section has been awarded an IEEE Foundation Grant to advance STEM Education through the use of humanoid robotics. The grant, titled "STEM Outreach Using Student-Built Humanoid Robots," will help fund a year-long mentoring and outreach program designed to bring cutting-edge robotics technologies to students and families across North Carolina.

Funding from the grant will support a partnership between the IEEE Eastern North Carolina Section and The Forge Initiative, a STEM education nonprofit based out of Cary, NC, USA. Volunteer mentors from the two organizations will work with middle and high school students to assemble and customize humanoid robots based on an existing prototype. Students will also learn to present the robots at STEM outreach events across North Carolina, providing opportunities for at least 4,000 people to interact with the robots.

The existing prototype, nicknamed Ken, was developed by the IEEE Eastern North Carolina Section Robotics and Automation Chapter as part of a challenge to build a robot "indistinguishable from a human." Ken made his official debut in March 2015 at the IEEE North Carolina RoboResearch Seminar, and has been delighting adults and children alike ever since. According to Project Director Grayson Randall, "It is wonderful to see how excited students get when engaged in spontaneous natural-language discussion with a robot. You can see their interest growing with every word. We hoped to expand this program dramatically to en-



Students from The Forge Initiative interact with Ken during an outreach event. Photo courtesy of Grayson Randall.

courage more interest in STEM careers. We just needed the perfect partner."

The Forge Initiative is that partner. Linda Whipker, President of The Forge Initiative, stated, "Our mission is to focus on youth development and leadership through hands-on STE(Art)M education and community engagement.

Working with the IEEE will allow us to add another dimension to our offerings." Together, the IEEE and The Forge Initiative will help the future engineers of North Carolina bring about the future of robotics.

For outreach inquiries, contact [humanoidrobots@theforgeinitiative.org](mailto:humanoidrobots@theforgeinitiative.org)



IEEE Presidents past, future and present: Howard Michel, Karen Bartelson and Barry Shoop visited the IEEE USA MOVE truck. The MOVE stands for "Mobile Outreach Vehicle" and is sponsored by IEEE-USA with funding from the IEEE Foundation. MOVE volunteers take the vehicle to communities hit by natural disasters to provide short-term communications and power solutions until services can be restored. When not deployed, volunteers bring the truck to events to promote STEM and raise awareness of the social impact of advanced technologies. This community outreach project, launched in March, was deployed for disaster-relief for the first time in July to areas near Charleston, WV, USA that were ravaged by rains and flooding. In August, MOVE supported Hurricane Hermine relief operations in Wilmington, NC, USA. In October, MOVE was deployed to areas in FL and NC, USA after hurricane Matthew. Follow the MOVE truck: [Facebook.com/ieeusamove](https://www.facebook.com/ieeusamove). Donate to MOVE: [IEEefoundation.org/MOVE](https://www.ieeefoundation.org/MOVE)



# Partnerships for Tomorrow

## IEEE and Core Element Propel Student Interest and Achievement in STEM

Students across the country are learning to tackle the challenges of the future. And with support from the IEEE Foundation, students in New Orleans, LA, USA are preparing for a bright future in STEM during weeklong Hands On Summer STEM Camps hosted by Core Element, a local nonprofit organization that promotes quality teaching in STEM.

IEEE-USA President Dr. Peter Eckstein and IEEE Foundation Senior Manager of Communications Karen Kaufman recently visited the camp for a first-hand look at how IEEE's partnership is promoting student interest and success in STEM and shaping young lives.

Core Element just completed its third year of the popular hands-on STEM camp sessions. The interactive camps pair students and teachers who work side-by-side as they explore robotics skills. A three-year IEEE Foundation grant made it possible for Core Element to purchase and supply the computers and

classroom resources needed to conduct the interactive camps.

"STEM skills positively impact all areas of learning," says Jan Brenan, Executive Director of Core Element. "It is important for students to understand why STEM subjects are important and become engaged in the learning process. To be effective in the classroom, teachers need to involve students in STEM activities that are fun and interesting. We are proud to offer this unique camp experience made possible because of our partnership with IEEE."

