FUTURE TechDay

ANAHEIM, CA • OCTOBER 15, 2019

SCHEDULES & SEMINAR DESCRIPTIONS

JOIN US FOR THIS FREE EVENT

Future Electronics invites you to attend the most advanced hands-on technical learning event in the region. This is a unique opportunity to gain exposure to new technology as you interact with over 50 of the industry's top suppliers at the technology expo event. You can also choose to spend time in the classroom with deep-dive technical training taught by key technologists. Choose your own classes and customize your learning to your training needs.

EVENT OVERVIEW

Future Electronics is bringing together the largest group of leading technologists, from the industry's top suppliers, to help you connect and learn about the latest technologies, tools, and services. **The technology expo event will be open all day starting at 8:30am.** We are offering 24 classes throughout the day ranging from the latest in edge computing, wireless, sensing, security, artificial intelligence, high performance analog, power, signal chain, connectors, IoT, and much more. We will be providing breakfast, lunch, and snacks throughout the day.

Subject		Wireless & Sensing 1	Wireless & Sensing 2	Edge Computing & Al	High Performance Analog & Power
	TIME				
Technology Session 1	08:40 - 09:30	NXP NFC Everywhere	Cypress Leveraging the 32-bit Arm Cortex-M0/ M0+ PSoC 4700 Family for the Next-Generation of Human Machine Interface Solutions	ON Semiconductor Wireless Connectivity Solutions	Maxim Battery Power, Management and Authentication
Technology Session 2	09:40 -10:30	Vishay Improving the World with Vishay Sensors	Murata Learn about Murata's NEW High Reliability & INNOVATIVE Sensors, Wireless Modules & Power Products	Microchip Smart Embedded Vision: Edge Intelligence Without the Power Trip. Lowest-Power Programmable Machine Vision Solutions with PolarFire FPGAs.	TE Connectivity IoT Connecting Devices
Technology Session 3	10:40 - 11.30	ON Semiconductor RSL10 Bluetooth Low Energy Solutions & Prototyping Platforms	Kingston Embedded Storage Solutions	Renesas Al Inference on End-Point MPUs Using Open Source Frameworks	Infineon AC/DC Power Solutions for Consumer and Industrial Applications
	11:30 - 1:00	Lunch/Technology Expo Event			
Technology Session 4	1:10 -2:00	Renesas Impact of Sensor Design and Technologies for Emerging and Non-Traditional IoT Applications	NXP Machine Learning & Al Solutions at the IoT Edge for Vision, Voice Control and Anomaly Detection	Infineon Embedded Security "Demystifying Security and How Important it is to Your Design"	Microchip Scalable Intelligent Power Solutions from Microchip
Technology Session 5	2:10 - 3:00	The Present and Future of Sensors in IoT, IIoT, and IoMT	Panasonic Bluetooth Low Energy 5.0 and the Smart Home	STMicroelectronics Artificial Neural Network Mapping Made Simple with the STM32Cube.Al Introduction	Maxim Non-portable Power, Protection and Power Simulation Tools
Technology Session 6	3:40 - 4:30	STMicroelectronics Simplifying Wireless IoT Applications Using ST Microelectronics MEMS Sensors and New SensorTile.Box kit	u-blox For a Better, Safer Connected World	MultiTech: The Power of Intelligence at the Edge	Hirose A Novel Method to Reduce Differential Crosstalk in a High-Speed Channel

DoubleTree Suites by Hilton Anaheim Resort Convention Center 2085 S. Harbor Blvd. Anaheim, CA 92802



Scan to register



FUTURE TechDay

ANAHEIM, CA • OCTOBER 15, 2019

WORKSHOP DESCRIPTIONS

WIRELESS AND SENSING 1

NXP: NFC Everywhere

Two billion NFC-enabled devices were deployed in 2018. Join NXP to learn a different kind of wireless solution for a new era in NFC. This course will cover NXP's NFC controller, frontend, and connected tag solutions for a new era in NFC.

Presenter: Hy Mai, NXP Field Applications Engineer

VISHAY: Improving the World with Vishay Sensors

The presentation will provide thoughts and ideas to improve products, get an edge in ever expanding applications and real-world techniques to succeed with Vishay sensors. Don't forget your business card for the grand prize drawing.

