Description of IoT Conference Talks & Bio of Speakers

RANGA VADLAMUDI & KEVIN SAYE, Microsoft	**Microsoft Azure IoT Guided Workshop** This is a hands-on guided workshop supervised by Microsoft Architects. Participants are going to build a complete IoT solution from scratch with devices, sensors, software and Azure cloud services including IoT Hub, Stream Analytics, Data Lake, CosmosDB and Power BI. If you like hacking on hardware and compiling software, or if you have never done this but want to try, this workshop is for you. We will use both open and close source solutions using the IoT Hub and discussion gateway scenarios for connecting your device and using Azure IoT.
ANTON SHMAGIN, AWS	**AWS IoT Workshop** AWS IoT is a managed cloud platform that lets connected devices easily and securely interact with cloud applications and other devices. AWS IoT can support billions of devices and trillions of messages, and can process and route those messages to AWS endpoints and to other devices reliably and securely. In this session, we will demonstrate how to connect to AWS IoT from a ESP32 device in under 5 minutes using Mongoose OS and then walk through how to use AWS IoT, Amazon DynamoDB, Amazon Cognito, Amazon S3, and other AWS services to develop your next revolutionary IoT product. The hardware kits for participants are sponsored by Espressif Systems.
Dr. ALVARO CARDENAS, UT Dallas	IoT Security- Videos showing some vulnerabilities in a variety of IoT devices by Junia Valente. Her work has been covered by Forbes, Threatpost (website and podcast), and she has a number of assigned CVEs. Alvaro A. Cardenas, an Assistant Professor, Department of Computer Science in the Erik Jonsson School of Engineering at the University of Texas at Dallas, where he is a member of the Cyber Security Research and Education Institute. He holds M.S. and Ph.D. degrees from the University of Maryland, College Park. Before joining UT Dallas, he was a postdoctoral scholar at the University of California, Berkeley, and a research staff at Fujitsu Laboratories of America in Sunnyvale California. He has also been an intern at INRIA-LORIA in France, and a SCADA intern at Occidental Petroleum Corporation. His research interests focus on cyber-physical systems and IoT security and privacy, network intrusion detection, and wireless networks. He is the recipient of the NSF CAREER award, best paper awards from the IEEE Smart Grid Communications Conference and the U.S. Army Research Conference, and a Fellowship from the University of Maryland.
MARK SZEWCZUL, Zipmerium	IoT Technology is starting to appear in all kinds of use cases. Many of them outside the traditional sectors and into our everyday lives. Business, Governments and society have all begun adoption. Machine Learning is now being pushed out to the edge, with Deep Learning and Augmented Reality around the corner. Even Quantum Computing is on the horizon. Phase 3 of the Internet Revolution is here. What is driving the movement and will your security, privacy and safety be enhanced or compromised? Mark is an IoT Security Architect at Zimperium with over 20 years of experience from Semiconductor, Telecom/Datacom, and Computing sectors. He has led the IEEE-Electromagnetic Compatibility Society and co-founded the IEEE-Consumer Electronics Society, both in Dallas. Along the journey, he has mastered design, testing, integration and deployment of numerous systems. His passion entails implementing best practices of security, privacy and safety principles at all 7-layers and beyond. He has his MS in Information Science and Systems from Texas A&M University and 3 patents.

SHRINATH PARIKH, Fujitsu	This talk will be focused on how to leverage and integrate IoT, Cloud, Big Data and Machine Learning Technologies to solve a complex use case and significantly improve operating efficiency and drive down the cost. The talk will help you understand how does the end-to-end integration of these technologies done via live demonstration and high-level code walkthrough. Shri is a Lead Big Data Sofware Engineer/Scientist at Fujitsu America. He has deep background in research and designing large scale distributed data processing systems. He has end-to-end knowledge to build Big Data and Cloud based platforms. He deals with implementing real time data ingestion pipelines to data storage and develop algorithms to process that data and generate insights. He has multiple certifications including: Spark Developer, Hadoop Data Analyst, Hadoop Java Developer, Hadoop Administrator and AWS Solution Architect. Shri has MS in Computer Science and extremely passionate about solving complex problems in simplistic way which will create real value for business.