"It has been extremely gratifying and inspirational to see how these students are building on the resources made possible by IEEE Foundation and its donors," said Dr. Eckstein. "It confirms how critical these partnerships are for shaping students, growing their skills through innovative thinking and problem-solving, and encouraging a future generation of scientists and engineers."

To learn more about Core Element, visit [www.core4kids.org](http://www.core4kids.org).



*Anthony Rhodes, age 13, was introduced to robotics and computer programming when he attended the Core Element Arduino camp last summer. Thanks to IEEE's partnership, Anthony and his fellow campers each took home their own Arduino. Armed with his Arduino and the programming skills he learned at camp, the 8th grader produced a state award-winning science fair project and was recently awarded a \$1,000 project grant and \$10,000 Maker Space Award for a community organization of his choice. For Anthony and many other talented students, IEEE's partnership with Core Element has opened new vistas for their bright futures. Photo credit: Jeff Strout*



*Core Element Advanced STEM Campers, grades 6-9, wear orange shirts while the STEM Camp Counselors from the First Robotics Team of Destrehan High School, LA, USA don yellow shirts. Jan Brenan is on the left in blue next to Karen Kaufman. Peter A. Eckstein stands on the right. In the front row, second from left, is Sheila Caitlain, Middle School Teacher from Lake Providence, LA, USA and in the blue shirt on the right is Brian Young, Instructor and Coach of the Destrehan High School First Robotics Team. Photo credit: Jeff Strout*

## Grants Submission Deadlines

The IEEE Foundation has one grants cycle each year. The 2016 grant cycle is closed. 2016 funding decisions will be announced during December 2016.

2017 cycle will be announced. Check [ieeefoundation.org/Grants](http://ieeefoundation.org/Grants) for specific dates, theme and guidelines.



**IEEE SSIT Global Video Contest**



**Global Video Contest on Techno-Social Issues**

SSIT Chapter, IEEE Kerala Section, invites submissions to the Global Video Contest that it is organizing. The contest is supported by IEEE Foundation, and aims to highlight techno-social issues, particularly the use of technology to solve real-life problems in any of the following domains:

- ✓ Alternative Energy;
- ✓ Enhancing quality of life of the differently abled;
- ✓ Cybersecurity;
- ✓ Net Neutrality;
- ✓ Enhancing education;
- ✓ Disaster Risk Reduction;
- ✓ Environment Protection;
- ✓ Improving Health;
- ✓ Climate Change;
- ✓ Poverty alleviation & Livelihood Enhancement;
- ✓ Global Human Development.

**First round Deadline - July 15**

**Selection to second round - July 30**

**Final Evaluation - September 15**

The contest shall take place in **two rounds**: Preliminary and Final. Videos that are shortlisted in the first round shall advance to the second round.

For the Preliminary Round, a prize money of **Rs. 15,000** each shall be awarded to up to the top ten submissions, and **Rs. 5,000** each for up to ten runners up.

**Submit your entries!**

Rules and more info at : [www.ieeekerala.org/ssit-video-contest/](http://www.ieeekerala.org/ssit-video-contest/)  
Mail us at : [ssit@ieeekerala.org](mailto:ssit@ieeekerala.org)



**IEEE Kerala Section**  
Supported by:  
**IEEE Foundation**



**IEEE**  
Advancing Technology for Humanity

# Highlighting Issues through Video

## IEEE Kerala SSIT Chapter focuses on Techno-Social Issues

A US\$12,000 grant from the IEEE Foundation to the IEEE Kerala SSIT Chapter (Society on Social Implications of Technology) supported a global video contest - Videos - Raise Awareness of Techno-Social Issues. The project encourages, collects and shares short videos that people can view, share, comment on, and improve through social media and mobile phones. Its focus is on techno-social issues, particularly the use of technology to solve problems in any of the following areas: renewable energy use, cyber security and child safety, Net neutrality, Internet governance, environment & ecology, ethics and technology, women in STEM (particularly Engineering), and improving quality of technical education.

