



# GHTC 2018

IEEE Global Humanitarian Technology Conference  
DoubleTree By Hilton San Jose, California, USA — October 18 – 21, 2018

## GHTC 2018 Program

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# Cisco NERV Vehicle



The Cisco Tactical Operations Network Emergency Response Vehicle, a.k.a. the NERV will be on display at GHTC on Friday, October 19.

The Cisco NERV is a command and communications resource for first responders and agencies that require mission-critical networking to recover normal operations during a disaster.

See <https://www.cisco.com/c/en/us/about/supplier-sustainability/tactical-operations-tacops.html> for details on Cisco Tactical Operations and the NERV.

Additionally, [Ron Snyder](#), Solutions Architect for Cisco Tactical Operations, is GHTC's Friday morning Keynote speaker.

# Keynote Speakers

## *Kofi Taha*



**MITD-Lab**  
designing for a more equitable world

As part of MIT D-Lab, Kofi's work focuses on advancing asset-based approaches to community-driven technology design and solution finding in communities where people on average earn less than \$3 a day. He has co-facilitated village-level technology design trainings in Uganda and Haiti; helped interdisciplinary teams commercialize social impact products in Ghana and Tanzania; provided support to local innovation centers in Brazil, Colombia, and India; and helped build the International Development Innovation Network (IDIN.org), a global community of 1000+ innovators, entrepreneurs, ecosystem builders, researchers, and educators. Kofi pursues similar work in K-12 after-school programs in Mississippi and Massachusetts that focus on making design and educational resources accessible to geographically and economically isolated communities. Regardless of context or whether technology is a focus, what drives his work is a commitment to improving the use of inclusive practices that lead to practical solutions and equitable opportunities in historically excluded communities. Kofi studied political economy at Columbia University, urban planning at MIT, and is a doctoral candidate at the Harvard Graduate School of Education; he is from the Bronx and rarely eats pizza outside of New York City.

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## *Ron Snyder*



Ron is a Solutions Architect for Cisco Tactical Operations, a dedicated crisis response team that establishes emergency networks in the aftermath of a disaster. A member of TacOps since May 2013, he is responsible for leading the strategy and technical direction of the team's network infrastructure and deployable communications solutions. Ron deploys and supports mobile communication platforms such as the Network Emergency Response Vehicle, a.k.a. the NERV, and portable kits such as the Rapid Response Kits and Mesh Response Kits. He has deployed to provide communications support in more than 40 sites during the 2017 Hurricane Maria response in Puerto Rico, and in 2015 provided connectivity along the migrant route during European Refugee Crisis in Slovenia. Ron was

also part of the 2015 Cyclone Pam response team that assisted in reestablishing communications supporting government CIO operations in Vanuatu, and deployed in 2013 to the Philippines for the Super Typhoon Haiyan response, installing satellite terminals and networks that supported local government relief efforts in Guiuan and Borongan.

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## *Ben Wilson*



Ben Wilson is the director of the Center for Intelligent Devices at Intellectual Ventures Laboratory. His projects focus on optical devices and machine learning for image and spectral interpretation. Ben received a Ph.D. in Electrical Engineering from the University of Washington. He has previously held research positions at the University of Washington and Pacific Northwest National Laboratory.



# 2018 Global Humanitarian Technology Conference Program At a Glance

## Thursday, October 18th

**07:00 - 18:00 | Registration Opens**

**10:00 - 17:00 | HAC Workshop**

**13:30 - 17:30 | IOT Workshop**

**16:30 - 17:30 | Student Poster Competition**

**18:00 - 20:30 | Young Professionals and Women in Engineering Welcome Reception**

- **Speaker:** Erna Grasz

## Friday, October 19th

**07:00-16:00 | Cisco NERV Vehicle**

**07:00 - 18:00 | Registration Opens**

**08:00 - 09:30 | Opening Plenary**

- **Speaker:** Ron Snyder

**09:30 - 10:00 | Break Sponsored by Coughlin Associates**

**10:00 - 11:30 | Breakout Sessions**

- Session 1: Technology Enhanced Healthcare
- Session 2: Disaster Mitigation, Preparedness, Response, & Recovery
- Session 3: Participatory Energy Workshop
- Session 4: Clean Water & Sanitation