ED HIGHTOWER, IoT and Beyond	IoT Technology is starting to appear in all kinds of use cases. Many of them outside the traditional sectors and into our everyday lives. Business, Governments and society have all begun adoption. Machine Learning is now being pushed out to the edge, with Deep Learning and Augmented Reality around the corner. Even Quantum Computing is on the horizon. Phase 3 of the Internet Revolution is here. What is driving the movement and will your security, privacy and safety be enhanced or compromised?
SAMPO KARVONEN, ThoughtWorks	Sub $5 connected systems is currently a rapidly evolving class of IoT devices. This range of devices has almost overcrowded selection of hardware and connectivity platforms with a rapidly widening choice of available programming languages and software stacks for systems developers to use. From hardware, software and systems engineering standpoint this combination presents a unique and intriguing set of restrictions, opportunities and risks. This talk is all about navigating this challenging landscape while trying to maintain developer sanity under heavy cost, power consumption, performance, size and reliability limitations. Sampo Karvonen is IoT Solutions Technologist at ThoughtWorks. With more than 20 years in working together with such industry giants as Nokia and John Derre, he has been developing connected devices and solutions well before the dawn of the IoT age. Sampo is passionate about creating platform and technology crossing device, application and service ecosystems in quality that organizations can rely on.
PRABHA SUNDARAVADIVEL , UNT	The influence of Internet of Things in healthcare has boomed into a Billion-dollar industry, ranging from Wearables, health-monitoring devices, ambient assisted living and so on. It has been forecasted that in next few years, billions of devices would be called "connected-things". Well with billion devices talking to each other and offering autonomous solutions, is it always safe to let some device monitor you? The outline of this talk is as follows healthcare to Smart Healthcare, Architectures of Smart Healthcare, and Services & Applications of Smart Healthcare, Security & vulnerabilities in smart healthcare, Different verticals involved in smart healthcare. Prabha Sundaravadivel is currently pursuing a Ph.D. degree at the Computer Science and Engineering department, University of North Texas, USA. The research for her PhD dissertation involves designing energy, power and area efficient sensor systems for smart healthcare. Her primary research interests are focused on developing architectures for consumer electronic systems for smart cities, mixed signal IC design, RTL Design and its verification using UVM, low power VLSI design, Physical Design, Embedded Systems and Machine Learning. She has authored and co-authored 12 research articles. She has also served as a reviewer for some ACM and IEEE Conferences and Journals. Before joining the Nano System Design Laboratory in UNT, she earned her Masters in VLSI Design from VIT University, Vellore, TN, India.

HAROLD PULCHER, Microsoft MVP	You have heard and read about this thing called the Internet of Things (IoT). With all media hype about IoT and the new paradigm it brings, it is easy to feel overwhelmed. When you hear about companies connecting billions of devices (you have heard that right), it can be difficult to grasp how that is possible. However, there is no reason IoT has to be futuristic, complicated, or overwhelming. Let us explore this Azure IoT Suite and see just how hard it is not to start down that road. Harold Pulcher is a Microsoft MVP, co-ambassador for Hackster.io, developer, network engineer, magician, woodworker, and part time grease monkey. He has over 25 years of experience working in Information Technology. During that time, he has done everything from running network cable, setting up various companies infrastructure from the absolute bare metal and building line of business software for many of those companies.
DAN SCHMIDT, AT&T	IoT is not a single technology, it is a combination of sensors, devices, networks, and software that works together to unlock valuable, actionable data. An IoT platform should facilitate a full complement of services from business process management to data analytic capabilities that creates business value. Dan Schmidt provides executive thought leadership and strategic vision to senior management teams regarding business and technology transformation commensurate with AT&T IoT, cloud, Foundry/Labs and technology portfolio capabilities.
JEFF SMITH, CEO, QuantumIOT	QuantumIOT was founded on the bold vision of assembling an elite team of IoT engineers and data scientists to provide industrial IOT system integration services. Their experience spans every step of IoT project development, from hardware, to telecom technology, to data analytics and machine learning. They can tackle the big problems in system integration that many enterprise companies face in executing their IoT goals.
