

FOCUS

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REALIZE THE FULL POTENTIAL OF IEEE



IEEE Foundation Launches Landmark Campaign

The IEEE Foundation has evolved significantly over the last five years. It serves as the philanthropic partner of IEEE, and has adopted a more proactive approach to Advancing Technology for Humanity. One of the hallmarks of that new approach is the first-ever major fundraising Campaign undertaken to: **Realize the Full Potential of IEEE.**

Many of the world's most pressing challenges require innovations in engineering. Additionally, the need for engineers, STEM professionals, and engineering students is

increasing globally as important work for technologists increases.

- > More than half of the world's population cannot access the Internet
- > More than one-third of the world's population do not have access to adequate sanitation
- > More than 1 billion people have no access to reliable electrical power

These challenges are daunting and solvable, with the IEEE committed to playing a full role. IEEE has identified a number of strategically

important initiatives that will help meet the pressing global challenges cited above. IEEE Foundation is leading a special campaign across IEEE's expansive network to raise awareness, forge partnerships and generate the required financial resources, with a current \$30M goal. To date, in excess of 54% of the goal has been achieved. The objective is to meet the goal by IEEE Day 2020.

It is only through your support that we are able to meet these challenges and **Realize the Full Potential of IEEE.** Visit ieeefoundation.org/campaign for updates and learn how you can become involved. ■

President's Perspective



The Realize the Full Potential of IEEE Campaign was formally launched in February 2018 with the flick of a symbolic wireless switch by the combined efforts of IEEE Foundation Executive Director Karen Galuchie, IEEE Foundation President John Treichler, IEEE Executive Director Stephen Welby, and IEEE President Jim Jeffries. Each spoke about the importance of philanthropy and the programs that donations to the Campaign support.

I can't believe we are almost through 2018. Thus far, the IEEE Foundation Board of Directors together with our IEEE program partners have been focusing on Campaign activities around the world and expanding and enhancing programs important to IEEE members. With the *Realize the Full Potential of IEEE Campaign* at 54% of its \$30 Million goal, IEEE membership renewals, year-end meetings and Giving Tuesday right around the corner, everyone at IEEE is busy and excited. Hopefully you are receiving regular news and announcements about upcoming events and Campaign progress. If not, please let us know, join us on social media sites or visit our web site for further information because we definitely want you to continue on this journey with us.

The outcomes and impacts of our strategic initiatives, which I encourage you to read about in the following pages, are a source of pride for us all as we, the Foundation, in partnership with you, the donors, provide the catalyst needed to make the programs possible. Whether you know it or not, you are a hero to thousands of individuals in communities around the world. Your support has changed so many lives. I am grateful for your generosity and your example.

If you have thoughts to share, please email us at donate@ieee.org. We'd love your feedback to continue to make IEEE Foundation a leader in transforming lives through the power of technology and education.

I look forward to updating you on the impact of your support and continuing to realize the full potential of IEEE together.

Sincerely,

John Treichler President, IEEE Foundation

Showcasing Pioneers Globally

The IEEE Foundation Global Leaders Series (GLS) showcases innovative pioneers who are changing our world through advancements in technology, engineering, science and through philanthropy. GLS events are designed to gather esteemed IEEE leaders, across the expansive IEEE network, in a celebration of fellowship and support for global IEEE initiatives supported by the *Realize the Full Potential of IEEE Campaign*.

Entrepreneur and inventor Gregory Olsen was featured at our first GLS event in February 2017 in New York, NY. Speaking at the GLS in March 2017 in Manhattan Beach, CA was IEEE Fellow Bradford W. Parkinson, responsible for Global Positioning System. Parkinson received IEEE Foundation sponsored 2018 IEEE Medal of Honor. An October GLS in Atlanta, GA celebrated the awarding of the Glenn F. Knoll Postdoctoral Education Grant. In January 2018, IEEE leaders attended a GLS event in the heart of Silicon Valley, Palo Alto, CA. These US based GLS events helped pave the way for our Campaign launch in February of 2018.

In 2018, the GLS went global. The first international GLS event was held in Bengaluru, India in March 2018 and featured Sri H.N. Narayana Murthy, the famed founder of InfoSys, and the man recognized as one of the 12 greatest entrepreneurs by *TIME* magazine. Singapore has distinguished itself as a technology leader and boasts one most reliable power grids in the world. In May, IEEE Foundation hosted two days of events for some of the top power and energy leaders and academics in the region to share how together, we can *Realize the Full Potential of IEEE*. E-mail your suggestions for future GLS speakers to donate@ieee.org.