**11:30 - 12:30 | Smart Village Plenary Panel**

**12:30 - 13:30 | Lunch**

**13:30 - 15:00 | Breakouts**

- Session 1: Participatory Health Workshop
- Session 2: Disaster Mitigation, Preparedness, Response, & Recovery
- Session 3: Affordable & Clean Energy
- Session 4: Agriculture & Food Security

**15:00 - 15:30 | Break**

**16:00 - 17:30 | Breakout Sessions**

- Session 1: Technology Enhanced Healthcare
- Session 2: Participatory Disaster Workshop
- Session 3: Affordable & Clean Energy
- Sessions 4: Agriculture & Food Security

**18:00-20:00 | Evening Reception Sponsored by HAC/SIGHT**

## **Saturday, October 20th**

**07:00 - 18:00 | Registration Opens**

**08:00 - 09:30 | Plenary**

- **Speaker:** Kofi Taha

**09:30 - 10:00 | Break Sponsored by ASME**

**10:00 - 11:30 | Breakout Sessions**

- Session 1: Technology Enhanced Healthcare
- Session 2: Connectivity & Communication
- Session 3: Affordable & Clean energy
- Session 4: Participatory Agriculture/Water

**11:30 - 12:30 | GHTC 2018 Lab Panel Session**

**12:30 - 13:30 | Lunch**

**13:30 - 15:00 | Breakout Sessions**

- Session 1: Technology Enhanced Healthcare
- Session 2: Participatory HAC Workshop
- Session 3: Community Engagement, Capacity-Building, and Behavior Change
- Session 4: Technology Enhanced Quality Education Delivery

**15:30 - 16:00 | Break**

**16:00 - 17:30 | Breakout Sessions**

- Session 1: Technology Enhanced Healthcare
- Session 2: Participatory HAC Workshop
- Session 3: Social Science & Entrepreneurship Community Engagement, Capacity-Building, and Behavior Change Other United Nations Sustainable Development Goals
- Session 4: Technology and Applications for Poverty Alleviation

**17:30 - 19:00 | Poster Session**

**19:00 | Awards Ceremony**

- **Speaker:** Ben Wilson

## **Sunday, October 21st**

**07:30 - 10:00 | Registration Opens**

**08:30 - 10:00 | Breakout Sessions**

- Sessions 1: Technology Enhanced Healthcare
- Session 2: Humanitarian Challenges & Opportunities
- Connectivity & Communication

- Building Capacity for the Coming Era of Connectivity: The Next Billions

**10:00 - 10:30 | Break**

**10:30 - 12:00 | Plenary and Closing**

**12:00 | Conference Ends**

# Young Professionals Reception

Join us for a reception focused on professionals getting started in their careers. IEEE defines Young Professional as individuals who have graduated from their first professional degree within the past 15 years. All others are also welcome to join us!

FREE to GHTC attendees!

Thursday, October 18

6:00PM: Introduction of IEEE YP by Wenbo Yin, Chair Santa Clara Valley Section Young Professionals

6:10PM-6:40PM: Reception Speaker: Erna Grasz, Asante Africa Foundation

6:40PM-6:50PM: Student Poster Winners Announcement

6:50PM-8:30PM: Networking Session

8:30PM: Adjourn



**Title:** The “How To Guide” to Getting Your Humanitarian Innovation Funded

The concept works and now how do I get to the next step? Erna Grasz will share several creative tips and techniques to sources of funding, developing partnerships and moving your project to the next level.