Presenter: Jim Toal, Director, Regional Marketing, Optoelectronics, Vishay Americas Inc. ON SEMICONDUCTOR: RSL10 Bluetooth Low Energy Solutions and Prototyping Platforms

Learn how to implement the industry's lowest power Bluetooth low energy solution with the RSL10 SiP. RSL10-based IoT prototyping platforms will also be discussed including pre-defined use cases and success stories. Available IoT platforms include an energy harvesting Bluetooth switch and a solar cell-powered multi-sensor development board.

Presenter: Pavan Mulabagal, Director, IoT Strategy and Marketing

RENESAS: Impact of Sensor Design and Technologies for Emerging and Non-Traditional IoT Applications

Renesas delivers technologies and solutions to address the expanding integration of sensors into devices and systems for indoor and outdoor applications. The Renesas family of sensors help to tackle the environmental challenges created through increasingly complex designs in constrained environments, addressing operating conditions, functionality, accuracy, drift, mechanical vibrations, and electrical/magnetic interference.

Presenter: Robert Lawless, Systems Engineer

TE CONNECTIVITY: The Present and Future of Sensors in IoT, IIoT, and IoMT Sensors play a critical role in IoT, IIoT, and IoMT applications. They are the data collectors that provide all the information needed to make IoT systems function efficiently.

Presenters: Pete Smith, Title: Sr. Marketing Manager (TESS)

Armin Sadrameli, Territory Sales Manager (TESS)

STMICROELECTRONICS: Simplifying Wireless IoT Applications Using STMicroelectronics MEM Sensors and New SensorTile.Box Kit

Looking to develop applications that use motion and environmental MEMS sensors? This session will give you a portfolio overview of ST's MEM Sensor offering, as well as run through a demonstration of the new Sensor Tile Box (STEVAL-MKSBOX1V1), a ready-to-use kit for wireless IoT applications. The session will walk through the benefits of designing with ST's latest sensors and it will demonstrate how to use the SensorTile.Box out of the box (entry level mode) with many ready-to-use applications to set up sensors, log sensor data, leverage embedded smart sensor functions (pedometer), and perform high-level processing (ex.: vibration monitoring). It will also show how to build a custom application (expert mode) using the GUI in the ST BLE sensor app; and finally it will introduce the Function Pack FP-SNS-STBOX1 with many examples that can be used as a starting point to develop a custom firmware (pro mode). Join us and learn how the SensorTile.Box wireless IoT kit can simplify your next application development. The ultra-low-power Cortex-M4F STM32L4 provides all the processing capabilities that may be required by the application, while the Bluetooth low-energy module SPBTLE-1S provides the connectivity capabilities to interact with and stream to mobile devices.

Presenter: Matteo Fusi, Product Marketing Manager for Sensors and Actuators at STMicroelectronics

WIRELESS AND SENSING 2

CYPRESS: Leveraging the 32-bit Arm Cortex-M0/M0+ PSoC 4700 Family for the Next-Generation of Human Machine Interface Solutions

The PSoC 4700 S-Series features Cypress' advanced inductive sensing technology, MagSense[™]. MagSense enables new, innovative solutions for industrial, automotive, and consumer applications that require robust human machine interfaces, fully waterproof interfaces, and sensing of metal objects. Cypress inductive sensing delivers both reliability and easy-to-use inductive sensing on an industry leading MCU platform. In this hands-on session, attendees will learn how to implement and tune PSoC 4 inductive sensing for desired performance across a range of applications.

Presenter: Rabee Koudmani, Principal Field Application Engineer

MURATA: Learn about Murata's NEW High Reliable and INNOVATIVE Sensors, Wireless Modules and Power Products

Review of Murata's high efficiency sensors, wireless modules and power products that are designed for IoT applications. These products will maximize battery life and improve system efficiency.

Presenter: Michael Bral, Technical Sales Engineer

KINGSTON: Kingston Embedded Storage Solutions

Roadmap and trends of eMMC and discrete DRAM solutions to support your embedded computing needs.

Presenter: John Terpening, Kingston Engineering Manager

NXP: Machine Learning/Al Solutions at the IoT Edge for Vision, Voice Control and Anomaly Detection

NXP's broad and expansive product portfolio now enables turn-key solutions for processing, security, and connectivity. This class will showcase three solutions and demonstrations for: Vision: Face and object recognition

Voice Control: Local and cloud commands, near and far field support

Anomaly Detection: Monitoring/tracking vibration, acoustic and pressure. NXP's elQTM machine learning software development environment enables the use of ML algorithms like Open CV, TensorFlow Lite, ARM NN and CMSIS-NN on NXP's i.MXRT and i.MX family SoCs.

