

**PROGRAM CLASS SCHEDULES**

**Tuesday, October 12, 2021**

8:00 – 8:30	<b>Check in for Classes</b>			
8:30 – 10:00	<b>New Safety Standards</b> Is My Machine Safe?	<b>Robotics</b> Collaborative vs. Industrial Which One is Right for Me?	<b>Robotics</b> The Business Case, How Much More Money Can You Make Right Now	
10:00 – 10:30	<b>Break &amp; New Groups Check-in</b>			
10:30 – 12:00	<b>Motion Control</b> How Can You Integrate Multi-Axis Motion into One Control Compatible with Rockwell PLC's	<b>Robotics</b> End of Arm Tooling (EOAT) – What Should I Use for My Application?	<b>Auto Identification</b> Bar Code, RFID – Which Technology Should You Use?	<b>AC Motor Drives (VFD's)</b> Why They Should Be Used, and How Can They Save You Money?
12:00 – 1:00	<b>Lunch Break &amp; New Groups Check-in</b>			
1:00 – 2:30	<b>New Safety Standards</b> Is My Machine Safe?	<b>Robotics</b> Collaborative vs. Industrial Which One is Right for Me?	<b>Robotics</b> The Business Case, How Much More Money Can You Make Right Now	
2:30 – 4:00	<b>Follow Up Discussions &amp; Product Forum</b>			

**Wednesday, October 13, 2021**

8:00 – 8:30	<b>Check in for Classes</b>			
8:30 – 10:00	<b>New Safety Standards</b> Is My Machine Safe?	<b>Robotics</b> Collaborative vs. Industrial Which One is Right for Me?	<b>Robotics</b> The Business Case, How Much More Money Can You Make Right Now	
10:00 – 10:30	<b>Break &amp; New Groups Check-in</b>			
10:30 – 12:00	<b>Motion Control</b> How Can You Integrate Multi-Axis Motion into One Control Compatible with Rockwell PLC's	<b>Robotics</b> End of Arm Tooling (EOAT) – What Should I Use for My Application?	<b>Auto Identification</b> Bar Code, RFID – Which Technology Should You Use?	<b>AC Motor Drives (VFD's)</b> Why They Should Be Used, and How Can They Save You Money?
12:00 – 1:00	<b>Lunch Break &amp; New Groups Check-in</b>			
1:00 – 2:30	<b>New Safety Standards</b> Is My Machine Safe?	<b>Robotics</b> Collaborative vs. Industrial Which One is Right for Me?	<b>Robotics</b> The Business Case, How Much More Money Can You Make Right Now	
2:30 – 4:00	<b>Follow Up Discussions &amp; Product Forum</b>			

**Thursday, October 14, 2021**

8:00 – 8:30	<b>Check in for Classes</b>			
8:30 – 10:00	<b>New Safety Standards</b> Is My Machine Safe?	<b>Robotics</b> Collaborative vs. Industrial Which One is Right for Me?	<b>Robotics</b> The Business Case, How Much More Money Can You Make Right Now	
10:00 – 10:30	<b>Break &amp; New Groups Check-in</b>			
10:30 – 12:00	<b>Motion Control</b> How Can You Integrate Multi-Axis Motion into One Control Compatible with Rockwell PLC's	<b>Robotics</b> End of Arm Tooling (EOAT) – What Should I Use for My Application?	<b>Auto Identification</b> Bar Code, RFID – Which Technology Should You Use?	<b>AC Motor Drives (VFD's)</b> Why They Should Be Used, and How Can They Save You Money?
12:00 – 1:00	<b>Lunch Break &amp; New Groups Check-in</b>			
1:00 – 2:30	<b>New Safety Standards</b> Is My Machine Safe?	<b>Robotics</b> Collaborative vs. Industrial Which One is Right for Me?	<b>Robotics</b> The Business Case, How Much More Money Can You Make Right Now	
2:30 – 4:00	<b>Follow Up Discussions &amp; Product Forum</b>			

## TRAINING PROGRAM DESCRIPTION

### Robotics – Collaborative Vs. Industrial, Which One is Right for Me?

#### What you will Learn:

As the use of robotics rapidly expands, and as the technology of these robots has greatly improved, there are now big choices for manufacturers who are implementing robots into their production facilities. The advent of Collaborative Robots has made the entry point into robotics for most users much more accessible with their Power-Force Limiting (PFL) capabilities, enabling people to work alongside these robots. Standard Industrial Robots have advanced significantly in recent years where the teach-pendant interface has become much more intuitive and user-friendly but allows the user to operate the robot at a greater speed, reducing task cycle times for greater productivity. With both robotic options the question emerges, which robot is the best solution for implementation into a given application/work task? Attendees of this session will learn the real differences between Collaborative and Industrial Robots, what the Collaborative Standards are to make a robot Collaborative (as defined by the RIA/A3), the differences in Risk Assessment requirements between Collaborative and Industrial Robots, what Speed and Distance Separation/Monitoring is and why it may be a good solution, and finally safety device requirement differences between the two types of robots.

#### About the Instructor:

Bill Edwards of Yaskawa Motoman is the Senior Manager of Collaborative Robotics who has been in the Robotics and Controls Industries for 31+ years. Besides a background in high-tech controls sales, project management, controls design and programming, Bill currently sits on the ISO and ANSI Industrial Robot Safety Committees making Bill an expert at human-collaborative robot applications.