The contest is composed of two rounds. In the Preliminary Round, prize money of US\$200 was awarded the top 10 submissions, and US\$70 each was awarded to the runners up. The videos advanced into the Final Round, may be funded up to an additional US\$200 for implementing suggestions from the Jury for improving the final version.

The winning videos will be disseminated through the IEEE media in India and on social media around the world. Particular target groups include youth, school & college students, and teachers. Final decisions can be viewed here: [ieeekerala.org/ssit-video-contest](http://ieeekerala.org/ssit-video-contest).

## Your love for IEEE is second nature.

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**IEEE Foundation**

You will receive an annual tax receipt summary and you can stop or adjust your gift at any time by calling +1 732 465 5871. As always, you can visit [ieee.org/donate](http://ieee.org/donate) and select "recurring gifts" to set up your gift.





# EPICS in IEEE

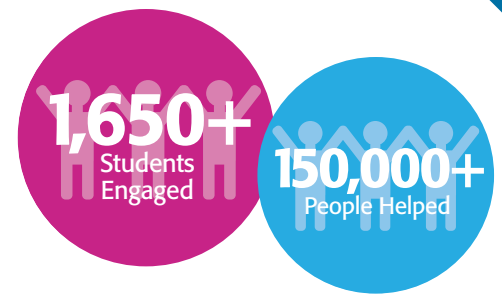
## My Volunteer Work has Improved the Human Condition in Africa

By Lwanga Herbert, EPICS in IEEE Volunteer

As a child in Kampala, Uganda, I was committed to finding innovative tools and concepts that would help to solve the challenges my community faced. When I learned about Neil Armstrong, I was inspired by his commitment to learning and understanding our universe. While Armstrong's determination led him to become the first to land and step on the moon, my determination led me to the field of Electrical Engineering. Through studying electrical engineering, I learned how technology has the potential to make an incredible impact on Africa and the rest of the world. EPICS in IEEE has given me the opportunity to help make this impact.

### EPICS in IEEE

Through EPICS in IEEE, I've worked on projects that are making a difference in my community. These projects have helped to decrease lightning-caused deaths, develop an alternative energy-based solution to boost the consumption of solar power, and bring technology and computing concepts to students. Working on EPICS in IEEE projects has helped me to learn and grow as person and worker. The EPICS program has not only helped me to advance my technological, managerial and interpersonal skills, but has also showed me the importance of exposing young children to innovative



technology as a way of inspiring them to become engineers and technologists. By exposing young children to innovative technology, there is the potential to promote community-wide development. Students studying engineering and technology are the drivers of livelihoods in the 21st century. Through learning, working and volunteering, they have the opportunity to create jobs and opportunities for others, and to make a difference in their local communities. With help from EPICS in IEEE, I hope to spread this lesson as well as find solutions to the challenges facing communities.

**Learn more:** <http://epics.ieee.org>

# IEEE Smart Village

## Helping to Light up Phugtal Monastery

By Varun Mehra Student Volunteer

This June, I had the opportunity to travel with IEEE Smart Village and the Global Himalayan Expedition (GHE) to Zaskar Valley in the mountainous region of Ladakh, India. As a Graduate Fellow with the Tata Center for Technology and Design at the Massachusetts Institute of Technology (MIT), a key part of my research is analyzing and modeling the potential for smart solar micro-grids for rural electrification. On this journey, I saw it in action.

Made up of people who had self-selected to make an impact, the group was comprised of 18 brave souls from 13 countries, all with various backgrounds and stories to tell.

