

ARROW UNIVERSITY

September 14th, 2023

Indiana Wesleyan University Cincinnati Campus

9286 Schulze Drive
West Chester, OH 45069

Technical Classes Offered:

	Room 201	Room 202	Room 209 (large room)	Room 214
8:15 - 9:15	ADLINK	Swissbit	Silicon Labs	Nuvoton
9:30 - 10:30	Qualcomm	Littelfuse	Infineon #1	Panasonic
10:45 - 11:45	Advantech	Amphenol	Infineon #2	onsemi
11:45 - 1:15	Lunch in Room 203/204 and Tradeshow in Rooms 215 and 218			
1:15 - 2:15	Critical Link	Bulgin	STMicroelectronics	Wolfspeed
2:30 - 3:30	Vantron	Phoenix	Microchip #1	Silicon Expert
3:45 - 4:45	Intel PSG	TE	Microchip #2	TDK

Additional Manufacturers and Representatives in Attendance at the Tradeshow include:

Bourns, Calnex, CC Electro, Catalyst, ebm-papst, KOA, Laird, Molex, Murata, Nichicon, NuEnergy, Octavo Systems

To register, please visit:

<https://forms.gle/AUW5Qu4J1kxomAib8>

Our registration website uses Google Forms. If your company blocks this website, you can alternatively register using your smart phone or from your home computer.

ADLINK: Computers-on-Module: Turning Products into Solutions

Do you like the flexibility and scalability of a computer-on-module design, but can't afford the extra cost and high NRE associated with a custom-design carrier board? Look no further than Arrow and ADLINK! As the global leader in Computer-on-Module technology, with a Custom Design Services team, we have the expertise necessary to design COMexpress, SMARC, and Jetson carrier boards as well as specialized Function Modules designed to interface with our standard systems to provide a solution that many don't think is an option. Our extensive library of design experience means that we can design these custom solutions quickly and cost-effectively, often with little or no NRE charges!

Advantech: Revolutionizing AI Applications - Game-Changing Solutions for Industry Applications

Advantech revolutionizes industries with game-changing AI solutions. Our tailored applications address diverse sectors, including manufacturing, healthcare, transportation, and retail. Advantech's solutions enhance efficiency, enable better decision-making, and unlock new business opportunities through intelligent analytics, predictive maintenance, smart logistics, and personalized customer experiences. Harnessing these solutions empowers organizations to gain a competitive edge and drive sustainable growth in the AI-powered era.

Amphenol: Wire to Wire, Wire to Board, Board to Board – Power vs Signal – Intro to Interconnects

We will be presenting a view of connectors from the eyes of the connector sales person. We will make it easy to understand form, fit and function as well as associated configurations of Wire to Wire, Wire to Board, and Board to Board connector systems. We will describe what makes a connector a power or signal connector.

Bulgin: IoT In Industrial & Harsh Applications

With the ever-increasing need for connectivity, engineers need to find ways to deliver solutions for a variety of environments. You will learn about Bulgin's extensive portfolio to support harsh environments and our commitment to deliver rapid turnaround on custom products and solutions.

Critical Link: Designing for Next Generation Embedded Applications

This class will discuss how developers leverage embedded systems to improve performance and minimize long term risk for industrial applications. We will explore techniques for handling larger volumes of data in less time, implementing advanced features, and modernizing user experience. Real-life case studies will illustrate solutions in the medical, scientific, and industrial imaging fields.

Infineon #1: Easy WiFi connectivity to the cloud with Infineon's AIROC™ Prototyping Kit

We will guide you through a hands on demonstration of Infineon's AIROC™ WiFi solution, PSoC™ 6 Microcontroller, and ModusToolbox™ software using our AIROC™ Prototyping Kit. Customers who participate in the class will receive an AIROC™ prototyping kit to take home. This kit can be used to connect to WiFi and run any of our WiFi examples from the Infineon Github repository with ModusToolbox™. Or, to create their own wireless design. PREREQUISITE: Customers must bring their own laptop and have the ModusToolbox™ software installed prior to the class.

