

FOCUS

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ILLUMINATE



EDUCATE



ENGAGE



ENERGIZE

Girls Make Tech with Heart



The clouds cleared right on time in Thousand Oaks, California on 9 October 2021, as 114 middle school age girls and 50 parents arrived for the IEEE Buenaventura Section's **Girls Make Tech with Heart** workshops and parents conference, an initiative sponsored by the IEEE Life Members Fund of the IEEE Foundation and taking place at the La Reina High School and Middle School. The planning had been done over several months through multiple virtual WebEx sessions. This was the first time in more than 18 months that the 35 volunteers, IEEE officers of the nine Buenaventura Chapters, and local educators reunited face-to-face to create an extraordinary experience for the girls and their families.

"Our event attracted families from 29 different middle schools in Ventura County. All the girls were between the ages of 10 and 13," explains Deron Johnson, IEEE Senior Member and the project manager of the event. The theme of the event was sustainability engineering. Gathered in the gym, the girls chose from a menu of exciting workshops: e.g., *Sun Loving Robot* that uses recycled cans or bottles to create solar-powered vehicles; *Smart House*, an application of Snap Electronics to teach the concepts of sensors, illumination, and power usage; *The Helping Hand*, the build of a robotic arm and its control unit; *Rainbow Chemistry*, an introduction to chemical interactions, their side effects, and how to measure them; *Much More than Numbers*, the discovery of the way

numbers reveal themselves and the equilibrium of nature; and *Talking to the World*, a ham radio and radio wave introduction powered by solar energy. With no more than six students per mentor, each girl was able to get plenty of attention and guidance.

"I really enjoyed speaking to parents about the rich set of resources from IEEE's TryEngineering portal to engage and inspire their daughters to become the engineers of tomorrow", shares Dr. S.K. Ramesh, IEEE Fellow. The dual track allowed for messages about the profession of engineering for women and conversations about sustainable engineering as a mission-driven application of the profession. Parents engaged in hands-on workshops and in conversations about knowledge acquisition. Doug Askegard, IEEE Life Senior Member reported, "parents were intrigued, learning how Executive Functions in the student brain aid in, or delay, the learning process", and Nathalie Gosset, IEEE Senior Member and organizer of the parents' program, shared some of the latest research about brain development in young teens. IEEE's mission and the power of engineering to make a difference for humanity has never been more relevant. It was a day to fuel the mind with the belief that these 114 girls will "Engineer the Future" and lead the way to create a diverse, equitable, inclusive, and sustainable world for all. ■



Sun Loving Robot workshop uses recycled CDs, cans or bottles to create solar powered vehicles.



The Snap Electronics workshop explores different forms of light illumination including fiber optics.

Bob Dent – NJ’s 2021 Outstanding Philanthropist



You don’t need to be a millionaire to be a philanthropist. Many philanthropists are working-class people with a passion for charitable causes. Bob Dent, who had a 40-year career in the power industry, is one of those individuals.



The IEEE Life Senior Member has donated to many causes, including the IEEE History Center, IEEE Smart Village, and IEEE REACH.



Dent is a member of the **IEEE Heritage Circle** and the **IEEE Goldsmith Legacy League**. The Heritage Circle acknowledges members who have pledged more than US \$10,000 to support IEEE programs. Legacy League members have pledged money to the IEEE Foundation through a bequest in their will, trust, life insurance policy, or retirement plan.

For his generosity, Dent received New Jersey Outstanding Philanthropist Award this year from the state’s chapter of the Association of Fundraising Professionals. The award recognizes achievements of citizens and organizations dedicated to making New Jersey a better place. “What better way to help the organizations that you think should live on,” Dent says about his decision to set aside money from his estate to support the IEEE Foundation. He had a long career in the power industry before he joined the staff of IEEE. He retired in 2007, and now he volunteers for the organization.

FROM UTILITIES TO IEEE

When Dent was a youngster, he knew he wanted to work with numbers. His father, who sparked his passion, was an accountant. It was a neighbor, however, who introduced him to electrical engineering. “I thought that it was a good way to merge science and math,” he says. Dent attended Stevens Institute of Technology in Hoboken, N.J., where in 1966 he earned a bachelor’s degree in engineering. When he was a senior, he joined the school’s IEEE student branch. He says he and one of his fraternity brothers were looking to spruce up their



Robert A. “Bob” Dent - Association of Fundraising Professionals NJ Outstanding Philanthropist

résumés and thought that listing IEEE would help them get job interviews.

He landed a position with United Illuminating, an investor-owned utility

in Connecticut, now part of Avangrid. He worked there for three years and says he “got a real good taste of what electric utility work and working in an engineering department would be like.”

