

Summary Program Schedule as at 10 October 2019

Thursday 17 October 2019				
	Cascade 1&2		Cascade 3&4	Cascade 5&6
13:00 - 17:00	Workshop: IoT and AI architecture for humanitarian services		Tutorial: Applied Machine Learning for Social Good	Workshop: Fundamentals of Off-Grid Electrical Systems
17:00 - 19:00	Student Poster Competition (NW Ballroom)			
19:00 - 21:00	<i>YP Welcome Reception (cash bar) and Poster Awards (NW Ballroom); Tickets required: Registration and payment required as part of online registration</i>			

Friday 18 October 2019						
WELCOME ADDRESS AND PLENARY						
Networking Coffee Break						
	Cascade 1&2	Cascade 3&4	Cascade 5&6	Cascade 9	Cascade 7&8	
08:00 - 10:00	Energy 1: Mini-Grids					
10:00 - 10:30	Health 1: Assistive Solutions					
10:30 - 12:00	Agriculture 1: Smart Farming					
10:30 - 12:00	Connectivity 1					
10:30 - 12:00	Contributing to IEEE Sustainable Development Activities Around the World (Participatory Workshop)					
10:30 - 12:00	1570547579	1570548155	1570557089	1570556974		
10:30 - 12:00	Distribution Loss Analysis of DC Microgrids for Rural Electrification	NavSense: A Navigation Tool for Visually Impaired	Smart Agriculture in Uganda	Application of the V-HUB Standard using LoRa Beacons, Mobile Cloud, UAVs, and DTN for Disaster-Resilient Communications		Moderator - Prof. Paul M Cunningham
10:30 - 12:00	1570557172	1570556343	1570548096	1570547802		
10:30 - 12:00	Cost Optimization of Hybrid Microgrid for Rural Electrification along Western Alignment of China-Pakistan Economic Corridor (CPEC) in Pakistan	Novel Hybrid Teleophthalmology: Technological Case for Oculofacial Surgery	Low-cost instrumentation of high-tunnels for a small co-op farm	Bluemergency: Mediating Post-disaster Communication Systems using the Internet of Things and Bluetooth Mesh		Confirmed Contributors include: Engr. John Funso-Adebayo, Chair, IEEE Region 8 HuAC Miriam Cunningham, IEEE SSIT IST-Africa SIGHT
10:30 - 12:00	1570556814	1570556718	1570556884	1570556829		
10:30 - 12:00	Roadmapping Minigrad Innovations for Cost Reduction	Non-Invasive Bilirubin Level Quantification and Jaundice Detection by Sclera Image Processing	Aquaponics Water Monitoring and Power System	Smart Street Lights and Mobile Citizen Apps for Resilient Communication in a Digital City		
10:30 - 12:00	1570547069	1570557008	1570557137	1570557111		
10:30 - 12:00	An energy justice based approach for electrification planning - An agent-based model	Memhans: an Assistive Device for Dementia Patients	Identifying Beehive Frames Ready For Harvesting	Communications Lessons Learned from Operation of the IEEE MOVE Disaster Relief Vehicle		
12:00 - 14:00	Lunch and Keynote					
14:00 - 15:30	Energy 2: Small-Scale Solar					
14:00 - 15:30	Health 2: Supporting Vaccination and Immunisation					
14:00 - 15:30	Agriculture 2: Soil & Land Management					
14:00 - 15:30	Connectivity 2					
14:00 - 15:30	Education 1: Supporting Training and Innovation					
14:00 - 15:30	1570548100	1570547246	1570557114	1570548205	1570547762	