PETER DeNAGY, Acommence Advisors	Peter DeNagy is a globally recognized thought leader in the Enterprise Mobility and the Internet of Things (IoT) ecosystem. He is an accomplished executive with an outstanding record of proven success in creating, enabling, building and restructuring organizations to optimize results in operational performance, revenue growth and profitability. Excels in recruiting, developing and retaining professional, high-performance teams dedicated to achieving organizational objectives.
Dr. ANDREA FUMAGILLI & RICARDO ARJONA, UT Dallas	The significant amount of water and energy employed in farming, domestic, commercial and institutional facilities in their daily operations have made water conservation one of the main goals in sustainable environments. Typically, excessive water consumption is related to inefficiencies in the system that impact costs heavily but also the ecosystem, especially in applications where terrain irrigation is required. In this work, a versatile Internet of Things (IoT) solution for water monitoring is presented. The solution combines Sub-GHz wireless sensor nodes, LTE connectivity for data transport, and a Cloud Web Service for data presentation and analysis. Overall, this end-to-end solution provides easy to deploy monitoring capabilities that can be used to improve water usage by reacting according to the current conditions of the soil and its needs in terms of irrigation. Andrea Fumagalli joined the University of Texas at Dallas as an Associate Professor of Electrical Engineering in September 1997 and he is the Head of the OpNeAR Lab. He is currently a Professor at the Department of Electrical Engineering and is the Head of the Telecommunications Engineering Program. He holds a Ph.D. in Electrical Engineering (1992) and a Laurea Degree in Electronics Engineering (1987) from the Politecnico di Torino, Italy. From 1992 to 1998 he was an Assistant Professor of the Electronics Engineering Department at the Politecnico di Torino, Italy. Ricardo Arjona is a Ph.D Candidate in Electrical Engineering sponsored by the prestigious Fulbright Program and member of the OPNEAR Laboratory at UTD. His research interests are focused in M2M Service Platforms for IoT and Wireless Sensor Networks.

BEN CLAY, Synchronoss	A new method emerges for authenticating an end user or Internet of Things (IoT) or Web of Things (WoT) device for one or many public, private or hybrid network systems or a combination thereof. This method allows for a network computing environment to provide authentication services and supports one or more strong multi-factor authentication methods allowing for encrypting and tokenizing session authentication transactions. An authenticated environment resulting from this mechanism is linked to either or both a user or device via a public, private or hybrid network communication which may include use of a crypto-synchronization handshaking or other crypto protocol over which data is transacted or a combination thereof. As Vice President, Digital Transformation of Synchronoss Technologies, Ben is responsible for defining vision, strategy and value creation models for shaping strategic product designs, managing and transforming enterprise agile product delivery and client roadmap alignment.
SWAPAN DAS, Electrify America	Vehicle is going through transformation from gasoline, hybrid to electric only engine, connected always to Internet, able to diagnose itself, calling for help during an accident, able to navigate by itself without a driver and becoming smart. This transformation is happening over a period of last two decades. How Internet of Smart Vehicles will affect us and society in future will be discussed in this session. We will also touch base on IoT technology evolution and challenges for Internet of Vehicles. Swapan Das, Manager IoT Platform, Electrify America. Swapan brings more than two decades of experience in IoT, telematics and telecom from Electrify America-Volkswagen, Toyota Connected, OnStar-GM, Motorola, Alcatel and C-DoT.
RAJAT MODI, Softweb Solutions	Internet of things (IoT) is the inter-networking of physical devices, vehicles (also referred to as "connected devices" and "smart devices"), buildings, and other items embedded with electronics, software, sensors, actuators, and network connectivity, which enable these objects to collect and exchange data. To achieve IoT in open source format there are multiple technologies like RabbitMQ, AcriveMQ, Kafka, Spark and Big databases. Rajat Modi has more than 8 years of experience in IT and has been involved in the implementation of IoT solutions. For instance, he has implemented and managed Smart factory, Smart building, Smart retail etc. He has significant experience in the areas of IoT protocols, application development, integration and modernization and methodologies including Agile and DevOps.