He moved to New York City in 1969 and worked for Gibbs and Hill Engineering, a construction and consulting firm. While there, he earned a master’s degree in computer science in 1976 from Pratt Institute. Dent worked for the company for eight years.

In 1977 he joined the New York Power Authority’s engineering department in Manhattan. In 1983 the department moved north to White Plains. He decided to get a second master’s degree—this time in electrical engineering—at the Polytechnic Institute of New York, now the New York University Tandon School of Engineering, in Brooklyn. After earning that degree, he stayed on to earn a master’s degree in management, which he received in 1987.

In 2002 an opportunity to work for IEEE opened up. Dent joined the organization as executive director of the IEEE Power & Energy Society (PES). He says it was the capstone of his career.

VOLUNTEER WORK

Dent’s volunteerism started when he joined the IEEE PES New York Chapter. He became its chair in 1983 and six years later became chair of the IEEE New York Section.

In 1990 he was appointed chair of the IEEE PES publications committee and held that position for two years. He continued to move up the volunteer ladder, eventually becoming president of IEEE PES in 1996.

He says that after his term ended in 1997, he thought he was done with leadership positions in the organization. Then a friend

asked him to run for vice president of IEEE Technical Activities, one-year term he held in 2000.

“I kind of dropped out of volunteer work from 2002 to 2007, but got back into it after I retired,” he says. In 2012 he became chair of the IEEE PES history committee, and five years later was appointed chair of the IEEE Milestone subcommittee.

He was elected the 2019–2020 president of the IEEE Society on Social Implications of Technology and simultaneously served as a member-at-large for the IEEE Technology and Engineering Management Society.

“I was always happy to get involved,” he says.

GIVING BACK

Dent’s first philanthropic contribution was to the IEEE History Committee. He says the committee attracted him because it documents the history of technology and the history of IEEE.

“I think they do a lot of good,” he says.

He donates to IEEE Smart Village, a program that brings electricity—as well as educational and employment opportunities—to remote communities. Smart Village is one of the donor-supported priority initiatives of the IEEE Foundation. When Dent first heard about the program, he said, he felt that it had a noble purpose.

He started donating to IEEE REACH after he learned it helped teachers create lesson plans for middle school and high school students so they could understand electrical engineering and how technology works.

Dent also gives to IEEE Eta Kappa Nu, IEEE SSIT, and a few non-IEEE programs including the New York Botanical Garden and Stevens Tech, his alma mater.

“Bob is a champion in providing funding opportunities in avenues of monthly giving, matching gifts, leadership giving, and planned giving,” says the nominator for the Excellence in Philanthropy Award. “Bob gives back in so many different ways—both to New Jersey and globally—through his support of the IEEE Foundation.”

“It’s nice that somebody thought that I deserved to be recognized,” Dent says. “It means to me that my philanthropy has been appreciated. ■

Pioneer Don Heirman's Generous Giving Paves the Way for Future Innovation



Though industry giant Donald (Don) N. Heirman sadly passed in October 2020 at the age of 80, the pioneer in the field of electromagnetic compatibility (EMC) not only left an indelible legacy of innovation behind him, he provided for the field's future success through his generous estate gifts to IEEE.



After receiving his BSEE and MSEE degrees from Purdue University (West Lafayette, IN, US) in 1962 and 1963, respectively, Heirman began a more-than-a-half-century-long career that would involve monumental contributions to the field of EMC. Known among friends as "Mr. EMC Standards," Don spent more than 30 years at Bell Laboratories /Lucent Technologies, where he headed up the Corporation's major EMC and regulatory test facility and its participation in The American National Standards Institute (ANSI) accredited standards and international EMC standardization committees. He chaired or was a principal contributor to the US and international EMC standards organizations, including ANSI, IEEE, and the International Electrotechnical Commission (IEC), and served as president of the IEEE Standards Association (SA), and as a member of the IEEE Board of Directors. A retired Commander in the US Navy, Heirman was an IEEE Life Fellow, a Life Member of the IEEE EMC Society (EMCS), and a member of its Board of Directors. In 2018, he received the prestigious IEEE Richard M. Emberson Award for Standardization of Electromagnetic Compatibility, reducing low and radio frequency noise in telephone circuits, and designing and operating compliance test facilities over the course of 30 years at Bell Labs. In his acceptance speech, Heirman acknowledged the privilege and honor it has been to be part of IEEE for 50+ years. Upon Heirman's retirement from Bell Labs in 1997, he started his own consulting business, Don Heirman Consultants, in which he specialized in standards education and training in the field of EMC. Don remained active until his death.



Donald (Don) N. Heirman 1940-2020, left, visiting the IEEE Archive.