**About Erna Grasz:** Erna Grasz co-founded Asante Africa Foundation with two visionary African women from Kenya and Tanzania. She refers to herself as a Systems Engineer turned Systems Entrepreneur for Global Impact. Originally trained as an Electrical-System Engineer, she spent her early career at Lawrence Livermore National Laboratory and then in Silicon Valley. While spending 25 years in the Corporate world as a senior executive, she earned the reputation as a strategic leader, “organizer of chaos” and with demonstrated success in diverse industries, including medical device, defense research, and semiconductor capital equipment. In 2011 she left the corporate world to manage the organization full time. Erna brings her business savviness to the Non Profit world and is the visionary behind many of the organization’s innovative programs and practices. She has a strong belief in local staff, local partnerships and developing local talent for the long term sustainability. In 2013 Erna was the recipient of the Jefferson Award for public service. In 2014 She received a “Distinguished Engineering” Award for her Innovation in Developing Countries. In 2016 She was a HULT Prize Judge for Innovation in Urban slums ( Clinton Global Initiative). Recently Erna received the 2018 Gratitude Network Fellowship and Award.

# Workshops

## Participatory Workshops on Health, Disaster Situations, Energy and HAC

IEEE GHTC 2018 is introducing Participatory Workshop/Panel Sessions into this year's program to showcase practitioner and field research related experiences as well as technology adoption or adaptation related issues. This year we are focusing on

- Disaster Recovery
- Energy
- Health

We welcome submissions from the public, private, education and research and societal sectors. While the format of individual sessions may vary depending on the submissions accepted, submissions providing an opportunity for conference delegates to interact with or see live demonstration of technology or to better understand from practitioners as well as MDP Students unintended or unanticipated consequences of interventions (whether or not there was a positive outcome) will be prioritised.

Please submit your proposals highlighting (a) the nature of the proposed contribution and (b) how acceptance of this submission will strengthen the impact of IEEE GHTC 2018 by raising awareness of innovative technology or engineering solutions or sharing insight into important social, cultural, ethical or acceptance and local ownership related issues to be considered when doing field research or implementation projects.

## IEEE HAC Participatory Workshop: Technology for the SDGs

**Thursday, October 18 from 10 AM to 5 PM**

\*free, separate registration required

IEEE Humanitarian Activities Committee would like to invite IEEE GHTC 2018 conference participants, SIGHT members, active volunteers and volunteer leadership of EPICS in IEEE, Internet Initiative, Smart Village, MOVE, IEEE Empower a Billion Lives and IEEE-Eta Kappa Nu (IEEE-HKN), MDP staff and students, sustainable development labs, humanitarian technology or engineering programs and other key stakeholders active in the sustainable development space to join us and contribute during this full-day participatory workshop.

This participatory workshop will combine theory, practice and working group collaboration. Participants will have the opportunity to take a deep dive into how science, technology and engineering can make a significant contribution to the successful implementation of SDGs. Total beginners, enthusiastic amateurs, experienced practitioners and scientists, technologists and engineers will have the opportunity to learn from one another by combining personal experience with the diversity of perspectives and lessons learned shared during the conference. Kindly register online as space is limited!

To register for this click [here](#) and select "IEEE HAC Pre-Conference Workshop" to register!

# **IOT Workshop**

## ***IoT architecture for humanitarian services***

*October 18, 1:30 pm -5:30 pm*

This workshop is included with conference registration. There will be no additional charge.

### **Abstract**

In this 4-hour workshop we discuss potentials of Internet-of-Things (IoT) technologies in addressing humanitarian challenges in developing countries. We explore many examples of IoT applications, use-cases, and benefits such as improving agricultural production by alerting farmers about weather patterns, healthcare by remotely conducting remote diagnosis of diseases, livestock care by using of RFID tags, public health and safety by monitoring water sanitation and fire. In the second part, we describe the main IoT building blocks: (1) sensor types and their interfaces, including UART, SPI and I2C; (2) common microcontroller platforms including STM32 Nucleo, Samsung ARTIK, PIC MCU, etc.; (3) connectivity requirements and wireless technologies such as ZigBee, Wi-Fi, LoRa, Bluetooth Wireless 4 .0 LE, RFID, and NFC in terms of range, bandwidth, and battery life; (4) cloud computing and storage platforms such as AWS, IBM Blue mix, Microsoft Azure, GE Predix, etc. We also elaborate on power harvesting methods and the importance of power management for IoT-based networks and ways to optimize node life-time. We conclude the workshop with live demonstration of several IoT-based systems each having different design criteria and power constraints. The audience can interact with the systems and explore their capabilities and limitations.