Read more about GLS events and Campaign news at ieeefoundation.org/campaign. ■



From left, John Cioffi, Thomas Kailath, Victor Lawrence, Andrea Goldsmith and Debajyoti Pal attended the first GLS event of 2018. Guests celebrated IEEE member accomplishments, discussed and garnered support for IEEE Foundation initiatives and embraced the, soon-to-be announced, philanthropic Campaign. Photo Credit: Michael Deering

High Tech High School Junior Wins IEEE Presidents' Scholarship

Sathya Edamadaka, a junior at High Technology High School, in Lincroft, NJ, US was awarded the 2018 IEEE Presidents' Scholarship during the annual Intel International Science and Engineering Fair (ISEF), held in May in Pittsburgh.

Edamadaka's project aims to improve the solar energy conversion process using a photovoltaic system designed with two tunable plasmonic nanostructures. His innovation significantly increases short-circuit current output and total current produced. With an interest in both engineering and finance, Edamadaka says he hopes to start a cost-efficient business that expands energy-storage boundaries. He will receive a US \$10,000 scholarship, payable over four years of undergraduate university study, as well as a complimentary IEEE student membership and a plaque.



From the left are Presidents' Scholarship winner Sathya Edamadaka, 2018 IEEE President-Elect José M.F. Moura, Oliver Nicholls, Maximilian Du, Lynn Bowlby IEEE Program Specialist, Educational Outreach.

This year marks the scholarship's 20th anniversary. Established by the IEEE Foundation and administered by IEEE Educational Activities, the award recognizes one student each year for an outstanding project that demonstrates an understanding of an IEEE field of interest. Scholarship recipients are selected by a team of IEEE members and volunteers.

In second place was Oliver Nicholls from Barker College, in Sydney, AU. He created a window-cleaning robot for commercial high-rises. Nicholls received a \$600 prize.

Third place went to Maximilian Du, a student at Fayetteville-Manlius High School, in Manlius, NY, US. His artificial intelligence system can monitor a sleeping infant to keep the baby from dying of sudden infant death syndrome. Du received \$400.

The Intel ISEF is the world's largest pre-university science and engineering fair. Each year approximately 1,800 high school students from more than 75 countries, regions and territories attend to compete for scholarships, internships, and scientific field trips. The competition focuses on identifying, inspiring, and engaging the world's next STEM generation. ■

IEEE Eta Kappa Nu Student Leadership Conference



The annual IEEE Eta Kappa Nu (HKN) Student Leadership Conference is a signature event of the honor society. This year it was hosted by the Epsilon Sigma Chapter at the University of Florida, Gainesville. Between 13-15 April, chapter representatives from across the world congregated to grow their professional and leadership skills while enjoying the weekend networking and learning from distinguished speakers and guests.

IEEE Eta Kappa Nu (IEEE-HKN) boasts 250 chapters around the world and its award-winning publication, *The Bridge*. IEEE-HKN Founder's Day, is coming soon on 28 October. **Learn more at hkn.ieee.org.** ■

Rich Allen, CFRE is the Campaigns Manager responsible for the fundraising success of HKN.

Washington Internships for Students of Engineering

IEEE WISE is a wonderfully impactful program that prepares future leaders of the engineering profession to be aware of and participate in the increasingly important issues at the intersection of science, technology and public policy. We are proud that one of the interns each year is enabled thanks to donations to the IEEE Life Members Fund of the IEEE Foundation.



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., US.

Pictured here are the three 2018 WISE interns. Zeyi Lin, from Austin, Texas, will graduate from the Electrical and Computer Engineering, Plan II Honors, and Government programs at the University of Texas at Austin. Alex Meier is an electrical engineering major with emphasis in Power and Energy Systems at the University of Nebraska-Lincoln. Raine Sagramsingh is a senior at Florida State University, studying mechanical engineering. IEEE-USA, IEEE Life Members, and IEEE Technical Activities Board collectively support IEEE's participation in the annual WISE program. **Learn more at wise-intern.org.** ■

EPICS Makes Connections in the Amazon

An Engineering Projects in Community Service (EPICS) in IEEE team introduced telecommunications services to isolated, rural communities in the Amazon rainforest of Brazil. The IEEE Centro-Norte Brazil Section and the IEEE Student Branch at Federal University of Para (UFPA) erected a cellular base station and tower in the small agricultural community of Itabocal, Brazil. The base station can run mobile services including voice calls, SMS and the Internet. The project was designed with community impact in the Amazon in mind, and the reaction within the community has been really positive. From the start, community members asked what they could do to help and have been true partners.