A role model for young engineers and pre-engineers in all fields, Heirman was a champion of education, the preservation of the history of technology, and ongoing innovation in the engineering and EMC disciplines – a commitment that was reflected by his generous gifts to the IEEE programs, initiatives and activities he held dear. Targets of his estate gifts include the following:

- The **IEEE History Center**, to preserve the history of IEEE by supporting the cataloging of the history of IEEE Society contributions, including those of the IEEE EMC Society
- The **IEEE Standards Association**, to support the continuation of joint projects with the IEEE Educational Activities Board that expand, encourage, and promote IEEE's Standards Education Program
- The **IEEE Electromagnetic Compatibility (EMC) Society**, to provide for perpetual support that will enable those with limited travel funding to actively participate in EMC's standardization program
- **IEEE- Eta Kappa Nu (HKN)** Chapter at Purdue University, to support his beloved HKN (the honor society of IEEE) at his alma mater

- The **IEEE Foundation**, to support its broad range of IEEE initiatives.

In his IEEE History Center oral history interview conducted in February 2015, Heirman reflected on his long, colorful and productive career, confiding that "I've been around a long time – 50 years in the business – and I wouldn't take anything back."

Don Heirman's well-indexed collection of paper materials, photographs and artifacts were left posthumously to the IEEE History Center Archives. "The Don Heirman collection provides a unique look at standards at IEEE, as well as the operations of the IEEE Electromagnetic Compatibility Society, over the course of more than 30 years," said Michael N. Geselowitz, Ph.D., Senior Director of the IEEE History Center. IEEE sincerely thanks Don Heirman for his renowned contributions to the industry throughout his life and for all that he continues to give to future generations through his generous legacy estate gifts, all of which will pave the way for continued innovation, growth, and success in the engineering field. The IEEE Foundation proudly recognizes Donald N. Heirman as a Forever Generous member of the **IEEE Goldsmith Legacy League**. ■

Inspiring the Engineers of the Future Science Kits for Public Libraries (SKPL)

By John A Zulaski, IEEE Region 4 SKPL Committee Chair



It is amazing to me how seemingly disconnected experiences combine later in life towards the formation of new ideas.

Growing up in the 1940's, my parents were very supportive of any educational interests I might have shown. Though money was tight, they always found a way to provide an Erector set, Lincoln logs, Chemistry sets, etc., that kept me happily occupied for many hours. I loved building stuff and self-learning at my own pace.

Fast forward to 2009. Now retired, after a very satisfying 32-year career as Director of Electronic Products at S&C Electric Company in Chicago, I was now serving as a trustee of the Mount Prospect Public Library (MPPL) and had assigned myself the task of giving tours to the stakeholders of our Village. On one of these tours, I observed shelves of cloth bags filled with a variety of items. There was one bag with books and puzzles intended to keep kids occupied on a long car trip, another for a child who was sick at home, and still another for a child interested in dinosaurs. Remembering my childhood, the thought occurred to me, that it would be a wonderful thing if children, regardless of their life situation, could borrow a science kit for free from their library, just like a book. MPPL's Executive Director Marilyn Genther, (retired) was very interested in the idea, but did not have



\$2,000 in the budget she felt would be needed to create a credible collection. So, I proposed the idea to the IEEE Chicago Section's Executive Committee, and they agreed unanimously to fund the project. MPPL librarians then went to work to develop a collection of 12 science kits and soon, to the youth librarians' delight, science kits began flying off the shelf. The MPPL collection has since grown to over 70 kits.

Success at MPPL led to the Chicago Section adopting the project and the "Science Kits for Public Libraries" (SKPL) program was born. Life Senior Member Norm Phoenix joined me in developing and executing a plan for the project. Chicago Section members were asked to give their financial support and boy, did our members respond! Their donations allowed us to award 4 to 6 grants annually to libraries for science kits. By 2015, thanks to the generosity of Chicago Section members and corporate donors, over 25 Public Libraries in the Chicago Section's territory had circulating science kit collections. The best part is, all of these libraries reported high borrowing rates.

Also in 2015, the S&C Electric Company began funding a 5-year program to place SKPL collections at each of 80 branches of the Chicago Public Library system. S&C Electric company continues to provide funds for maintenance and additions to the Chicago Public Library collection.

Early on we decided that the selection of science kits that make up a collection should be left up to the libraries themselves. So, there is not a one size fits all collection but rather collections that best serve the youth of their specific community, taking into account existing STEM resources, feedback from local science teachers, ages of patrons to be served, etc.