The journey to the Phugtal Monastery was grueling: it involved a two-day bus ride, a day of biking, and a day and a half of trekking. The Ladakhis warmly



greeted us at every stop, welcoming us with tea and the young children were eager to meet new friends from abroad. As we approached the Phugtal Monastery, hiking single-file on the winding mountain road, I had to pinch myself to be sure I wasn't on a movie set. The scenery was dreamlike: the fluttering prayer flags atop a windy mountain pass, the marmots and wild horses grazing alongside glacier water streams, the canopy of the stars framed by the jagged mountain peaks.

After greeting the lamas (Buddhist monks), we saw the Phugtal monastery,



built in the 12th century around a natural cave seemingly hanging like a picture frame on a nearly vertical face of the mountain.

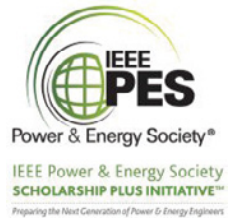
With headlamps affixed and paper in hand, we spent the rest of the day interacting with the lamas and discussing how many and where lights were needed. Given the vertical nature of the monastery, we were forced to be detail-oriented when wiring all the lighting loads together; we also had to figure out how to nail in the lighting fixtures on the mud and

*Continued on page 11*

# The Impact the PES Scholarship Had On Me

## IEEE Power & Energy Scholarship Plus Initiative

By Matthew Cato, Washington State University



Being named a PES Scholar and recognized as a Schweitzer Meritorious Scholar for two years has had a tremendous impact on my life, both financially and professionally. The scholarship reduced my financial burden, allowing me to focus on my studies. I have been able to designate time to school and to successfully run for an officer position within Washington State University's IEEE Branch.

The exciting and most unique part of this scholarship is the mentoring that recipients receive. I gained access to amazing mentors who have allowed me to network within Schweitzer Engineering Laboratories (SEL). SEL, a leader in the power protection industry, allowed me to gain insight into various aspects of power engineering from some of the best minds in the field. The connections I made were crucial in my obtaining a position with SEL in R&D as a research power engineer intern, where I worked for one year.

As graduation approached, I was on the lookout for a fulltime position. Greatly impressed with SEL, I could not think of a better place to apply. A position as an associate protection engineer opened,

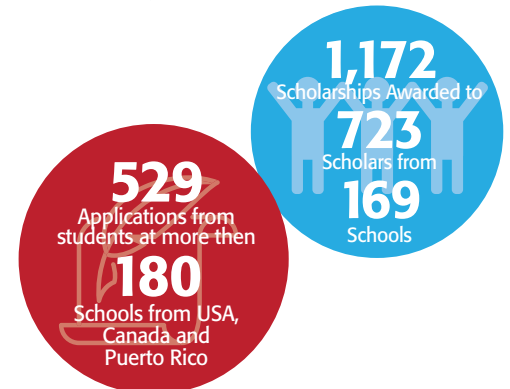


and I jumped at the opportunity. With the experience gained interning at SEL, I was able to get the job.

Now I have a dream job with an outstanding company, and I could not be more thankful. I have witnessed the impact this field has on society, as well as the endless professional possibilities it can provide. I am truly grateful for all of the benefits I have gained through this scholarship and would like to thank all who support this amazing program!

**Learn more:** [ee-scholarship.org](http://ee-scholarship.org)

*Director of SEL University Jackie Peer, Matt's Mentor at SEL, and Matt Cato.*



## High School Student Designs Self-Cooling Solar Cell

There's a bright future ahead for a recent Texas high school graduate after designing a new kind of silicon photovoltaic solar-power system.

Tiasha Joardar, a 17-year-old, presented her "High-Efficiency Solar Cell Using Adaptive Self-Cooling" project at the annual Intel International Science and Engineering Fair, held in May in Phoenix, AZ, USA. Her invention earned her three awards plus the US\$10,000 IEEE Presidents' Scholarship.

Joardar plans to attend the University of Texas at Austin.

Administered by IEEE Educational Activities, the annual Presidents' Scholarship is given by the IEEE Foundation to a high school student who creates a project that demonstrates an understanding of electrical or electronics engineering, computer science, or another IEEE area of interest. The US\$10,000 award, payable over four years of undergraduate study, includes complimentary IEEE student and student society membership during the four years of college. The winning student also receives a certificate and a plaque.