EPICS IN IEEE

In addition to organizing university and high school students to work on an engineering-related project for a local humanitarian organization, this EPICS in IEEE project had additional impacts: enhanced health, education, socialization, safety, the facilitation of small business development and sharing more about their culture with the rest of the world.

There was no commercial interest in increasing connectivity there because the inhabitants are poor with unreliable sources of income. However, they do have cell phones, tablets, and computers. Now, thanks to this project, distance and isolation are no longer an issue.

The tower and technology are installed; but, the project remains ongoing. The students' attention is now turned to sustainability, training, testing, and measurement. The training component addresses the humanitarian objectives of the project. Testing helps students understand how

radio propagation works in that environment and whether it matches the scientific propagation models that exist today.

Vilas Boas, Project Leader, advises other students considering EPICS in IEEE projects that any impactful idea is worthwhile.

"It's about changing a community's reality, so you don't have to think too big. Even just the portion of our project where we're teaching the community how to use the Internet is a good place to start," she advises. **Learn more at epics.ieee.org.** ■



The new tower and base station enable cellular connectivity resulting in enhanced health, education and safety as well as the facilitation of small business development.

Michael Deering is the Senior Development Officer responsible for the fundraising success of EPICS in IEEE and IEEE Smart Village.

IEEE Smart Village: Hope, Health and Happiness



In Gayaza Township of Wakiso District in Uganda, rural women are taking bold steps to secure their future and their children's future. These women understand that cooperation, education, enterprise and access to reliable energy are among the keys needed to break the cycle of poverty. Working under the guidance of the Africa Development Promise (ADP), they are establishing businesses, forming mushroom-growing cooperatives, and operating solar energy kiosks. Through the kiosks, which is funded by IEEE Smart Village (ISV), they sell solar home lighting products, rent tools, charge phones, offer internet service and sell basic home goods.



Monika and Rachel work at a kiosk funded by ISV where they sell solar home lighting and basic home goods, rent tools, charge phones and offer internet service.

The kiosks are a place where education and outreach take place and the 62 women and six men currently participating in the different cooperatives are benefiting greatly. Having access to energy allows them to process and package mushrooms and reach wider markets. Lighting products allow them to be more productive; working later than otherwise possible.

"The ISV/ADP partnership not only impacts the women but gets money moving in the broader community" say Monica LaBiche Brown, Executive Director of ADP. As a result, she and the Uganda team are setting the pace for ADP in the area. Their aggressive expansion plans include forming more farming cooperatives in other villages, establishing three more solar kiosks with adjacent training centers to supplement the two already in service. ■

By Dan Estes, chair of the ISV Marketing Committee

IEEE Smart Village Advances Vietnamese Education



Teacher collaborators at a Bending Bamboo workshop, each of which further "bilingualism with purpose" for a Vietnam Delta facing immense change and challenge. Photo Credit: Bruce Holdeman

In collaboration with Nam Can Tho University and IEEE Smart Village (ISV), ON Semiconductor committed US\$102,000 toward a multi-year, multi-faceted project to expand the educational opportunities across the Mei Kong Delta in Vietnam. The IEEE Nuclear Plasma Society also generously donated US\$106,000 to this project.

ON Semiconductor vice-president of Quality, Reliability and Environmental Health & Safety, expressed their corporate philosophy of social responsibility as a driving factor toward their participation in the

project. ON Semiconductor employs more than 2,000 people in their production of world-class semiconductors. They recognize that the quality of life of their employees is critical to their long-term success. With management personnel from the Philippines, China, Indonesia, Malaysia and the USA, they have insight into the global opportunities that an educated work force brings to the competitive arena.