A \$40,000 Grant from the IEEE Foundation and Life Members Committee (LMC) in 2011 helped us develop the grant criteria and processes needed to scale the program and enabled the Chicago Section to award 26 SKPL Grants in nine states. The awarded



libraries were a mix of rural and urban locations, large, medium and small sizes and with diverse community needs. Thanks to the LMC Grant, we learned a lot about what it would take to build a scalable and sustainable SKPL program. We also confirmed that public libraries are the perfect partner for SKPL success.

The LMC Grant experience helped us qualify for another grant, this time from the IEEE - New Initiatives Committee that went towards creation of a SKPL brand, a marketing plan, a fund development plan, and a website: r4.ieee.org/skpl/ Region 4 adopted the SKPL program in 2017 and the number of Public Libraries with science kit collections continues to grow. In 2021 alone, 17 SKPL Grants were awarded in 10 Midwestern States. It is our expectation that the program will continue to grow for the benefit of children and we are presently working on a SKPL tool kit that will teach other IEEE entities how to replicate the program. The launch of this toolkit is scheduled for the summer of 2022.

I leave you with a favorite quote from the Actor Denzel Washington: "At the end of the day, it's not about what you have or even what you have accomplished...It's about who you've lifted up. It's about what you've given back." ■

How 14 Microgrids Set Off a Chain Reaction in a Himalayan Village – A paved road is just one of the new projects



The Lingshed Monastery testing the newly installed 14 solar microgrids, each which power a string of LEDs located in homes and along the streets. Photo Credit: Paula Bronstein



Five years ago, the remote village of Lingshed in the Ladakh region of the northern Himalayas finally got electricity. A team of IEEE volunteers installed 14 solar-powered microgrids at the monastery and a nearby elementary school. The effort was led by IEEE Smart Village, a program that brings electricity—as well as educational and employment opportunities—to remote communities worldwide. The program is one of the donor-supported priority initiatives of the IEEE Foundation.

The Lingshed project was done in collaboration with the Global Himalayan Expedition, an organization that couples tourism with technology to deliver solar energy to remote communities.

In July GHE founder Paras Loomba returned to Lingshed at the request of IEEE Smart Village to learn what kind of impact the microgrids have had on the community. He found that the IEEE project has helped the villagers improve their living conditions with modern conveniences and inspired the construction of a new 100-kilometer-long road to make it easier to travel between Lingshed and Leh, the largest city in the area. It is hoped that the route, which is still in progress, will increase tourism in the area.

The road replaces a gravel trail that could be traversed only by foot, with donkeys

carrying any luggage or packages. The new road is expected to transform a two-day walk to a six-hour drive by car.

ELECTRICITY FOR THE HIMALAYAS

To bring electricity to Lingshed, the IEEE group installed 14 solar microgrids, each powering a string of LEDs in homes and along the streets. The grids were divided among the village's monastery, dormitories at the elementary school, and a small computer lab built by GHE that doubles as an Internet café for travelers. The lab has a satellite Internet link and "offline Internet," a collection of encyclopedias on a hard drive that students can use for school. Each microgrid includes a 250-watt photovoltaic panel, a pair of 12-volt lead-acid deep-discharge tubular batteries designed for solar systems, and about 30 3-W LEDs, according to Jean Kumagi's article in IEEE Spectrum about the expedition, in which she gave her first-hand account.

Before the 2016 electrification project, the monks and the temple's acolytes conducted pujas—Buddhist prayer ceremonies—in the dark or with little light at dawn and dusk, Sonam Dorje, Lingshed's mayor, told Loomba in a recent interview. The monks were dependent on kerosene lamps, not only for light but also to heat the monastery. Now, thanks to the microgrids,

the room where they conduct the prayer ceremonies has light. Students can now study at night, and the satellite Internet link, which was active until 2019 when the services stopped, allowed students to stay up to date on news. The local government installed a mobile tower this year—which has enabled the village to have cellular service and Internet access.

After IEEE Smart Village and GHE engineers installed the microgrids, Loomba says, the villagers approached another organization and asked it to install more of them.

Some villagers now use space heaters during the winter at home instead of kerosene lamps. Some even purchased televisions.

The mayor told Loomba that the villagers now want to focus on motivating their children to pursue higher education.

THE ROAD TO CONNECTIVITY

Traveling from Leh to Lingshed was quite a feat before construction of the road began in 2017.

Kumagi described the trek in her 2016 Spectrum article. The team traveled the first leg of the trip to Lingshed in an SUV. "The two-lane road heading out of town is winding but relatively smooth," Kumagi wrote. "Once the pavement runs out at the village of Wanla, the hairpin turns become more frequent, and the pace slows down considerably."