14:00 - 15:30	Rehabilitation of Solar Home Systems and Sustainable Development for an Island Community in Ecuador	Leveraging Geographic Information Systems Technology and Local Insight to Improve Polio Vaccination Coverage in Borno State	UAV Image Processing Algorithms for Analyzing Reforestation Efforts in Tanzania	Alternative Backhaul link for Community Cellular Network in Rural Coastal Areas	Humanitarian Organization ICT field specialists training: Bridging theoretical and practical humanitarian knowledge	
14:00 - 15:30	1570539902	1570555955	1570552683	1570557148	1570557069	
14:00 - 15:30	Estimation of the Potential of Small-scale Photovoltaic Systems in Underdeveloped Area of North Korea for Humanitarian Purposes	Geospatial Data Management Support for the Planning and Delivery of Polio Vaccination Campaigns in Borno State, Northeast Nigeria	Mining Spectral Libraries with Machine Learning for Soil Sensing in Low Resource Settings	Sustainable Development by Internet Backpack in the Democratic Republic of the Congo, Liberia and Costa Rica	Improving the Quality of Education on the Galapagos Islands through a Community Intranet	
14:00 - 15:30	1570554390	1570557115	1570564479	1570557084	1570547320	
14:00 - 15:30	Techno-Economic Analysis of Wireless Community Grid for Rural Communities	Development of Sahabat Vaksin, a Vaccine Knowledge Portal to Support Immunization Willingness and Timeliness in Indonesia	SWAMP Project: IoT for Water Management & Irrigation	Low-cost Remote Monitoring System for Small-Scale UPS Installations in Developing Countries	Frugal Innovation in a Jesuit University in Puebla Mexico	
14:00 - 15:30		1570557123		1570557004	1570549273	
14:00 - 15:30		Nomadic Route Identification and Polio Vaccination Activities for Unreached Mobile Population in Borno State, Northeast Nigeria		Increasing Human Development in Rural Mexico through Policies for Internet Access	A Mobile Educational Lab Kit for Fragile Contexts	
15:30 - 16:00	Networking Coffee Break					
16:00 - 18:00	Energy 3: Energy for Irrigation & Productive Uses					
16:00 - 18:00	Health 3: Global Health					
16:00 - 18:00	Agriculture 3: Leveraging Sensors and Smart Technology					
16:00 - 18:00	Connectivity 3					
16:00 - 18:00	Education 2: Addressing Challenges					
16:00 - 18:00	1570554084	1570571609	1570557259	1570546764	1570557096	
16:00 - 18:00	Irrigation Optimization for Agriculture Productivity: Case Study of a Hybrid Solar Microgrid in Rural India	mHealth4Africa Pilot Validation in Healthcare Facilities in Ethiopia, Kenya and Malawi	Enhancing Agricultural Practices Through Mobile Technology Interventions: A Case of The Democratic Republic of Congo	Mobile technologies as assistive technologies in humanitarian and development contexts	Affordable Custom Three-Dimensional Anatomy Atlases	
16:00 - 18:00	1570540601	1570556904	1570543486	1570557161	1570554401	
16:00 - 18:00	A Method for Evaluating Unregulated Solar Irrigation Pumping Systems: Results and Observations	Managing Knowledge Incorporated into Solutions for Customisable Global Health Technologies	Farm-to-Fork Computing: Sensor Networks in Agriculture's Coldchain	Image-based Bengali Sign Language Alphabet Recognition for Deaf and Dumb Community	Affordable Medical Ultrasound Navigation Training	