ISV is funding the educational curriculum development as part of their three pillars approach to community development. This curriculum will be presented to a core group of teachers in 2019 and focus on English as a second language with emphasis on science, technology, engineering, arts, humanities and math. They will use the ISV platform to educate students with impact to tens of thousands of Vietnamese within the next three years. ON Semiconductor will benefit from the increased education of their potential employees. As part of the educational delivery platform, some of the schools will be powered with the ISV's solar micro grids.

Vietnam is one of the most vulnerable countries to global climate change. Their predominantly agriculture economy would be severely impacted if sea levels change by even one meter. An increase in the base education level of the Vietnam students allows them to diversify their economy and reverse the urban migration occurring across the country. **Learn more at iee-smart-village.org.** ■

Karen Galuchie is the IEEE Foundation Executive Director.

Three-time PES Scholar Plans to Give Back



Cassandra "Cassie" Bradley

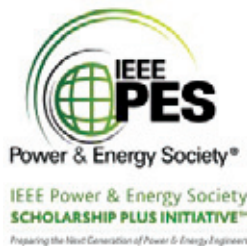
Cassandra "Cassie" Bradley, three-time IEEE Power & Energy Society (PES) Scholar, graduated May 2018 from University of Wisconsin-Madison with a BSEE. Through her selection as a PES Scholar, Cassie was able to secure internships at companies as varied as American Transmission Company, Zachry, and Ford. Upon graduation, she joined Siemens full-time in their Engineering Leadership Development Program and relocated to Pittsburgh. Loving math and science as a child and taking a circuits class in high school led her to studying electrical engineering in college. Her internship with American Transmission Company after freshman year exposed her to how much is changing in the power industry, and playing a role in implementing new technologies and creating ideas to better suit society, is why the power industry is fascinating. Cassie is honored to be selected as a PES scholar and hopes to contribute back to the Initiative.

There has been a 500% increase in the number of female applicants since the PES Scholarship Plus Initiative launched in 2009, maintaining approximately 25% female recipients ~ double the national average for female Electrical Engineers in school currently. ■

PES Scholars Meet Scholarship Supporters



IEEE Foundation Director Wanda Reder, IEEE PES President Saifur Rahman, Miriam Sanders from Schweitzer Engineering Laboratories and PES President-Elect Frank Lambert attended the PES General Meeting and the presentation of the IEEE PES Scholarship Plus Visionary Award to SEL for its leadership in educating future engineers in the power and energy industry.

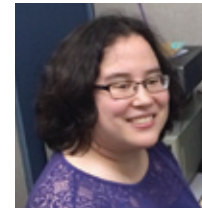


Eleven Power & Energy Society (PES) Scholars, representing the USA and Canada, attended the 2018 IEEE PES General Meeting. They benefitted from the conference by networking with peers, donors and leaders in the power industry. Together they discovered the vast opportunities for engagement and personal and professional development offered by the IEEE, PES and the IEEE Foundation. Two PES Scholars, Gabrielle, who attends Drexel University and Julia who attends University of Texas - Austin, participated in a donor visit, to personally thank the donors for their support of the scholarship program.

Learn more at ee-scholarship.org. ■

Natalie R. Krauser McCarthy, CFRE is the Development Officer responsible for the fundraising success of the IEEE PES Scholarship Plus Initiative.

History Intern funded by the Pughs



Elizabeth Badger was the 2018 IEEE History Center Summer Intern. Elizabeth is a Ph.D student studying History with a minor in Museum

Studies at the University of Minnesota Twin Cities. She is continuing her research practice in collaboration with historians on staff and exploring the culture of gender in the video game industry. Knowing that electrical engineering is intertwined with the video game industry drew Elizabeth to the internship program, and makes her partnership with IEEE History Center a perfect fit.

This internship, made possible by the IEEE Life Member Fund of the IEEE Foundation, has for more than 20 years provided young scholars of the history of technology with valuable research experience and an opportunity to work with the History Center staff on a variety of projects, ordinarily over the summer. Interns have assisted the History Center staff on a wide range of programs, while further developing their academic and professional skills. Since 2016, the internship has been specially supported through the generosity of 1989 IEEE President Emerson Pugh and Betsy Pugh. ■

IEEE REACH – Improving Technology Literacy in the Classroom



High school students know how to use the latest gadgets, but most are unaware of who invented the technology, and how it impacts their lives. The Institute of International Technology and Engineer-

ing Educators (ITEE) states that “in order to be a technologically literate citizen, a person should understand what technology is, how it works, how it shapes society and in turn how society shapes it.” The IEEE REACH (Raising Engineering Awareness through the Conduit of History) Program of the IEEE History Center addresses this disparity in pre-university education by providing teachers and students with resources that focus on the history of technology and its impact on society, culture, economics and politics, and vice versa. REACH resources include, inquiry units or lesson plans, hands-on activities, and short videos all available via reach.ieee.org. The REACH team also provides professional development workshops for teachers, and presents the program at national education conferences. Teachers walk away with tools needed to implement the history of technology in the classroom.