Presenter: Renato Frias, NXP Field Applications Engineer

PANASONIC: Bluetooth Low Energy 5.0 and the Smart Home

Come learn about the new Bluetooth Low Energy 5.0 revision demonstrated with a smart doorbell based on the Panasonic PAN1762 BLE 5.0 module and a smart lighting controller based on the Panasonic PAN4620 BLE-Thread module. Attendees will receive an overview of BLE, a hands-on demo of the PAN1762 and take a dev kit home with them.

Presenter: Matthew Rose, Sr, FAE

U-BLOX: u-blox: For a Better, Safer Connected World The u-blox session will provide a corporate overview, short range RF, GNSS, and cellular

product overview.

Presenter: Paul Siegel, u-blox Regional Distribution Manager

EDGE COMPUTING AND AI

ON SEMICONDUCTOR: Wireless Connectivity Solutions

This session will introduce ON Semiconductor's solutions for Sub GHz Software Defined Radio and Proprietary Solutions, as well as 2.4GHZ Zigbee and 802.15.4

Presenter: Dan Clement, Product Marketing Manager



FUTURE TechDay

ANAHEIM, CA • OCTOBER 15, 2019

WORKSHOP DESCRIPTIONS

MICROCHIP: Smart Embedded Vision: Edge Intelligence Without the Power Trip. Lowest-Power Programmable Machine Vision Solutions with PolarFire FPGAs.

As compute workloads move to the edge, PolarFire FPGAs offer 30-50% lower total power than competing mid-range FPGAs, with 5-10x lower static power, making them ideal for a new range of compute intensive edge devices, including those deployed in thermally and power constrained environments. PolarFire FPGA Smart Embedded Vision solutions include video, imaging and machine learning IP and tools for accelerating designs that require high performance in low-power, small form-factors across the industrial, medical, broadcast, automotive, aerospace and defense markets.

Presenter: Cameron Wade, Sr. Staff Embedded Solutions Engineer

RENESAS: AI Inference on End-Point MPUs Using Open Source Frameworks

The development of deep neural networks over the last decade has sparked a boom in Al. Most Al is still happening on powerful CPU/GPU servers, but end-point 32 and 64-bit MPUs from ARM with multiple Cortex A class cores are getting increasingly capable of running pre-trained Deep Al models at the edge. Easy access to such Al models (algorithms) and open source Al frameworks like Tensorflow Lite, Caffe2, OpenCV DNN and ARM NN are opening the doors to quick prototyping of embedded Al applications like image classification, object detection etc. on Cortex A based edge MPUs. In this session, you will learn how you can easily prototype embedded Al applications on the RZ/G family of industrial microprocessors from Renesas, and also how you can work with Renesas/Future Partners to take your embedded Al prototype to production.

Presenters: Ganesh Balamitran, Product Marketing Manager; Georgi Stoykov Sr., Firmware Engineer

INFINEON: Embedded Security "Demystifying Security and How Important it is to Your Design"

A look at Infineon's security offering, including the new Optiga Trust M and how important security is for your future products. This course will include an overview of case studies that will help guide you with your security space needs.

Presenter: Terry Kreifels, Applications Engineer

STMICROELECTRONICS: Artificial Neural Network Mapping Made Simple with the STM32Cube.AI Introduction

This session will focus on the new STM32Cube.AI software tool and its ecosystem. The STM32Cube.AI toolbox generates optimized code to run neural networks on STM32 microcontrollers. It brings AI to microcontroller-powered intelligent devices at the edge, on the nodes, and to deeply embedded devices across IoT, smart building, industrial, and medical applications. With STM32Cube.AI, developers can now convert pre-trained neural networks into C-code that call functions in optimized libraries that run on STM32 MCUs. The comprehensive toolbox consisting of the STM32Cube.AI mapping tool, application software examples running on small-form-factor, battery-powered SensorTile hardware, together with the partner program and dedicated community support offers a fast and easy pathway to neural-network implementation on STM32 devices.