### **Learning Objectives**

The primary motivations of the tutorial are as follows:

1. Learn the concept and architecture of IoT
2. Understanding IoT components
3. IoT related protocols
4. Wireless technologies used in IoT enabled systems
5. Explanation on IoT domain related to Hardware, Sensors and connectivity protocols.
6. Walking through various connectivity methodologies.
7. Importance of various IoTcloud platforms.
8. Creating social awareness with demonstrating various real-time applications

### **Schedule**

1.30 to 2.25 pm Session 1: Introduction to Internet of Things (IoT), Architecture & Building blocks

2.25 to 3.20 pm Session 2: Networking Technologies, IoT Protocols, Hardware, Wireless & Sensors

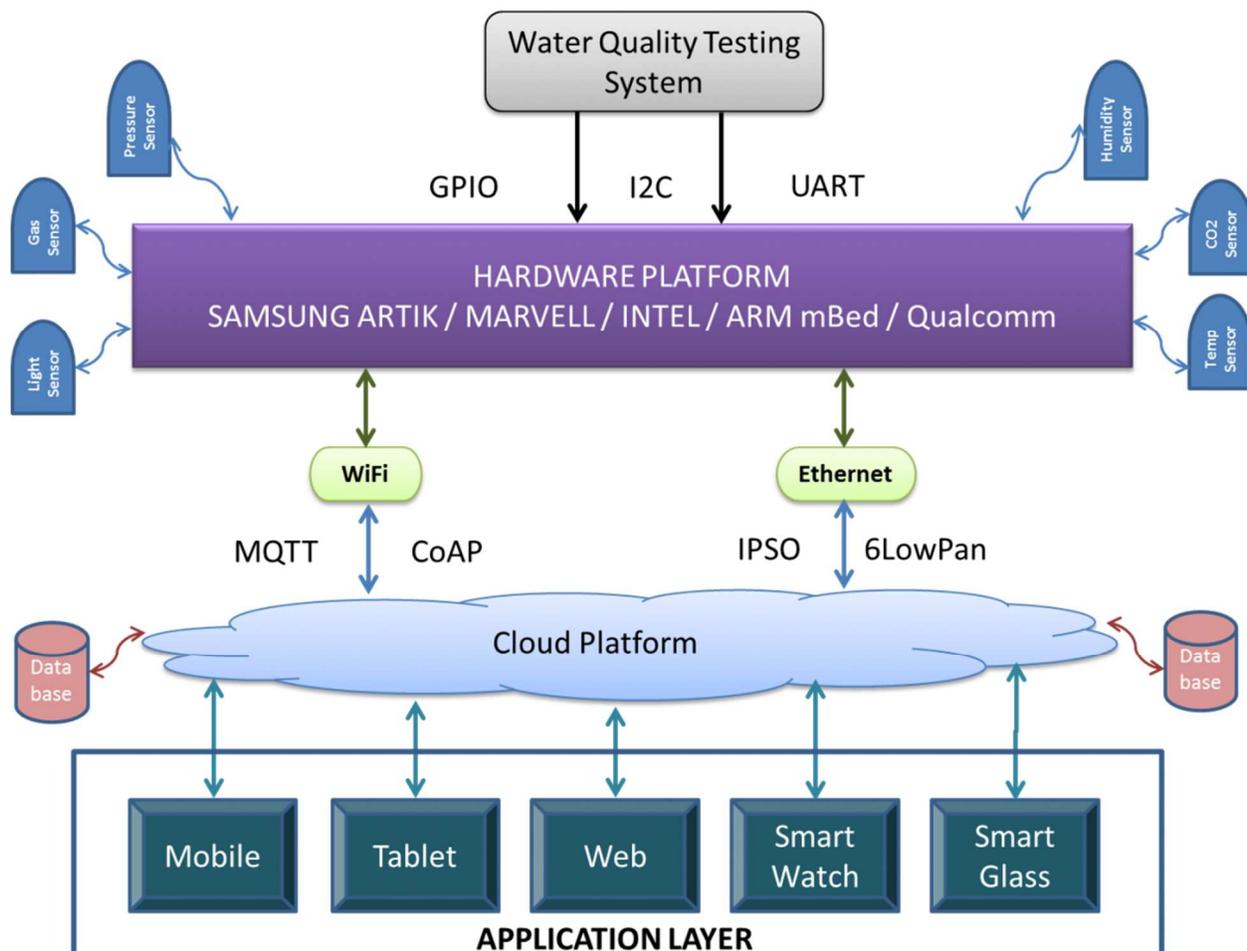
3.20 to 3.40 pm Break

3.40 to 5.00 pm Session 3: IoT Cloud platforms, Analytics, Security & Demo

5:00 to 5.30 pm Session 4: Use Cases, Real time projects & QA –

## Description

The tutorial is designed to introduce low cost, reliable and real-time solutions for IoT enabled monitoring and control systems, such as Remote Water Testing, or air quality monitoring systems (as shown below). In today's world cloud-enabled systems are considered as smart systems due to their capability of sensing, data processing, decision making and communicating with the cloud.



The participants will learn how sensors are connected to the hardware platform and how the hardware platform fetches data from sensors and pass it to cloud using various connection methodologies. The participants will identify the need for various IoT enabled monitoring systems.

Also the tutorial will introduce various sensors used in monitoring systems, IoT hardware platforms, networking topologies, protocols (CoAP, 6LoWPAN, REST, MQTT, HTTP etc. ) and cloud platforms.

Participants will go through few case studies, schematics, design methodologies and infrastructure details. Participants will be proposed to design and execute a real-time parameter Monitoring project based on the learned concepts and principles and expected to complete the project within additional off-time tutorials days.

## **Who Should Attend?**

Students at all levels (B.Tech. /M.Sc./M.Tech./Ph.D.) or Faculty from reputed academic institutions and technical institutions.

## **Length**

Half day

## **Presenters Curriculum Vitae**



*Shivakumar Mathapathi, Co-Founder and CTO, Dew Mobility*