After hearing about the REACH resources at the National Council for History Educators, Melanie Kirchof, a teacher from Austin, TX exclaimed, “One of my favorite parts of history is the development of technology and its impact on society. Finding out that there are free resources available to teachers has been the highlight of the conference. I can’t wait to share with other teachers, both Social Studies and STEM!”

REACH has 450 subscribers, from 35 different countries, with the potential to reach more than 250,000 students! As implored by ITEE, all people should be technologically literate, because understanding technology and its social implications allow us to be competitive in the marketplace and enhances our ability to solve human problems. The REACH Program, through the lens of history, improves technological literacy in today’s classroom. **Learn more at reach.ieee.org.** ■

Danny DeLiberato is the Development Specialist responsible for the fundraising success of REACH and other IEEE History Center programs. Learn more at reach.ieee.org.

Teachers making boats listen intently to boat design advice provided by IEEE volunteer, Dr. John Vardalas as part of the REACH professional development practicum, A Hands-On Workshop Investigating the Greek Trireme and Its Impact on Democracy and Empire. Teachers gained a hands-on activity they can implement in the classroom, which will enable students to gain first-hand knowledge of the role technology plays in society.



Unprecedented Success: Dual IEEE Milestone Dedication



Featured guests, from left to right, are IEEE members and supporters Jim Omura, Thomas Kailath, Eli Yablonovitch, James Spilker Jr., Arogyaswami Paulraj and Martin Hellman who celebrated the establishment of both Milestones and attended the IEEE Foundation reception.

The IEEE Foundation continued to introduce members to the *Realize the Full Potential of IEEE* Campaign at a reception held between dual Milestone dedications in Silicon Valley on 15 August. IEEE dedicated two important and long-awaited IEEE Milestones in Silicon Valley, CA, USA – “Birthplace of Silicon Valley” (Shockley Labs) and “Moore’s Law” – and in between the two dedications the IEEE Foundation proudly hosted a reception for the members and donors who gathered to celebrate both. The day started with more than 300 guests being treated to remarks from Jim Gibbons of Stanford University and IEEE President Jim Jefferies unveiling the Birthplace of Silicon Valley Milestone on the site of Shockley Semiconductor Laboratory, which manufactured the first silicon devices. The event ended with a packed house at the Computer History Museum who witnessed 2017 IEEE President Karen Bartleson unveiling the Moore’s Law Milestone and listened as experts opined as to the future of Moore’s Law.

Those attending the events represented some of the Foundation and the Campaign’s earliest supporters, including Professor Tom Kailath, who has been instrumental both through his personal support and by making important connections in support of the Foundation’s Global Leaders Series. Also attending were friends of the Foundation, Dr. and Mrs. Jim Spilker, Professor Argoyswami Paulraj, Dr. Jim Omura, Dr. Marcian and Mrs. Hoff and Professors Eli Yablonovitch and Marty Hellman.

Connecting the work of the Foundation to the Milestone events was Foundation President and Silicon Valley resident, Dr. John Treichler. **Learn more at ethw.org/Milestones:IEEE_Milestones_Program.** ■

Donor Generosity Enables Sharing of IEEE Artifacts

IEEE Foundation Board Member, and former IEEE History Center Committee Member, John Impagliazzo, Ph.D., recognized that few members were aware of or ever saw, the many IEEE artifacts held in collection by the IEEE History Center. To solve this, John made a five-year gift to the IEEE Foundation's *Realize the Full Potential of IEEE* Campaign to develop and execute "The Historical Showcase Project".

The majority of the History Center's resources and collections are available online through the Engineering & Technology History Wiki (ethw.org). However, without museum space, the History Center faces an obstacle: fulfilling its mission "to promote the history of information and electrical technologies" is difficult. Expanding access to these many historical artifacts is now possible through John's commitment.