Unable to drive the rest of the way, the team loaded its luggage onto donkeys. The engineers trekked alongside them. They traveled through two mountain passes up to the village. That section of the journey alone took nearly 10 hours.

The new road was built by the Border Roads Organisation, a construction program run by the Indian Armed Forces.

The unpaved, single-lane route allows for four-wheel drive Jeeps to travel through the mountain pass, but it's not wide enough to accommodate vans or buses. ■

This story was adapted from J. Goodrich "How 14 Microgrids Set Off a Chain Reaction in a Himalayan Village" The Institute in Spectrum Online 05 Oct 2021.

Matching Gifts and Royalties Benefit the Next Generation



Dr. Alex Acero was excited to join the IEEE as a master's engineering student in the 1980s, but he didn't stop there; during the next three decades, he served as President of the IEEE Signal Processing Society, received their highest award for "contributions to speech technology and leadership in the signal processing community," and served on the IEEE Board in 2018-2019. "IEEE has helped my career tremendously, so I've been delighted to volunteer and give back to the community," said Acero, who joined the IEEE Foundation Board in 2021.

After co-authoring a textbook on spoken language processing in the late 1990s to help students learn about that rapidly-developing field, "my co-authors and I decided to donate the book's royalties to fund student travel grants to attend IEEE's International Conference on Acoustics, Speech, and Signal Processing (ICASSP) for students with an accepted paper," Acero said. "We all learned a lot about the field by

attending ICASSP in our student days and wanted the next generation of students to benefit as well. Establishing a fund through the IEEE Foundation was an easy way for this to happen, as the staff oversees the processing of all of the funds while the Speech Technical Committee of the IEEE Signal Processing Society selects the winners," he said of a positive and productive process that has occurred annually since 2002.

While the field has made tremendous progress in the last decade, "a lot more is required," Acero confirmed. "Our Spoken Language Grant is a baby step that encourages students to help us achieve my lifelong dream of having an intelligent digital assistant."

Acero also leverages his employer's matching gift programs and has been doing so since 2002. Donations to the IEEE Foundation can be doubled or even tripled by using your employer's Gift or Volunteer Match Program. Your spouse's employer or



Dr. Alex Acero leverages his employer's matching gift programs and has been doing so since 2002.

your former employer (if you have retired) may also match gifts or volunteer hours.

Overall, "IEEE is a fantastic catalyst for advancing technology," Acero said. "I hope that many professionals who have benefitted from IEEE can find a cause they're passionate about and work with the IEEE Foundation to help drive it" ■

Leveraging Matching Gift Opportunities



With more than 22 years as an IEEE member, David Ziskind appreciates the role IEEE has played in his life and career. "I enjoy connecting with other members and keeping up-to-date technically through IEEE Spectrum magazine, IEEE emails and local IEEE events," he said. "The world is accelerating and IEEE provides the tools to help stay abreast of important changes."

"Engineering (especially electrical engineering!) is critical to the continued advancement of humanity, and my company (Black & Veatch) recently expanded its matching gift program to include an additional match specifically for COVID-19-focused donations, so it was a no-brainer to me to donate to IEEE and leverage the company match opportunity," Ziskind explained of his recent donation to the IEEE Foundation COVID-19 Response Fund. "I'm fortunate to be in a position (and pleased to be able) to support the IEEE Foundation in its continued mission, and in particular to help continue to advance engineering while we cope with this global pandemic." Ziskind hopes that his and other donations can help the IEEE Foundation continue to provide



David Ziskind's company, Black & Veatch, recently expanded its matching gift program to include an additional match, which he leveraged.

individual and institutional support for engineering as well as to support ongoing outreach efforts to help the general public understand and appreciate the impact that engineering can have on addressing COVID-19.

"IEEE membership is an important starting point for electrical engineers and anyone interested in joining the field and I encourage members who are in a position to support

IEEE beyond membership to do so," he confirmed of the value of donating to the organization. "The cost of an annual membership is far outweighed by the benefits you receive, and providing an additional donation is an opportunity to give back to the field which has encouraged and supported so many of us. ■

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Bringing Together Our Global Community to Support IEEE Programs



On 30 November 2021, IEEE and IEEE Foundation celebrated #IEEEGivingTuesday. Giving Tuesday strives to build a world in which the catalytic power of generosity is at the heart of the society we build together, unlocking dignity, opportunity and equity around the globe.

Thank you to the amazing IEEE community who helped us make #IEEEGivingTuesday 2021 a success. Philanthropic investment in the twenty IEEE programs that

participated this year is one of the critical ways that IEEE programs grow and expand to be most impactful. All of them rely on donations to address global challenges through technology by illuminating, educating, engaging and energizing.