*Team Lead – Global City team challenges hosted by National Institute of Standards & Technology, USA  
Industry Advisor- Senior Design Project- Department of Electrical Engineering, Santa Clara University, CA  
Capstone Industry Advisor- MSIS- Smart City project- Santa Clara University, CA, USA*

*Guest Lecture – IoT course – School of Engineering – Santa Clara University, CA USA.*

*Mentor: Senior Design Project - Sonoma State University, CA, USA.*

Mr. Shivakumar Mathapathi has over 25 years of experience in product development, design and faculty. Mathapathi is a seasoned technologist, entrepreneur, instructor and practitioner on the Internet of Things (IoT) with extensive experience as lead faculty, lab-practice and mentorship in executing smart city, smart agriculture, assisted living and other IoT related projects. He has designed study programs and academic syllabus for The IoT course, a Masters curriculum (4 units) taught at Santa Clara University and California Polytechnic State University. He led capstone design project at Cal Poly (part of California State University) to design and develop IoT cloud platform needed for smart city.

Mr. Mathapathi has contributed to build the ecosystem and establish innovation pathways for the OpenIoT project, a blueprint and awarded Open Source project in the Internet of Things for smart Cities sponsored by the European commission. He is focused on academic research and Innovation and he is involved in architecture design and development of smart city projects such as smart trash monitoring, Flood monitoring and smart trail traffic monitoring –designed for the City of San Luis Obispo. California.



Mr. Mathapathi is also a team lead for Global City team Challenge (GCTC) project hosted by the National Institute of Standards and technology (NIST) under the Department of Commerce, USA. GCTC team comprises of Sonoma State University, Santa Clara University, City of San Leandro, City of Galway (Ireland) and City of Rohnert Park, CA.

Mr. Mathapathi has designed IoT development kit (patent file pending). The Kit enables design proof of concept (PoC) for IoT application. The kit consists of various sensors viz Temperature, Humidity, Air quality (CO<sub>2</sub>), Light, pressure and Gas sensors connected to AWS (Amazon) IoT cloud platform.