The Historical Showcase Project's first exhibit was unveiled at IEEE Headquarters, in New York, NY, US on Friday, 2 February 2018. The exhibit highlights three programmatic areas of IEEE history, including the Medal of Honor, IEEE Milestones and IEEE-Eta Kappa Nu. Mary Ann Hellrigel, Ph.D., Archivist and Institutional Historian, hand-selected the artifacts, photographs and documents, and curated and installed the exhibit.

Planning has begun for additional installations, with Bangalore next. Whenever possible, these will include a local IEEE history component in addition to the technical history. Thank you to Dr. Impagliazzo for your generous gift. ■

Stan Retif is the Chief Development Officer responsible for the overall success of our fundraising Campaign.



John Impagliazzo admires the first Historical Showcase installation, made possible by his generous donation. John is a long-time supporter of IEEE Foundation is an Honored Philanthropist in the **IEEE Heritage Circle** and Forever Generous as a member of the **IEEE Goldsmith Legacy League**.

Attention US Government Employees!

IEEE Foundation Joins the Combined Federal Campaign



This year, the IEEE Foundation joins non-profits around the country to take

part in the world's largest and most successful annual workplace charity campaign – the Combined Federal Campaign (CFC). The CFC enables all federal employees to support organizations such as the IEEE Foundation by using this code: CFC# 62515.

Through the CFC, federal government employees can make a one-time gift or increase their impact by spreading their donation across the year by having a set amount deducted automatically from each paycheck.

Make your pledges through your local CFC Campaign 1 September – 15 December. Find your local campaign at: bit.ly/IEEEcfc

Give through your local campaign or at cfcgiving.opm.gov. ■

SAVE THE DATE



#GIVINGTUESDAY™

Support IEEE Foundation Initiatives through an IRA Charitable Rollover

On December 18, 2015 President Obama signed legislation making the IRA Charitable Rollover retroactive to January 1, 2015, and permanent going forward. As a result of this legislation, individuals may make direct charitable distributions of up to \$100,000 from their traditional, Roth, or rollover IRAs without including such distributions in their gross income, given they meet the following requirements:

- > A donor must be at least 70 1/2 years of age at the time of the transaction
- > The funds must pass directly from the donor's IRA to IEEE Foundation. This provision applies only to:
 - > IRAs and Roth IRAs (SEP or Simple IRAs, 403(b)s, 401(k)s, and pension plans are not eligible)
 - > Outright gifts (distributions cannot be used to fund life income gifts, such as charitable gift annuities or charitable remainder trusts). The gift may satisfy a donor's IRA required minimum distribution for the year.

Since the amount of the direct charitable distribution can be excluded from the donor's gross income, there is no federal income tax deduction available for such gifts. The IEEE Foundation is a qualifying 501(c)(3) institution (EIN # 23-7310664).

As with any considerations regarding your estate planning, the IEEE Foundation suggests you consult your own attorney and/or tax advisor to make sure this vehicle makes sense given your personal circumstances. For questions about how to make a gift from your IRA, contact: Stan Retif, IEEE Foundation, Development Office, s.retif@ieee.org. ■

Invest in Yourself While Making an Impact

If you are an IEEE Member, you have a simple, secure and convenient way to make an impact while investing in yourself - donating while renewing or confirming your IEEE Membership. You are able to make a donation during the final step of the renewal process, when you are in "My Cart." Click "Donate to IEEE" and choose your designation. The donation will be added to the cost of your renewal. Don't forget, the donation is tax deductible in the US - you will receive a receipt in 4-6 weeks.

Most importantly, your donation makes you a hero to thousands of individuals and communities at home and around the world. Thank you, in advance, for your support!

Can't wait? Make your donation in the enclosed envelope or online at ieee.org/donate. ■

Leaving a Legacy

People care. They care about the underprivileged. They care about providing education and aiding the sick. They care about preserving history and celebrating culture. It truly is remarkable.

Every year millions of people make charitable gifts to organizations in whose mission they believe. Most gifts are made in cash, securities or some other liquid vehicle. Unfortunately, those in a position to give don't always consider the variety of options available to them.

In previous issues of Foundation Focus, we have discussed the importance of estate planning. Time and effort spent planning today can ensure that your wishes are followed tomorrow. They can give you confidence that your estate will be directed as appropriate, and provide peace of mind to those you love.