Infineon #2: Choosing Memory for an Embedded Design

Choosing memory for your embedded design can be a challenging task. Traditionally, parameters like speed, density, durability and power were the primary parameters to consider when deciding which memory is right for a specific application. Recent advancements in semiconductor technology have proliferated the types of memory subsystems, enabling highly targeted solutions optimized for specific use cases. This presentation will discuss: Memory type overview and main applications, Boot memory technologies, Expansion memory alternatives, Datalogging memory deep dive and performance comparisons, System considerations when choosing memory and Key Use case examples.

Intel Programmable Solutions Group: FPGA Roadmap & Agilex 5 Product Overview

Intel PSG will be introducing fifteen new Agilex family FPGAs in 2023 and more in 2024 and 2025. Attendees will review Intel's expanding FPGA roadmap followed by a focused presentation on the Intel® Agilex™ 5 FPGAs and SoC FPGAs targeted at mid-range applications requiring higher performance, lower power, and smaller form factors.

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Littelfuse: Making Sense of Surge Protection

High energy environmental threats such as Lightning and Load Switching transients can wreak havoc on electrical systems leading to malfunction and downtime. Suppression components like MOV, TVS, GDTs, and Protection Thyristors are common solutions used to mitigate damage caused by these threats. Each has unique properties to consider when determining the best solution. This seminar will discuss the advantages and disadvantages of each, as well as investigate methods of combining components in order to optimize protection solutions.

Microchip #1: Designing for Safety and Security with Microchip 32-bit microcontrollers.

This course will provide clients with an overview of industry safety standards (SIL, ASIL, Class B) as well as security strategies and use cases such as secure boot, secure key storage, and cloud authentication. We will explore how Microchip's 32-bit microcontrollers and Harmony 3 safety and security software can reduce development time and cost.

Microchip #2: SiC Power Solutions, Adopt Microchip SiC with Ease, Speed and Confidence

This course provides clients with a high-level overview of Microchip's Silicon Carbide (SiC) Power Solutions portfolio, including our value proposition enabling lowest system cost, fastest time to market and lowest risk approach.

Nuvoton: How to build a MCU based HMI solution quickly and easily

Driven by the smartphone user experience, interactive human-machine interfaces (HMIs) are no longer limited to consumer electronics applications, but are flourishing in various industrial applications. Unlike high-volume consumer electronics, relatively low-volume industrial applications cannot easily amortize the high cost of HMI development. This presentation will demonstrate a viable solution for quick and easy development of professional HMI designs on an MCU-based platform. We will describe the HMI design flow and its building blocks, starting step-by-step with an HMI design on a PC tool and then programming it to an MCU development kit.

onsemi: Arrow's Imaging Solutions with onsemi Sensors

This call will offer an introduction to imaging solutions offered by Arrow Electronics utilizing onsemi's extensive range of imaging sensors connected with Arrow's vast supplier's products and capabilities. The seminar will cover complexities and design considerations for imaging systems, introduce onsemi's imaging sensor portfolio, review applications, and show how Arrow is providing complete imaging solutions in an ecosystem to accelerate product development.

Panasonic: Fundamentals of Bluetooth Low Energy (BLE) Audio

Bluetooth has evolved tremendously since the 1990's with the A2DP (audio) profile being an early adoption in Bluetooth classic. The explosion of audio applications has encouraged new developments, few more exciting than LE Audio. Will review Bluetooth's journey including support of mesh networking, location services, and use cases for LE Audio/Auracast™.

Phoenix Contact: Basics of thermal management for device enclosures

As demand increases for greater pin counts, and increased power/signal running through standard enclosures, there are higher thermal demands that need to be managed. Without proper planning during the design cycle, improper thermal management can be costly on new product development. This presentation outlines the basics of thermal management for device enclosures as well as the products and services available to eliminate damaging heat from expensive electronics.