Farid Farahmand received his PhD in 2005 and is currently the Chair of the Engineering Science Department (Electrical Engineering) at Sonoma State University in California, U.S.A. He is also the director of Advanced Internet Technology in the Interests of Society Laboratory. Prior to his academic position at Sonoma State, Dr. Farahmand worked as the research scientist at Alcatel-Lucent Corporate Research and was involved in development of terabit optical routers. Farid has received multiple Fulbright Fellowships, and he has been a Fulbright Scholar since 2014. Dr. Farahmand holds multiple international patents, numerous reference conference articles and journal publications, and several book chapters, on the subjects of wireless communications, Internet-of-Things, optical networking, green networking, and delay tolerant networks. He has also authored many educational papers focusing on eLearning and Active Learning in classrooms. Farid is actively involved in many conferences and serves as the reviewer and co-editor to a number of technical conferences and journals. He is a member of IEEE, ASEE, and Engineers Without Borders-USA.

# Panels

## Smart Village Plenary Panel

### Field Perspectives on the UN SDGs

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**Friday, October 19th 11:30 AM - 12:30 PM**

This panel organized by IEEE Smart Village brings together a set of experts from an array of backgrounds to discuss crosscutting between the UN Sustainable Development Goals in the perspective of in-field projects from across the globe.

Each of the panelists will address an SDG relating to their area of interest and work in sustainable development. Topics to be discussed will include

- The significance of each SDG and its target indicators
- SDG what progress has been made in the field for implementing the SDG
- what technical, social, and financial obstacles need to be overcome
- what innovations have been / need to be developed to accomplish the SDG

The forum will be organized as an interactive session during which each of the panelists will provide their view on each SDG, after which the audience can provide questions, comments, and field experiences. About 10 to 15 min will be allocated to discussion of each SDG.

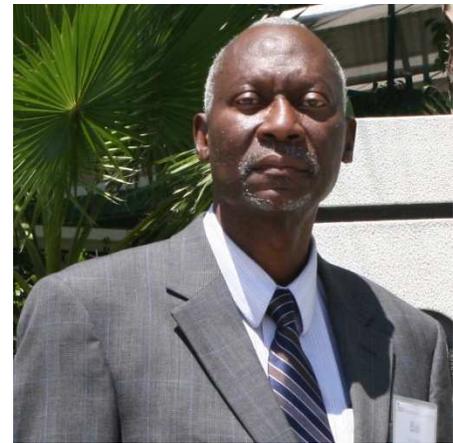
- SDG 3: Good Health & Well-Being
- SDG 4: Quality Education
- SDG 6: Clean Water & Sanitation
- SDG 7: Affordable & Clean Energy
- SDG 8: Decent Work & Economic Growth
- SDG 9: Industry, Innovation, and Infrastructure
- SDG 17: Partnerships for the Goals

## Panelists:



**Solomon Darwin** is the Executive Director of the Garwood center at the Haas School of Business. He defines a smart village as “a community empowered by Digital Technologies & Open Innovation platforms to access global markets,” with the goal of “empowering people with access to tools, resources, real time transparent information and uninterrupted internet connectivity.” Darwin has an MBA from Golden Gate University and an MCCP from Harvard University's Graduate School of Business.

**Bai Blyden** is Vice Chair of the IEEE Smart Village Development Committee. He continues the legacy of his great grandfather, the human rights advocate and political philosopher Edward Wilmot Blyden (considered by many to be the father of Pan Africanism). Blyden received an MS in power systems engineer from the Moscow Energetics Institute, and is currently creating a Knowledge Engine for systems-based knowledge capture and transfer of best practices, education, technologies, and development strategies to every African community.



**Alexander Anderson** is Chair of Partner Engagement at IEEE Smart Village and CEO of EmpowerPack Social Purpose Corporation. He focuses on strategy development and management of community infrastructure enterprise system-of-systems programs, as well as the development of innovative, rugged, and inexpensive solutions to ICT access for healthcare, education, and job creation. Anderson has an MS in power systems engineering from Washington State University and is a PhD candidate in Systems Engineering at Colorado State University.