1570550548	Intelligent Interconnection of Operating Micro-Grid and Irrigation System in Dharnai - A Rural Indian Scenario	1570557145	A case study on implementing a technological medical device into the health care system of Sierra Leone	1570556992	Low-Cost Sensor Network for Collecting Real-Time Data for Agriculture by Combining Energy Harvesting and LPWA Technology	1570542902	Sense of Community in Online Social Networks at University Environments	1570548802	Participatory design innovation to solve challenges in rural Uganda: A model for the future
1570557039	Techno-Economic Analysis of PAYG Productive Uses of Energy in Malawi	1570557147	Analysis of Failure Modes: Case study of Ruggedizing a low-cost Screening Technology in Sub-Saharan Africa			1570556993	Design and Development of Khadi-Kart: A Web-based application for rejuvenating the Handloom Industry in India	1570557076	Analyzing the Factors Contributing to Graduate Unemployment
		1570557078	Mechanical properties of ESM-UBT: An ultra-low cost uterine balloon tamponade device			1570557117	The Enabling Power of Mobile Devices	1570548019	Serve an Hour: A Service-Learning model Paving the Pathway to a Sustainable Future
Networking Opportunities (Cash Bar)									

18:00 - 19:00

Saturday 19 October 2019									
PLENARY									
Networking Coffee Break									
Cascade 1&2		Cascade 3&4		Cascade 5&6		Cascade 9		Cascade 7&8	
Energy 4: Innovations		Health 4: Diagnosis		Agriculture 4: Applications & Case Studies		Sustainable Development - Applications		Water 1: Supporting Sanitation	
1570557054	Solar Electric Cookstove - A First Generation, High Efficiency Solar Electric Cooking Device Prototype	1570546920	Fully-automated patient-level malaria assessment on field-prepared thin blood film microscopy images	1570554981	Complete diet in minimal area	1570557128	CompostNet: An Image Classifier for Meal Waste	1570548129	The Shifting Global Trends in Practice of Basic Sanitation Services: An In-depth Comparative Analysis of the Current Conditions and Future Policy Recommendations
1570548154	Synergy: A Smart and Scalable Energy Measurement Platform for Electricity Consumers	1570556822	Schistoscope: Towards a locally producible smart diagnostic device for Schistosomiasis in Nigeria	1570547854	Low cost Brussels sprouts harvester for small farms	1570557132	Leveraging Big Data to Identify Corruption as an SDG Goal 16 Humanitarian Technology	1570547852	Seeing the forest for the trees: A systems approach for rural water and sanitation service management and operation
1570557185	A Sustainable 3D-printed casing for Hydro-System Automation Sensing Units	1570544134	WIPO Re:Search: Driving Progress Toward the SDGs by Catalyzing Drug, Diagnostic, and Vaccine Development for Neglected Diseases	1570549826	Combating Food Insecurity with Large Scale Aquaponics: A Case Study in Silicon Valley	1570556840	Crypto for Good: Mining with Probabilistic Hashrate Distribution to Fund Humanitarian UAV Deployment	1570557109	An Inclusive Community Based Water Purification and Monitoring System for the Base of the Pyramid
1570547805	Development of a Technology Solution for Cooling of Milk by Biogas in Farms	1570548049	Tracing infectious agents with mobile location information: A simple and effective countermeasure against epidemic risks			1570551449	Geo-Referenced Infrastructure and Demographic Data for Development	1570557011	Rwanda Ecological Sanitation Latrine Design
Lunch and Keynote									
Energy 5: Supporting Adoption		Health 5: Diagnosis & Screening		Disaster Mitigation 1: Leveraging appropriate technologies		Sustainable Development - Case Studies 1		Water 2: Effective Water Reuse	
1570554201	Beneficiary to Community Leader: Capacity Building through a Renewable Energy Project in Rwanda	1570556984	Non-invasive Blood Glucose Estimation Using Multi-sensor Based Portable and Wearable System	1570556646	Towards Practical Utilization of Unmanned Aerial Vehicle in Disaster Mitigation - UAV Operation Drill -	1570536987	The positive impacts of sustainability in the community: A study of the FEG-Sustentável project	1570547358	A Homemade Arsenic Filter for Santiago del Estero Forest
1570535890	Sustainable model for rural electrification projects in Non-Interconnected Areas in Colombia	1570557097	Feasibility of Non-invasive Blood Glucose Level Detection Using Near-Infrared Optical Spectroscopy	1570535828	Using Drones in Disaster Areas: Perspectives of Disaster Responders in North Carolina, Virginia and Maryland	1570557059	Evaluating Progress of a Social Venture in Wakiso District Uganda	1570547837	Open-Source IoT Framework for Mobile Household Water Reuse System
1570547394	Women-Specific Training Programs for the Development of a Renewable Energy Workforce	1570548146	A Low-Cost, Point-of-Care Sickle Cell Anemia Screening Device for Use in Low and Middle-Income Countries	1570556653	Wi-SF: Aerial Wi-Fi Sensing Function for Enhancing Search and Rescue Operation	1570557165	IEEE SIGHT Hits The Road - Capacity Building Workshops to Accelerate Humanitarian Technologies Applications Growth in Indonesia	1570548884	Rwanda Water Distribution
		1570548126	Integrated Robotic System for the Development Lateral Flow Assays	1570557184	Autonomous Navigation and Collision Avoidance Surface Watercraft for Flood Relief Operations	1570548068	Navidad FIEELIZ 10 años	1570556859	Modeling the Viability of a Refrigeration-Based Atmospheric Water Generator under the Present-Day Climate
Networking Coffee Break									
Energy 6: Field Experiences		Health 6: Supporting Diagnosis & Treatment		Disaster Mitigation 2: Leveraging Information Systems		Sustainable Development - Case Studies 2		Water 3: Supporting Access to Water	
1570552482	Analysis of Field Collected Data for a Prototype Photovoltaic System in Nauta, Peru	1570557049	A Mobile Application for Early Diagnosis of Pneumonia in the Rural context	1570547632	Reducing cost while increasing the resilience & effectiveness of tsunami early warning systems	1570556865	Predicting Biker Density at Bikeshare Station Intersections in San Francisco	1570548552	Solar Domestic Water supply in the Mountains of Rural Haiti: Five Years Operational Experience
1570557262	Assessing a Refugee Camp in Mayukwayukwa Zambia	1570548143	Ultra-low-cost, high quality bubble CPAP for low resource settings	1570561197	Fire detection in video sequences using a machine learning system and a clustered quantitative image marker	1570531787	Ergonomic Design Issues in Roadside Motorcycle Repairing in India	1570545871	A Water System Using a DC Pump for Remote Solar Installations