Qualcomm: AI/ML moving to the edge

Today, more intelligence is moving to end devices. Building on the smartphone foundation and the scale of mobile, Qualcomm envisions making AI ubiquitous expanding beyond mobile and powering other end devices, machines, vehicles, and things. We are inventing, developing, and commercializing power-efficient on-device AI, edge cloud AI, Wi-Fi, and 5G to make this a real

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SiliconExpert: Your End to End Supply Chain Resiliency Solution!

Learn about SiliconExpert's premiere software products that help engineers & supply chain managers in building their electronics devices from conception to production. Our component database is the largest in the world and helps navigate complex issues by finding alternate parts, ensuring regulatory compliance, and navigating supply chain disruptions with agility – fostering successful product development and uninterrupted operations.

Silicon Labs: Low Power Wi-Fi for IoT Devices

This class will cover the RS9116 family along with our newest SiWx917 which is an Ultra Low Power WiFi 6/BLE combo device. We'll cover the features of both families along with the benefits of using WiFi 6 with low-power Internet of Things devices. We will also cover WIFI over Matter use cases as part of this overview.

STMicroelectronics: UNBRICKABLE Remote Firmware Updates for Highly Secure MCU's

Reliable connectivity and reachability of your connected hardware devices is key to attaining long-lived IoT deployments. Firmware updates need to be “unbrickable”, debugging capabilities need to be more flexible, and firmware development practices should overall resemble more that of Web-centric software development. Learn about building for IoT on the STM32U5 Series, using Arm's TrustZone and ST's low-power and high-security microcontroller family.

Swissbit: Hardware based authentication for protection against phishing, hacking and counterfeiting

Authentication attacks are rampant in today's security environment, credentials are stolen, phished and hacked every day. Swissbit provides hardware based, retrofittable security solutions that provide the highest level of authentication security to protect against phishing and hacking, ultimately protecting Operational Technology (“OT”). This session will discuss applications and solutions for FIDO2 password-less and MFA security, hardware security modules for IoT authentication and counterfeit protection in common form factors such as uSD, SD, USB and eMMC.

TDK: Power Conversion for EV Charging, Solar Inverter, Battery Storage and more

Power Conversion involves converting AC (Alternating Current) into DC (Direct Current) or from DC to AC. It is also combined with the change of Voltage or Frequency or both. This presentation will focus on some of the popular and growing applications such as EV Charging, Solar Power, Battery Storage and the wide range of products that TDK offers for Power Conversion.

TE: IoT & product roadmaps and NPI helping optimize the deployment of IoT components

In this session, we will discuss TE Connectivity's product offering, along with how to optimize and build out an IoT ecosystem, stack strategies and avoid pit falls. We will also discuss the identification of the TE/Laird and TE/Linx antenna portfolios for every application.

Vantron: Embedded Computers, HMIs & Tablets with OS optimization for QT, Crank & Android

Vantron is an industry leader of COTS embedded computers, gateways, HMIs and tablets with OS optimization for Linux to Windows, with QT, Crank and Android capabilities. Staying committed to embedded systems and IoT technologies for high-quality one-stop solutions, Vantron will customize COTS products for a complete customer fit. Vantron believes its IoT solution will help many companies finish their digital transformation.

Wolfspeed: SiC Advantages for Motor Control and Power Supply Design

This class will introduce you to Wolfspeed's SiC technology for both discrete MOSFETS and Diodes and give an overview of our module solutions. We will provide an overview on why Wolfspeed is the largest vertically integrated manufacture of SiC and also why Wolfspeed has the world's first 200mm wafer fab in Mohawk Valley, NY. We will cover the benefits of using SiC for both motor control and power supply applications including higher efficiency, faster switching frequency, improved thermal performance and an overall lower system cost due to smaller size and reduced weight.