**Nirupama Kumar** is a Senior Manager at Smart Wires Inc. and is active with numerous IEEE committees, including IEEE Smart Village, SIGHT, HAC, PES, WIE, and Sustainable Microgrids Task Force. She is an expert in energy markets strategies, delivering technologies to underprivileged communities, and coordinating programs for volunteers and community development in India and Zambia. Kumar received a MS from the University of Washington and MBA from Cornell University as an Environmental Finance and Impact Investing Fellow.



**Robert Wubbena** is President of Transform International, retired Vice President of HDR Engineering, and former President of the American Water Works Association. He served on the board of Water for People for many years and was Vice-Chair of WASRAG (Rotary Int'l) for 6 years. Wubbena has launched, nurtured and supported large WASH programs and circuit rider training projects in rural America, Malawi, Papua New Guinea, and elsewhere.

**Paul Cunningham** is CEO of the International Information Management Corporation and Director of the IST-Africa Institute and mHealth4Afrika. He is a technology, strategy, and policy expert for creating strategic collaboration with ministries and national councils responsible for innovation, science and technology in 18 African Member States. He is also 2017-18 President of the IEEE Society for Social Implications of Technology, 2018 Chair of the IEEE Humanitarian Activities Committee, and member of the Technical Activities Board. Cunningham has received degrees from Trinity College Dublin, UCD Graduate Business School, and is a PhD candidate in Computer and System Sciences at Stockholm University.





**Joe Decuir** is Editor of the IEEE 2030.10 DC Microgrids Standard, former Secretary of IEEE Region 6, and past chair of several IEEE GHTC conferences. He is focused on adaptation of USB, Bluetooth, and other communications protocols to enable plug-and-play compatibility between DC microgrid hardware. Decuir is a Fellow of IEEE and received an MS in Electrical Engineering from UC Berkeley.



# GHTC 2018 Lab Plenary Panel

**Saturday, October 20th 11:30 AM -12:30 PM**

The panel is on "The Role of Education in Development". We are excited to have a great panel this year. All Panelists are listed below.

*Kofi Taha - Associate Director MIT D-Lab as moderator*



As part of MIT D-Lab, Kofi's work focuses on advancing asset-based approaches to community-driven technology design and solution finding in communities where people on average earn less than \$3 a day. He has co-facilitated village-level technology design trainings in Uganda and Haiti; helped interdisciplinary teams commercialize social impact products in Ghana and Tanzania; provided support to local innovation centers in Brazil, Colombia, and India; and helped build the International Development Innovation Network (IDIN.org), a global community of 1000+ innovators, entrepreneurs, ecosystem builders, researchers, and educators. Kofi pursues similar work in K-12 after-school programs in Mississippi and Massachusetts that focus on making design and educational resources accessible to geographically and economically isolated communities. Regardless of context or whether technology is a focus, what

drives his work is a commitment to improving the use of inclusive practices that lead to practical solutions and equitable opportunities in historically excluded communities. Kofi studied political economy at Columbia University, urban planning at MIT, and is a doctoral candidate at the Harvard Graduate School of Education; he is from the Bronx and rarely eats pizza outside of New York City.

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*Dr. Eric Verploegen, Research Engineer MIT D-Lab*

Eric Verploegen joined D-Lab in 2014 to expand D-Lab's research efforts in the area of off-grid energy.

Prior to D-Lab, Eric worked on developing materials for solar cells and waste remediation systems for the oil and gas industry. He is passionate about helping organizations based in off-grid regions identify technologies, products, and distribution strategies to increase energy access in their communities.



He has a background in materials science and received his Ph.D. in Polymer Science and Technology from MIT in 2008.