You can learn more about the giving totals and impacts made here: ieeefoundation.org/givingtuesday. It isn't too late to make your 2021 donation to the IEEE Foundation. ■

Support SIGHT Fund Efforts



The IEEE Electron Devices Society (EDS) and the IEEE Humanitarian Activities

Committee (HAC) held a special Call for Proposals to support projects in EDS chapters that utilize EDS-relevant technology to address local community challenges. Eleven proposals from six countries and three IEEE Regions were submitted, and four proposals have been awarded funding so far.

Starting on 15 November 2021, the IEEE Antennas and Propagation Society (AP-S) and IEEE HAC opened a Call for Proposals to support AP-S chapters implementing projects to address local community challenges using AP-S relevant technology. Submissions will be accepted through 15 January 2022.

Both the Calls for Proposals will be supported thanks to donations to the IEEE SIGHT Fund of the IEEE Foundation. If you would like to support future SIGHT Fund efforts, please visit: give.ieeefoundation.org/give/270406 ■

History Center will Launch IEEE Global Museum

As far back as 1906, IEEE leaders have considered the creation of a museum to recognize the technical achievements of members, the evolution of IEEE and the broader history of milestones in its fields.

Dr. John Impagliazzo, IEEE Life Fellow, who generously underwrote the IEEE History Center Historical Showcase Project, is the latest proponent of what is now the IEEE Global Museum.

One of two pilot exhibits will be installed at IEEE's 3 Park Avenue office in New York City: A History of IEEE Spectrum Magazine. The planned exhibit has been met with enthusiasm from staff, who are helping collect historical material. The goal is to install and open that exhibit early in 2022. Inaugurated in 1964 with the merger of the Institute of Radio Engineers (IRE)



John Impagliazzo admires the first Historical Showcase installation in 2018.

and the American Institute for Electrical Engineers (AIEE) into IEEE, Spectrum set a new standard for technical society membership publications with its full-color covers and informed articles on IEEE technologies and innovative businesses.

The second pilot will debut in IEEE Region 5. Thanks to an anonymous gift, the History Center is developing a public exhibit on the recipient of IEEE's first Medal of Honor when it was awarded by the IRE, in 1917. Edwin H. Armstrong is recognized for inventing practical electronic circuits for regeneration of continuous wave wireless signals; for superheterodyne tuning of frequencies; and wideband frequency modulation transmission and reception. Plans are under way to stage the exhibit's "soft opening" at the San Antonio Museum of Science and Technology (SAMSAT) in Texas, US in conjunction with the February 2022 Board of Directors meeting. Please send queries about the Global Museum, or suggestions for venues, to ieee-history@ieee.org. ■

Give with Confidence: IEEE Foundation Recognized for Its Financial Accountability and Transparency

IEEE Foundation received a rating of 100 from Charity Navigator and the Gold Seal of Transparency from GuideStar.

Each year, thousands of donors trust the IEEE Foundation to make an impact around the world. With a core competency of transparency, we strive to spend these dollars to make maximum impact. One method to measure impact is through external rating agencies, such as Charity Navigator and GuideStar. We are proud to announce that our ongoing transparency and accountability, and strong financial health have earned a 100/100 Encompass Rating from Charity Navigator, one of the world's largest and most-utilized independent charity evaluator.

This score designates the IEEE Foundation as an official "Give with Confidence" charity, indicating that it uses its donations effectively based on Charity Navigator's criteria. Charity Navigator uses four indicators of total impact — referred to as beacons: Finance & Accountability, Impact & Results, Culture & Community and Leadership & Adaptability.

IEEE Foundation has also received a 2021 Gold Seal of Transparency from GuideStar, one of the largest sources of information about nonprofit organizations. This recognition shows IEEE Foundation's commitment to providing potential donors and funders clear insight into its work. By providing up-to-date information to GuideStar, IEEE Foundation allows donors and funders to make educated decisions about giving.

In order to receive this seal, IEEE Foundation provides comprehensive details about finances, as well as information that is publicly searchable on the GuideStar site, including a summary of programs, governance composition and leadership, listings of awards and accreditations, brand assets and contact information. GuideStar's Nonprofit Profiles include information provided directly by nonprofits, the IRS (US Internal Revenue Service) and other partners in the nonprofit sector.

Both IEEE Foundation and IEEE have GuideStar profiles, and IEEE has earned a Silver Seal Transparency. ■



IEEE-HKN Members are Engaged, Enlightened and Energized



IEEE-Eta Kappa Nu, the honor society of IEEE and a donor supported program, wrapped up its Student Leadership Conference (SLC) on 9 October 2021.