## 2016 IEEE-HKN Student Leadership Conference

The 2016 IEEE-HKN Student Leadership Conference (SLC) hosted by the Beta Epsilon Chapter was held on 1-3 April, at the University of Michigan, Ann Arbor, MI, USA. The Conference is hosted by IEEE-Eta Kappa Nu (IEEE-HKN), the honor society of IEEE, that is dedicated to encouraging and recognizing individual excellence in education and meritorious work, in professional practice, and in any of the areas within the IEEE-designated fields of interest. More than 50 Chapters from 8 countries attended the conference with a total attendance of more than 250. The conference includes opportunities for professional development,

leadership training and networking with officers, members, faculty advisers, members of the Board of Governors and staff.

The experience is empowering, this is what our students say about the SLC: *"IEEE-HKN has helped me meet and network with electrical engineering students, professors, and partners in industries across the globe - and I will have these connections for life."*

*"IEEE-HKN has given me an excellent support group and has helped me learn about diverse cultures through social events, volunteering and outreach. Thank you for your support!"*

*"IEEE-HKN has provided many of my colleagues and me the opportunity to build character, leadership skills and professional contact lists."*

Donate to the IEEE Foundation and support the scholarships, fellowships and grants that enable our future leaders to follow their dreams and create a better future. There is nothing more energizing than empowering young minds—the students and young professionals who will make a tangible difference in our world. [ieeefoundation.org/donate](http://ieeefoundation.org/donate)

## Washington Internships for Students of Engineering (WISE)



Washington Internships for Students of Engineering (WISE) has connected engineers and scientists with public policy since 1980.

Each year, IEEE selects three outstanding engineering student members to participate in the nine-week WISE program in Washington, D.C., USA. Students discover how government officials make decisions on complex technological issues, while also learning how engineers and scientists can contribute to legislative process and regulatory decision-making.

Pictured here are the three 2016 WISE interns, Logan DiTullo, Jen Madary and Michael Crenshaw.

The WISE Program is ranked as one of the best Internship opportunities in the USA by the *Princeton Review*.

IEEE-USA, IEEE Life Members, and IEEE Technical Activities Board collectively support IEEE's participation in the annual WISE program.

**Learn more:** [wise-intern.org](http://wise-intern.org)

# A First Look at IEEE History Center's REACH

## High school students learn about early maritime navigation

By Kelly McKenna, IEEE REACH Program Coordinator

Excitement and intrigue filled two classrooms at Manalapan High School, NJ, USA in June as students learned about early maritime navigation tools through a pilot program of REACH (Raising Engineering Awareness Through the Conduit of History).

REACH provides teachers with access to free educational enrichment resources to interest their students in the technological achievements which change our world. Understanding that technology and history are not mutually exclusive subjects, REACH delves into the relationship between the two and explains the history of technology and the role of engineers. REACH is managed by the IEEE History Center.

The pilot program included the creation of resources such as hands-on activities, videos and background information on maritime navigation technologies and their impact on society, economics, culture and politics. Manalapan history



*History teacher James Somma introduces his class to navigation without technology as they attempt to cross the yard in the dark following a compass. This hands-on activity is part of the Early Maritime Navigation module which was recently piloted in Manalapan High School.*

teachers Brian Sullivan and James Somma used the REACH resources to show students how the desire to navigate the sea drove both science and engineering, and how advancements in navigational technology helped countries attain social



preeminence by increasing their capacity for trade.

The students participating in the REACH pilot gained a richer understanding of the relationships between technology and history. Student Veronica Feather said, "If society needs to advance, it will ask something of technology and science."

History teacher James Somma said, "The resources that REACH provided made it easier to design a cross-curricular lesson that students found enjoyable. Although the resources and activities will aid teachers, the true value was in the student outcomes. Students deepened their understanding by making connections between the past and engineering. These connections help create well-rounded students who can apply skill sets across different content areas."