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*Khanjan Mehta - Vice Provost for Creative Inquiry and Director for the Mountaintop Initiative Academic Affairs at Lehigh University*



Khanjan Mehta is the inaugural Vice Provost for Creative Inquiry and Director of the Mountaintop Initiative at Lehigh University. Mehta champions the creation of learning environments and ecosystems where students, faculty, and external partners come together to increase their capacities for independent inquiry, take intellectual risks and learn from failure, recognize problems and opportunities, and effect constructive and sustainable change. In a previous avatar, Mehta was the Founding Director of the Humanitarian Engineering and Social Entrepreneurship (HESE) Program, Assistant Professor of Engineering Design, and Affiliate Professor of International Affairs at Penn State. Mehta serves as an Associate Editor for the IEEE Technology and Society Magazine and Contributing Editor for the Engineering 4 Change portal. His latest book, Solving Problems that Matter (and Getting

Paid for It), takes a deep dive into STEM careers in social innovation and global sustainable development.

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*Dr. Silvia Figueira, Santa Clara University*

Dr. Silvia Figueira received her B.S. and M.S. degrees in Computer Science from the Federal University of Rio de Janeiro (UFRJ), Brazil, and her Ph.D. degree also in Computer Science from the University of California, San Diego. Currently, she is an Associate Professor of Computer Engineering at Santa Clara University, where she is also the director of the SCU Frugal Innovation Hub, in which she leads the Mobile Lab and advises students working on mobile applications for under-served communities and emerging markets. She has published over 70 papers and has established several collaborations with both companies in Silicon Valley and social entrepreneurs in the United States and abroad.



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*Macauley Kenney, Instiglio*



Macauley manages operations for Instiglio, a Colombian-based non-profit that consults on Results-Based Financing. Before joining Instiglio, she researched the impact of founding team composition on access to resources for improved cookstove companies as a fellow at MIT's D-Lab. Macauley co-founded the Rwandan freight brokerage Kumwe Logistics, and consulted on company operations for early-stage ventures in the U.S. She holds a master's in Technology and Policy from MIT, a sustainability certificate from the Sloan School of Management, and a bachelor's in Biomedical Engineering from Worcester Polytechnic Institute. She can be reached at [mkenney913@gmail.com](mailto:mkenney913@gmail.com).

# **Disaster Management Panel**

**Moderator:** Paul Cunningham, Chair, IEEE Humanitarian Activities Committee

**Panelists:** Ranjit R Nair, Suresh P. Ojha, Dr. Paul Gardner-Stephen

**"Kerala floods and IEEE's role in the civil society response".**

**Ranjit R Nair**

**Bio:**

Ranjit Nair is currently working as Consultant Project Manager with Enlighten Technologies. He is a long time volunteer with IEEE , and was involved from the initial stage of Kerala flood relief. Ranjit also serves in IEEE EAB Student Educational resources Committee and is the Chair of Membership Development committee in Kerala Section. He was the founding Chair of IEEE Kerala Young Professionals Sight, one of the initially formed sight group globally.

**"Lessons from the Nepal earthquake"**

**Suresh Ojha, President, GNPN**

**Bio:**

Suresh P. Ojha is a senior member of the IEEE and a member of the MTT Society.

In 2003, Suresh established the Nepal RF and Microwave teaching and research laboratory at Tribhuvan University in Kathmandu Nepal. He also spent one years establishing an RF and Microwave curriculum.

In 2014 he was invited by the US Pacific Command to participate in the Pacific Endeavor 2014 Military communication exercises which took place in Kathmandu. During the 2015 Nepal earthquake he was heavily involved in coordinating the response on behalf of the Nepali-American diaspora to the events on the ground in Nepal. Suresh is the US-based project leader of the Radio Mala amateur radio expansion program in Nepal. This program installed the only functioning amateur radio repeaters in Nepal which were successfully used during the 2015 earthquakes.

He is President of the Global Nepali Professional Network (GNPN) <http://www.gnnpn.org>.

**Dr. Paul Gardner-Stephen, Telecommunications Research Laboratory at Flinders University**

Paul leads the Telecommunications Research Laboratory at Flinders University, Australia, where he focusses on developing communications solutions for challenging environments, including small remote communities and disaster affected areas. His recent work includes the development of a low-cost tsunami and all-hazards disaster warning system with integrated village-wide FM radio transmitter, following his philosophy that disaster warning and mitigation systems must have a use every day of the year, if they are to be expected to work when they are needed.