Held over four days, the SLC was an interactive, online event that attracted more than 270 HKN students representing nearly 80 chapters from 20 countries. Attendees engaged in more than 50 professional development and chapter strengthening sessions and workshops.

The SLC kicked off with an opening session from Apple co-founder and HKN Eminent Member Steve Wozniak and closed with an Awards and Recognition Ceremony.

The event is the premiere conference for IEEE-HKN's student members, who comprise the top electrical engineering (EE), electrical and computer engineering (ECE),



computer engineering (CE), and allied field students from around the globe. A direct corollary can be drawn from SLC attendance to Chapter success: Members who attend the event return to their chapters engaged,

enlightened and energized to enhance programming, grow their membership and increase community outreach. ■

PES Scholarship Plus Initiative Announces 2021/22 Scholars and a New Presidential Level Sponsor



On 22 November 2021, the IEEE Power & Energy Society (PES) Scholarship Plus Initiative announced

the 72 high-achieving undergraduate electrical engineering scholars to be honored as 2021-2022 PES Scholars! These scholars will one day develop new green technologies, build the smart grid and change the way we generate and use power. Majoring in electrical engineering and committed to exploring the power and energy field, these undergraduate students are high achievers with strong GPAs and distinctive extracurricular commitments.

The Initiative seeks to attract highly qualified engineering students to the power and energy field. Since the program launched in 2011, 1,881 scholarships have been awarded to 1,099 students at more than 175 universities across the USA, Canada and Puerto Rico.

The 2021-2022 PES Scholars represent 40 universities. Students receive a financial award, one year of IEEE PES student membership and have the opportunity to be mentored by leading professionals in the power and energy industry. The Initiative provides real world experience in addition to the scholarships.

Engineering students explore a career path that ensures the electric grid is maintained and transformed to accommodate society's changing needs. None of this is possible without the generous support of donors like the Hoveida Family Foundation, who joined the PES Scholarship Plus Initiative as a new Presidential Level Sponsor.

Thanks to the generous financial support of Hoveida Family Foundation, founded by Bahman Hoveida, and their advocacy for excellence in power engineering, each year 30 or more Hoveida Family Scholars will be identified among the PES Scholars. Take a look at the inaugural list of the students supported by this generous donation here: ee-scholarship.org/about-the-scholarship/hoveida-family-scholars.

The IEEE Foundation and IEEE Power & Energy Society are honored that the Hoveida Family Foundation selected the PES Scholarship Plus Initiative as one of its first charitable donations. In doing so they are strengthening the future workforce of the power and energy sector. ■



Sucheta Malladi is a PES Scholar and Schweitzer Meritorious Scholar who double majored in Electrical and Computer Engineering at North Carolina State University. When asked how being selected as a PES scholar impacted her, she said, "I am very grateful to be selected as a PES Scholar as it has provided me with guidance and mentorship to help me navigate my career goals and coursework to satisfy my interests. Additionally, it has provided me with financial support for college."

You Can Change the World – Environmental Competition

The EPICS in IEEE (Engineering Projects in Community Service) Environmental Competition, with the United Engineering Foundation (UEF), focuses on solving local environmental issues.

This competition will harness the power and potential of university students to mitigate and address the impact of climate change. Students in the United States will have the opportunity to address the technological needs of local communities. Selected projects can receive up to US\$10,000. Proposal submission dates run 15 November 2021 to 4 February 2022.

Learn more at epics.ieee.org/uef-competition. ■



Thanking Our Outgoing Board Members and Welcoming the New

As we approach the end of an exciting year, we are pleased to share that new leadership and talented individuals will be joining our Board.

In 2022, the IEEE Foundation will welcome Dr. Ralph Ford, chancellor of Penn State Erie, The Behrend College, as its new Board President. Ralph brings us more than 25 years of leadership experience in higher education and industry.

Ralph joined the IEEE Foundation Board in 2017, the same year that John R. Treichler was elected President, a title he held for five years. We thank John for his years as President and eight years total on the Board as he turns the reins over to Ralph's leadership at the end of this year.



John R. Treichler, IEEE Foundation President 2017-2021 at the launch of the Realize the Full Potential of IEEE Campaign Celebration in Orlando, FL, US.

John led the charge of the IEEE Foundation Board of Directors to work together with IEEE program partners on the first IEEE-wide fundraising campaign titled: **Realize the Full Potential of IEEE**. The ambitious US\$30 Million goal was exceeded under John's thoughtful leadership, which was also integral to the important advances we have made in the past five years. Board service is one of the toughest volunteer roles of all, and John performed with dedication and tenacity. We are grateful for his guidance and perspective that made significant positive impacts on IEEE programs. ■

Welcome New Board Members

The IEEE Foundation will welcome four newly elected directors to serve three-year terms commencing 1 January 2022.