The teaching tools will be available for free on the IEEE REACH Web site, which is in development.

## Donor Generosity Honored

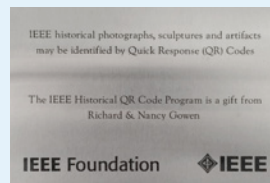


Richard (Dick) and Nancy Gowen have a long history of service and generosity to IEEE and the IEEE Foundation. They are members of the **IEEE Heritage Circle** for their cumulative gifts to the Foundation and the **IEEE Goldsmith Legacy League** for including IEEE in the estate plans.

In 2015, Dick and Nancy made a multi-year pledge to the IEEE History Center Fund of the IEEE Foundation to enable the addition of Quick Response (QR) Codes to the photographs, busts and artifacts in multiple IEEE locations and to support the History Center's overall operations.

The QR Codes bring together the physical historical artifacts with the virtual world. By scanning the codes, volunteers, visitors and staff will gain immediate access to articles on the Engineering and Technology History Wiki ([www.ethw.org](http://www.ethw.org)), where they will learn about the person, place or technology depicted.

A plaque acknowledging the Gowen's generosity is located on the conference level of the IEEE Operations Center, Piscataway, NJ, USA.



## The Electrification of NYC Trains Honored



Frank Julian Sprague (1857–1934) will always be remembered for the design and construction of Grand Central Terminal and the electrification of the railroads connecting the city to the world outside. IEEE Life Member John Sprague, the grandson of Frank J Sprague was present when this bronze plaque was presented at the Milestone dedication on 15 June.



# Igniting the Future



*IEEE Foundation Director David Green, Bobbi Terman, 2008 IEEE President Lewis M. Terman, IEEE Fellow Michelle Effros, and IEEE Foundation Executive Director Karen Galuchie.*



*G. David Forney Jr., recipient of this year's IEEE Medal of Honor, is a key figure in the development of the high-speed modem, a device that opened up the Internet and all its associated world-changing technologies. **Learn more:** [ethw.org/Oral-History:G\\_David\\_Forney](http://ethw.org/Oral-History:G_David_Forney)*

The IEEE Honors Ceremony is IEEE's premier awards event which recognizes technical professionals in a wide variety of disciplines, for exceptional achievements and outstanding contributions that have made a lasting impact on technology, society, and the engineering profession.

On 18 June, 2016, IEEE recognized more than 20 innovators, educators, and technical professionals who are leaders in artificial intelligence, engineering education, information theory, wireless communications, and other fields during the annual IEEE Honors Ceremony at Gotham Hall in New York, NY, USA.

The evening's theme, Igniting the Future, paid tribute to this year's recipients, the innovators who came before them, and those who will undoubtedly be next. IEEE President Barry Shoop said in his opening remarks, "Just as the accomplishments of



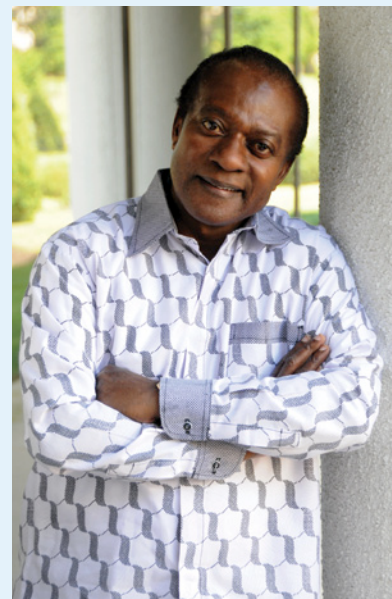
*Moshe Kam, recipient of the IEEE Haraden Pratt Award is congratulated by IEEE Foundation President Leah Jamieson. **Learn more:** [ethw.org/Moshe\\_Kam](http://ethw.org/Moshe_Kam)*

past giants sparked tonight's recipients to achieve great things, the work of our honorees will ignite the desire within future engineers and educators to build upon and improve these achievements with innovations of their own." Shoop and 2016 IEEE President-Elect Karen Bartleson were the masters of ceremony.