15:30 - 16:00

16:00 - 18:00

1570547541	Impact Assessment of Energy Kiosks in Rural Zambia	1570556810	Driven By Africa, For Africa - Improving Access to Cancer Medicines and Technologies through the African Access Initiative (AAI)	1570557151	Design of a Disaster Information System using Mobile Cloud Wireless Mesh with Delay Tolerant Network	1570546086	Design Analysis of the Wooden Palanquin used in Yamunotri Dham	1570557121	Can Desalination be an Economically Viable Solution for Water Scarcity?
1570556761	Sustainability of Solar PV Energy Kiosks for Off-Grid Energy Access: Malawi Case Study	1570547951	Development of CERVIS: Cervical cancer Early Response Visual Identification System	1570557082	Comprehensive Air Quality Management System for Rapidly Growing Cities in Developing Countries	1570557964	Community Approaches To Recycling Plastics	1570599075	Water Treatment Systems Based on Using Non Conventional Sources of Energy
1570548254	Charcoal Distribution Chain in Kisumu, Kenya	1570557292	Towards Universal Cardiac Care: Telecardiology for Resource-constrained and Economically Disadvantaged Communities	1570542301	A Sustainable Approach to turn Plastic Waste into Useful Construction Blocks	1570548081	Power Wearable Medical Device Components Via Thermoelectric Circuit Integration		
Networking Opportunities (Cash Bar)									
18:00 - 19:00									
19:00 - 20:30	Networking Dinner (Subsidised by GHTC 2019) - Tickets required: Registration and payment required as part of online registration								

Sunday 20 October 2019									
Cascade 1&2		Cascade 3&4		Cascade 5&6		Cascade 9		Cascade 7&8	
08:30 - 10:00	Smart Village	Health 7: Supporting Mobility		Disaster Mitigation 3: Supporting Rapid Response		UnConference Session			
		1570547826	Low-Cost Textile Myoelectric Control of Knee-Ankle-Foot-Orthosis	1570548814	Developing High-Value Technologies for First Responders				
		1570547846	Designing and Prototyping the Human-centered ELeCtric Prosthetic (HELP) Hand	1570557181	Implementing Communications and Information Dissemination Technologies for First Responders				
		1570548174	Simple Gait Segmentation Method Using a Novel Plantar Pressure Measurement System with Custom-Made Capacitive Sensors: Preliminary Results	1570556967	Designing a combined personal communicator and data entry terminal for disaster relief & remote operations				
		1570548186	Measurement of the Human Balance with one Inertial Sensor in Lower Back	1570548000	Low-Cost Open-Source Solution to Optimize Emergency Medical Services in Developing Communities by Tracking, Dispatching, and Simulating				
10:00 - 10:30	Networking Coffee Break								
10:30 - 12:00	Smart Village	Health 8		Disaster Mitigation 4: Supporting Disaster Recovery		UnConference Session			
		1570557087	A Novel Optimization Approach for Developing Foods that Address Childhood Malnutrition	1570557143	Scenario Planning for Disaster Relief Networks				
		1570557130	Predicting Substance Misuse Admission Rates via Recurrent Neural Networks	1570548723	3D Printing for Humanitarian Relief: The Printer Problem				
		1570544143	Robots in the Home: A Novel Suite of Interactive Devices for Assisting with Disease Prevention and Meal Preparation	1570547878	Socio-Economic Disaster Recovery Captured by Big Housing Market Data				
		1570548715	Development of a simplified reader for digital droplet assays performed in limited resource settings	1570557478	Towards Vulnerability Mapping on High Resolution Aerial Images: Roof Detection, GIS, and Machine Learning Techniques				
12:00	End of Conference								