Many donors in these situations have an asset that they don't normally consider when they think philanthropically - life insurance. In today's society life insurance has become increasingly prevalent. As such, donors who own policies would be wise to consider life insurance as an effective way of providing support to people and causes that they hold dear.

Making a gift of a life insurance policy can often significantly reduce a prospective donor's taxable estate, which can result in substantial tax savings depending upon the donor's income and potential tax liability. Gifting a policy can provide an immediate tax deduction of the fair market value of the donor's policy. As you can imagine, this can result in quite significant deductions, depending on the circumstances.

Some important points to remember when considering a gift to a charitable organization, such as IEEE or the IEEE Foundation include:

- > IEEE receives the entire amount of the policy upon the death of the insured
- > There is no cap on the size of the policy that may be donated to IEEE, since charitable donations have no ceiling for estate tax purposes
- > In most cases such a gift does not alter a donor's current investment strategy
- > Such an arrangement may provide a creative way to dispose of a policy that was originally meant to cover a need that may no longer exist.

Naming IEEE or IEEE Foundation as the beneficiary of your life insurance may be the simplest way to enact this transaction. It is a win-win for both IEEE and the donor. IEEE receives the proceeds from the policy, and by virtue of the gift, the donor's taxable estate is reduced by the amount of the death benefit.

While the IEEE Foundation stands ready to assist donors considering such a transaction, it is always wise to first consult your own insurance agent or estate planner. ■

By Stan H. Retif, Chief Development Officer, IEEE Foundation

360 Video Journalism: Life-Saving Delivery Drones



IEEE Spectrum editors Evan Ackerman (left) and Michael Koziol (right) test out a drone with a 360 video camera mounted below.

In rural Africa, bad roads often mean that medical clinics can't receive urgently needed medical supplies. One solution: send in drones that have no need for roads. Several startups now working in East Africa believe that drones can be a "leapfrog technology" in the developing world, providing on-demand deliveries in a radical new way.

IEEE Spectrum, the flagship publication of the IEEE, received a \$20,500 grant from the IEEE Life Members Fund to report on how cutting-edge drone technology is being deployed to benefit society. The grant is being used to fund both a reporting trip to East Africa and the purchase of some exciting new equipment. In keeping with Spectrum's reputation for cutting-edge journalism, the team will use its own drones with 360 video cameras to film the medical supply drones as they wing over the mountains of Rwanda and Tanzania. The editorial team will not only write a feature article for IEEE Spectrum magazine, they'll also produce 360 video that can be viewed in VR headsets for a truly immersive experience.

For the project, titled "360 Video Journalism: Life-Saving Delivery Drones," Spectrum editors Eliza Strickland, Evan Ackerman and Michael Koziol recently organized a "drone camp" at a private residence on Long Island. There they gained experience with piloting the drones and experimented with shooting video. The team is planning the reporting trip for late October, when they'll visit several startup operations and also attend the Lake Victoria Challenge, a drone symposium and expo dedicated to aerial delivery services that could transform East Africa. **Learn more at ieeefoundation.org/grants.** ■

by Eliza Strickland, Senior Associate Editor,
IEEE Spectrum

*Glenys Gotthardt is the
Governance & Programs
Manager responsible for
the success of the
Grants Program.*

Celebrating Achievement and Impact

It is the second year that the Vision, Innovation and Challenges Summit (VICS) went behind the scenes of the most innovative and successful technology celebrities culminated by the IEEE Honor Ceremony, a gala event filled with luminaries from the technology sector. Hosted this year at San Francisco's opulent Palace Hotel, the 2018 edition of this event did not disappoint in terms of attracting the very best IEEE has to offer.

From GPS pioneer, Brad Parkinson, to Infosys Founder, Narayana Murthy, each award presentation told a compelling story as to how inspiring thinkers in general, and IEEE members in particular, are advancing technology for the benefit of humanity. The IEEE Foundation is among the major funders of the annual Honors Ceremony, a fact that makes sense on so many levels.