Among those honored was IEEE Life Fellow G. David Forney Jr. recipient of this year's IEEE Medal of Honor for his contributions to realizing reliable high-speed data communications. Sponsored by the IEEE Foundation, the medal is IEEE's highest award.

IEEE Fellow Moshe Kam, 2011 IEEE president, received the IEEE Haraden Pratt Award, sponsored by the IEEE Foundation, "for original and high-impact contributions to IEEE's Educational Activities, expanding IEEE's global reach and effectiveness."

## Foundation Director Honored



IEEE Foundation Director Victor B. Lawrence joined a distinguished group of men and women whose technological innovations have made a significant impact on the world. On 5 May he was inducted into the National Inventors Hall of Fame joining pioneers like Thomas Edison and Nikola Tesla.

"I was so humbled when I found out. I did not believe it, because this is such a great honor," Victor said. An electrical engineer who spent most of his career at Bell Laboratories, Victor's work made possible the modern Internet we know today. His invention of signal processing in telecommunications improved Internet transmission, made high-speed connections more widely available, and enabled the spread of the Web globally. "You can find my work in communications in DSL, in phones, in EKG machines in medicine - it infiltrates all aspects of our lives," he said.

**Learn more:** [ethw.org/Victor\\_B\\_Lawrence](http://ethw.org/Victor_B_Lawrence)

# Planning Comes in All Shapes and Sizes

By Stan H. Retif, IEEE Foundation Chief Development Officer



Most of us engage in planning on a regular basis. We plan visits to the doctor and the dentist to make sure we are in good health. We plan regular walks for our pets to ensure that they are getting proper exercise. We even plan oil changes and preventive maintenance for our vehicles to make certain that they continue to operate efficiently.

This approach makes perfect sense. By planning properly today, we are better able to realize the results we want tomorrow.

On a recent visit to Chicago, I had an opportunity to visit with John Mueller, Chairman & CEO of G&W, a strong supporter of the PES Scholarship+ Initiative. During a tour of their impressive facility, John pointed out a piece of equipment that he credited with keeping some of the only electricity flowing in New Orleans in the aftermath of Hurricane Katrina. He explained that the planning for the use of this equipment anticipated that it would routinely be under three feet of water.

As John said, 'another 6 or 7 feet wasn't going to make much difference'.

That would have been a great story for anyone to hear. For me, a native New Orleansian, it particularly hit home. I was immediately grateful for the planning and efforts that G&W had expended which ultimately helped so many from my hometown.

Planning is just as important in our personal lives. The one area in which planning tends to get overlooked is in regard to our estates. Most of us spend a lifetime accumulating things – some precious, some merely sentimental. Yet many people are negligent when it comes to the most basic planning to determine how our respective estates will be handled once we are no longer on the scene.

Horror stories abound about well-intentioned folks whose estate distribution is left to some governmental entity simply because they never found the time to make a plan. Though Abraham Lincoln, Pablo Picasso and Jimi Hendrix would not seem to have a great deal in common, all died intestate, or without a will. Now might be a good time to reach out to your legal and financial advisors to determine your own plan. Should you have questions about how you might include IEEE in your estate planning, OR if you've already done so, please contact Stan Retif of the IEEE Foundation at [s.retif@ieee.org](mailto:s.retif@ieee.org).

## Staff Leadership Award Goes to IEEE Foundation Executive Director



Congratulations to IEEE Foundation Executive Director Karen Galuchie for receiving the 2016 IEEE Eric Herz Outstanding Staff Member Award. This prestigious award, sponsored by IEEE, recognizes a full-time IEEE staff member with at least ten years of service "for exceptional staff leadership and for support and service to IEEE volunteers in achieving the philanthropic objectives of the IEEE and the IEEE Foundation." Karen will be recognized at the IEEE Board Series luncheon on 18 November.