Dr. Nim Cheung is Chairman and CEO of Alphotronics Limited, a technology company that he founded. The company specializes in 3D photography, LIDAR, and artificial intelligence.

Christopher Geiger is Enterprise Risk and Sustainability Director for Lockheed Martin, leading the Sustainability and Enterprise Risk Management program.

Howard Michel was the 2015 IEEE President. He was CEO at ARRL, the National Association for Amateur Radio. He was founding CTO at UBTECH Education, and Senior VP of UBTECH Robotics. Howard is Visiting Professor at the University of Johannesburg.

Mary Ellen Martin Zellerbach is Managing Director of Martin Investment Management, LLC, a majority women-owned SEC registered investment adviser.

Their addition to the board will help to continue to position IEEE Foundation as a leader in transforming lives through the power of technology and education. Thank you to all who serve on the board. ■

Farewell to Outgoing Board Members

We also say thank you and goodbye to two valued volunteer leaders who have tirelessly given their time and resources. It is with deep gratitude that we bid David Green and Teck Seng Low farewell after their combined 15 years of dedicated service.

We are truly grateful to these outgoing volunteers who dedicated significant time and energy to help chart our past, present and future and grow the Foundation as the charitable partner of IEEE. ■



David Green, IEEE Foundation Board Member 2013 - 2021 is an avid supporter of the IEEE Foundation Board and staff. Dave provided nine years of unequivocal service. He served as Vice President of Grants, First Vice-President, Treasurer and Secretary. He chaired two ad hoc committees and served on several committees, including the Finance Committee, for all nine years of service.



Teck Seng Low provided six years of valuable service and served on several committees including: Grants, Signature Program Application, Development, Audit and Programs Committees.

Welcome MOVE-2

Adapted from an article by Grayson Randall, IEEE Volunteer MOVE Operations Lead



IEEE MOVE team is excited to welcome MOVE-2 to its program. This is the second truck in the IEEE-USA program that can deploy to provide power and communications at disasters.

MOVE-2 is a donation from Cisco Systems in Research Triangle Park, NC, US. The transfer of the keys, pictured, took place in Durham, NC, US on 31 July 2021. MOVE-2 is very similar to MOVE-1 in size and capabilities. Cisco also donated networking equipment for the truck and funding from IEEE-USA allowed us to order additional required equipment.

Unfortunately the international chip shortage meant many of the Cisco donated parts were delayed. Cisco was so kind as to temporarily loan us the networking equipment necessary to become operational. With the hard work of the many MOVE support teams, MOVE-2 became deployable in about 2 months. This included satellite upgrades, LTE router and antenna installation, equipment for power distribution, and networking hardware and configuration.

While we were configuring MOVE-2, hurricane Ida made landfall in LA, US. MOVE-1 was deployed to Louisiana. David Sewell (MOVE training lead) and Grayson Randall (Operations lead) took MOVE-2 once it



IEEE-USA MOVE Community Outreach Program received the Cisco Systems donation of a satellite truck, on the right. Now MOVE has two vehicles for responding to disasters in the US. MOVE volunteers, pictured from the left, are: Truck Maintenance Team Lead David C Wright, Brian Greene, Matt Wood from Cisco, Dan Fucella, Mary Ellen Randall and Grayson Randall.

was ready, and together, MOVE-1 and MOVE-2 supplied Internet and the power to run the laptops at daily events throughout southern Louisiana.

In parallel to our mission, we developed procedures for the operation of MOVE-2. We were able to update the procedures and test them daily. These procedures will be used for training volunteers on MOVE-2 operations. The MOVE trucks supported more than 50 resource centers that served

up to 225 residents at each site. The sites that MOVE supported were specifically assigned because of the lack of communications and power at the locations. Providing the resource centers without the MOVE trucks would have been very difficult if not impossible.

MOVE-2 made a significant impact on its first 40-day deployment. Through our partnership with the American Red Cross, we helped provide support to thousands of families impacted by hurricane Ida. IEEE Region 6 is organizing teams to transport MOVE-2 to support events in the western half of the United States while MOVE-1 will continue to support the eastern half.

As the IEEE-USA MOVE Community Outreach Program is expanding to the western United States, International MOVE is looking for more volunteers to support the mission outside the US. If you are interested, please contact Grayson Randall (g.randall@ieee.org). MOVE is supported by donations and with a second truck, your donations are needed more than ever. Please consider a donation today to assist your fellow IEEE Volunteers as they respond to those in need.

Visit: bit.ly/DONATION-MOVE. ■



Meet MOVE 2, a donation from Cisco.

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