Each year the Foundation sponsors the Medal of Honor, the Founders Medal and the Haraden Pratt Award. Telling the important story of these inspirational individuals and their achievements helps spread awareness of IEEE's major impact around the world. To ensure that the important partnership between the IEEE Foundation and IEEE Awards continues and grows, the Awards program is part of the *Realize the Full Potential of IEEE* Campaign and a direct beneficiary of the Campaign's success. ■



Sri H.N. Narayana Murthy (center) received the IEEE Founders Medal from 2018 IEEE President-Elect José Moura (left) and 2018 IEEE President Jim Jefferies. The founder of InfoSys, and one of the 12 greatest entrepreneurs of our time, is a Friend of the Foundation and supporter of the Campaign. He was our featured speaker at IEEE Foundation's first international Global Leaders Series event at the Leela Palace in Bangalore.

GPS Pioneer Receives Medal of Honor

The most prestigious award bestowed by IEEE, and sponsored by IEEE Foundation, is the Medal of Honor. With recent past recipients such as Tom Kailath, Gordon Moore and Mildred Dresselhaus, anyone can agree that this is rarified air. IEEE Medal of Honor recipients have shown a significant and lasting impact on society through the use of technology.

This year's recipient, Bradford Parkinson, is no exception. Parkinson is recognized for his role in managing the process that led to the development of a tool that most of us use every day, the Global Positioning System (GPS). The impact of GPS has expanded exponentially since it was first devised as a tool for military use in the early 1970's. Today it helps individuals get from point A to point B with confidence, and offers a host of other uses that positively impact society and economies. Parkinson was gracious in accepting his award, and quickly pointed out that he was but one of a 'link in a chain', without any one of those links the results might have been very different. During the ceremony, he recognized one of those very important links, and his collaborator on some of the defining publications on GPS, James J. Spilker. Dr. Parkinson is also a Friend of the IEEE Foundation. He graciously served as the speaker at the Los Angeles edition of the Global Leaders Series to raise awareness of the IEEE Foundation and the *Realize the Full Potential of IEEE* Campaign. ■



Life Fellow Bradford W. Parkinson received the 2018 IEEE Medal of Honor "for fundamental contributions to and leadership in developing the design and driving the early applications of the Global Positioning System."

Celebrating the Work and Life of Claude Elwood Shannon

In 2014 IEEE Information Theory Society President, Michelle Effros, knew that something had to be done. The man who coined the very phrase, Information Theory, had largely been forgotten. Given his importance, and the growing impact that his work was having on society at large, she led the IEEE Information Theory Society (ITS) on a quest to use the Centennial of Claude Shannon's birth to right this injustice.

A series of activities were planned, including a dual IEEE Milestone dedicated at both Nokia Bell Labs and MIT. Such was his stature that both institutions were intent on honoring the work he accomplished on their respective sites. His work, after all, foresaw and paved the way for the Information Revolution that we are experiencing, making possible everything from cell phones to GPS to Bitcoin.

By the time of the Nokia Bell Labs event, the keystone project – a documentary on Shannon's life was in the formative stages. In 2016, the IEEE ITS was awarded a \$90,000 IEEE Foundation grant to produce an hour-long documentary about the life and work of Claude E. Shannon.

IEEE ITS leadership had secured the services of Mark Levinson, of Particle Fever acclaim. The script was being written and preliminary plans were underway.

To make the film a reality, a coalition of individuals, foundations and corporations came together with the common objective to bring the story of Shannon to as wide an audience as possible. An effective partnership was forged with the IEEE Foundation which was undertaking its own unique project - its first ever major fundraising campaign. The combination proved to be a

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The Development of Information Theory Milestone featuring Claude E. Shannon was dedicated in June 2018. The IEEE Milestones program honors significant technical achievements in all areas associated with IEEE. It is a program of the IEEE History Committee, administered through the IEEE History Center.

winning entry, and the Shannon Centennial quickly became exemplary of the impact that can occur when the power of volunteers is bolstered by effective staff support.

19 June was the World Premiere of the finished product. The Bit Player was screened to a full house on the big screen at the IEEE ITS meeting in Vail, CO, US. The film was met with enthusiastic acclaim. Following the screening attendees were treated to a Q&A with the film's director and star. Among the techniques used to tell Shannon's story was the testimony of current luminaries in the fields he inspired. All spoke of his importance and the need for his impact to be recognized. As one contributor, Andrea Goldsmith, Stephen Harris Professor in the School of Engineering, Stanford University, put it, "Today everyone carries Shannon around in their pocket". Follow the IEEE Foundation Facebook page to find out when this documentary is widely available for viewing. ■

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