Karen has generously chosen to employ the cash prize associated with the award to challenge others to donate to the IEEE Foundation. With this matching gift challenge, Karen hopes that fellow IEEE employees will join her in bringing the promise of technology - and the knowledge to use it to individuals and communities all over the world by making a gift to the IEEE Foundation.

## Transformation Through Renewal

Your fellow IEEE Members and you are transforming lives. IEEE Members around the world, like you, are imagining, innovating and solving problems. Thanks to your involvement, IEEE is uniquely capable of addressing the technical and scientific challenges of today and tomorrow.

As you renew your IEEE membership, consider supporting the IEEE Foundation with a charitable contribution. A gift can be easily made during the renewal process. Making a contribution during your membership renewal is the most efficient way to invest in yourself and the future of your profession.

Your support of the IEEE Foundation ensures that IEEE is able to deploy the sharpest minds and most capable hands to solve the greatest challenges of our time. Only with your help can the IEEE Foundation ensure that IEEE is able to improve the human condition through technology, preserve and promote our technical heritage, and empower the bright minds of tomorrow.

Put your donation to work today by making a donation on our secure online giving page: [ieee.org/donate](http://ieee.org/donate)



# Can You Change the World in One Day?



Last year, the IEEE Foundation joined our Sister Engineering Societies to attempt to answer that question. On Giving Tuesday 2015, engineers of all disciplines around the world came together and raised more than US\$73,000 in a single day. Donors, like you, supported the IEEE Foundation by contributing more than US\$28,000.

So, did we change the world? Not yet, but we're getting there. Little by little, each year, we are able to transform more lives. We won't stop now.

On Tuesday, 29 November 2016 the IEEE Foundation will celebrate Giving Tuesday and see if we can change the world a little more. We will again be partnering with engineers around the world through our Sister Engineering Societies – the American Society of Civil Engineers (ASCE) Foundation, American Institute of Chemical Engineers (AIChE), and American Society of Mechanical Engineers (ASME) Foundation.

Will we change the world this year? Only with your help.

Join us in Engineering a Better World on 29 November!

**Learn More:**

[www.IEEEFoundation.org/GivingTuesday](http://www.IEEEFoundation.org/GivingTuesday)

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## IEEE Smart Village

### Helping to Light up Phugtal Monastery

wood structures. The difference we were about to make was clear: many of the ceilings in the monastery's rooms were charred black, stained by generations of smoke from burning kerosene lamps. The monks were very interested in how clean power would change their lives.

The next day, we went right to work: we installed seven modular micro-grids, each with a 250W solar panel, and 2x100 Ah lead-acid batteries. GHE had designed its own charge controller and voltage regulator which had the ability to adjust the power to and from the batteries as needed, maintain the network voltage, and distribute power to the lighting loads. Each of these individual, DC micro-grids had the ability to serve roughly 30x3W LED's and a 20W street lamp.

With so many lights to be installed, wires to be laid, and connections to be made, I enlisted the eager lamas to help. Their willingness to learn and lend their newfound abilities was much needed and appreciated.

On the third evening, all 257 lights, 7 solar panels, and 14 batteries were in place and tested. As we gathered in the main prayer hall with all the lamas of the monastery, we powered up each micro-grid one at a time. I'll never forget that moment watching the dangling bulbs overhead light up for the first time.

I researched the design and operation of micro-grids as a graduate student, but I have always known that there is more to micro-grids than just numbers and models. GHE and IEEE Smart Village showed a unique perspective on what it really takes to make micro-grids sustainable and practical. In addition to the technology itself, their holistic approach involves local elected officials and requires working hand-in-hand with local residents to understand their lifestyles and needs. I will always be thankful for this experience of a lifetime.

**Learn More:**

<http://ieee-smart-village.org>



# 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 improve access to technology, enhance technological literacy, and support technical education and the professional community.

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