Presenter: Markus Mayr, STMicroelectronics Technologist

MULTITECH: The Power of Intelligence at the Edge

It wasn't so long ago that the buzz word of the week was cloud computing. For all the benefits of cloud, with broad adoption across both IT and IoT, we are beginning to feel the limitations of a cloud-first approach to big – and growing – data. To meet the needs of exponential growth in data with more and more smart-connected sensors and assets being deployed daily, IoT networks of the future must embrace a decentralized architecture where processing of raw data begins at the network edge. Being able to capture and immediately sift information at the edge and make decisions locally, securely transferring only actionable data and exceptions to the cloud improves expense management, responsiveness and resilience, as well as data security. Register to learn how to solve the complex problem of data management with best-in-class products that assist in decentralizing IoT architecture by collecting and interpreting data in situ, at the network's edge.

Presenter: Dawn Rogers, Distribution Sales Manager, Multi-Tech Systems Inc.

HIGH PERFORMANCE ANALOG AND POWER

MAXIM: Battery Power, Management and Authentication Overview of low current power solutions, battery fuel gauging technology and the protection and authentication of batteries.

Presenter: Matt Lyon, Principal Member of Technical Staff, Maxim Integrated TE CONNECTIVITY: IoT Connecting Devices

Antenna and Interconnect Solutions for Sensors and Devices.

Presenters: Chris Li, TE Antenna Product Manager:

John Gettings, TE Western Regional FAE

INFINEON: AC/DC Power Solutions for Consumer and Industrial Applications The next technology step towards an energy-efficient world lies in the use of new materials, such as wide bandgap semiconductors which allow for greater power efficiency, smaller size, and lighter weight. Infineon Technologies has a unique position of being the only company currently offering silicon (Si), silicon carbide (SiC), insulated-gate bipolar transistor (IGBT) and gallium nitride (GaN) devices. SiC and GaN offer significant advantages in efficiency, faster switching speeds, and density. Come listen to Infineon technologists review power topologies that provide customers the ability to competitively differentiate their products with added performance and value.

Presenter: Zobair Roohani, Applications Engineer

MICROCHIP: Scalable Intelligent Power Solutions

Intelligent power supply implementations solve problems in a wide range of applications, with power solutions ranging from basic power control, hybrid power integration, up to the most advanced digital control topologies. In basic designs a microcontroller can perform supervision and sequencing, but in more advanced designs the control loop is integrated into the CPU via an on-board analog or even full digital control, utilizing an on-board DSP engine. Microchip delivers everything you need for your power conversion design, including low-risk product development, lower total system cost, faster time to market, outstanding technical support and dependable delivery and quality.

Presenter: Dan Holt, Sr. Analog Embedded Solutions Engineer

MAXIM: Non-Portable Power, Protection and Power Simulation Tools Overview of high current power solutions including modules, protection solutions and power simulation tools to assist with design.

Presenter: Matt Lyon, Principal Member of Technical Staff – Maxim Integrated HIROSE: A Novel Method to Reduce Differential Crosstalk in a High-Speed Channel

This outline presents a new technique to minimize differential crosstalk in a high-speed channel by adjusting its four individual single-ended terms. This adjustment can be achieved by simply rearranging the relative location of signal conductors so that the four single-ended crosstalk terms either cancel each other within an electrical component or give opposite polarities in differential crosstalk amongst several electrical components in a channel. In the latter case, the aggregate crosstalk of an entire channel is reduced from the largest crosstalk of individual components as a result. Optimized via patterns, shown through both simulation and measurement, are used as examples to give minimum crosstalk in the vias, in the via-connector-via transition and/or in the entire channel. Upon understanding the polarity of each component's crosstalk, one can select the proper via configuration to improve a channel's insertion-loss-to-crosstalk-ratio (ICR) by more than 10dB.

The techniques presented in this class can be applied to design packages, connectors, vias and traces for minimal crosstalk by themselves or to properly layout vias and traces for minimal crosstalk in an entire channel.

Presenter: William MacKillop, Technology Manager, Hirose US., Interconnect Technology Manager



TO REGISTER PLEASE VISIT www.FutureElectronics.com/FutureTechDays

FUTURE TechDay

ANAHEIM, CA • OCTOBER 15, 2019

EXHIBITORS









the test test

TO REGISTER PLEASE VISIT www.FutureElectronics.com/FutureTechDays

SUNS[®]