### Robotics – The Business Case, How Much More Money Can You Make Right Now?

#### What you will Learn:

Robots are so much more capable of not only implementing them into tasks that are Dull, Dangerous, Dirty, and Difficult (“4-D’s”), but there are many other reasons why a robot may be implemented in a manufacturing facility such as: the task may be automated, there is a shortage of labor available, increases capacity/improves workplace, the market for product being produced is highly competitive, and the payback is achievable. With the many advantages of implementing a robot, some of which were previously described, the biggest advantage may be the Return on Investment (ROI), and the ability to *make money* by implementing a robot for a given task. In this session, attendees will learn when the appropriate time is to investigate the implementation of a robot, the factors going into the business decision in implementing a robot, how to calculate a Return on Investment for deploying a robot into a given application, and to determine how much money your organization can make through the implementation of a robot.

#### About the Instructor:

Peter Tarbell of Yaskawa Motoman is the Director of Partner Business Development and has been in the robotics industry for 20+ years. In his career, Peter has worked in Account Management, Business Development, Key Account Sales & Management of Industrial Robotics which has provided Peter with experience in selling thousands of robots into a variety of applications across a wide array of industries enabling manufacturers to compete globally through successful deployment of robots. Peter has also been involved and served on several Robotics Industry Association (RIA) and Association for Advancing Automation (A3) committees.

## TRAINING PROGRAM DESCRIPTION

### Robotics End of Arm Tooling (EOAT) – What Should I Use, and How Do I Select the Best Technology/Design for My Application?

#### What you will Learn:

With more and more Robots being implemented in production environments, and the number of different items/parts the robots are asked to handle increasing even more, how those items/parts are being handled by the robot becomes a challenge. To effectively, precisely, and repeatably pick, handle, and place an item/part, the End of Arm Tooling (EOAT), or “End-Effector”, must work optimally with the robot. Also, the variety of pieces/parts being handled requires attention as all parts are not similarly shaped, constructed, utilize the same materials, etc. One must go about designing the EOAT with multiple factors being considered to arrive at a reliable solution. With this session, attendees will be able to learn about the basics of EOAT design, the different technologies available, what materials work best with certain EOAT technologies, how to size the proper EOAT, and how to coordinate the robot motion with the EOAT design to ensure reliable piece/part handling.

#### About the Instructors:

Chris Goepfinger is the Midwest Sr. Regional Sales Manager for SCHUNK. He has been with SCHUNK for 9 years and in the industrial automation industry for over 20. Chris has extensive experience with material handling, linear systems and EOAT for Robotic machine tending.

Dave Tietz is the Midwest Regional Sales Manager for Coval Vacuum Technologies, located in Raleigh, North Carolina. Dave has been with Coval for 9 years but brings more than 35+ years of first-hand experience working with and for OEMs, End Users, and Distributors. Dave’s knowledge in fluid power and vacuum has helped many companies in the automotive, medical equipment manufacturers, and aerospace industries.

### New Safety Standards – Is My Machine Safe?

#### What you will Learn:

Does our machine meet the current safety standards? What regulations is OSHA enforcing? How do I determine if my machine is safe? These are common questions many people within manufacturing facilities ask routinely, and the answers seem to be changing as the standards are being updated as technology rapidly improves. In this presentation and discussion, a six-step process will be presented to achieve safe machinery in the workplace which is applicable to everyday applications/work scenarios. Anyone attending this session will gain a basic understanding of how safety standards are applied, the basic risk assessment methodology, and how the hierarchy of controls can be implemented to remain in compliance with the new standards to help save your manufacturing operation time and money.

#### About the Instructor:

Mark Nehrkorn of SICK is the Director of Business Consulting for Safe Productivity for AMR’s and Robotics. Mark has been with SICK for 9 years but has spent over 31 years in Industrial Automation Safety roles from engineering and development of safety sensors and controls at a manufacturer to being a Certified Functional Safety Engineer performing Safety Integration Services for manufacturers. Mark is an expert in the safety field, and has helped manufacturers develop safe, productive machinery and processes in the Industrial Automation space, while helping those manufacturers understand safety concepts to be compliant with the ever-changing ANSI safety standards.

## TRAINING PROGRAM DESCRIPTION

### Auto Identification – Bar Code, Matrix Code, or RFID, Which Technology should I Use?

#### What you will Learn:

There are many types of bar and matrix type codes utilized in today's manufacturing space for Automatic Identification (Auto ID) for applications such as: verification, item tracking, part identification, etc. Which technology should you use for your application: laser-based code readers, vision-based code readers, or Radio Frequency Identification (RFID)? Also, there are technologies which allow for Optical Character Recognition – what exactly does that mean, and when should that technology be utilized in each scenario/application? In this session, attendees will learn when to deploy a laser-based scanner versus a vision-based scanner, when should RFID be used, and what the advantages and capabilities along with the cost benefits are for each technology, and what interface and communications options are available with these devices.

#### About the Instructor:

Tom Wik of SICK is the Director of National Product Management for Auto Identification technologies. Tom has been with SICK for 7 years, having also worked in Product Management roles at SICK for Vision, LIDAR, and Measurement Sensor technologies. Prior to joining SICK, Tom worked as a Sales Engineer and in Sales Management for a manufacturer of sensing, vision, and measurement products which has provided Tom a foundation of over 18 years in the Industrial Automation industry, helping manufacturers improve their processes and become more efficient through his application expertise.

### AC Motor Drives (VFD's) – Why They Should Be Used, and How Can They Save You Money?

#### What you will Learn:

AC drive technology is more dynamic and innovative today than perhaps at any time in recent history. Today, AC drives are providing better motor control options and improved electrical system distribution. Also, AC drives offer more efficiency and power quality options than ever before which are more vital for plant and / or equipment operation(s). Power efficiency, mechanical wear on motors and their motor-driven equipment, and utility power quality issues related to HARMONIC and conducted EMI- radiated RFI "noise" attenuation are increasingly important as these factors prematurely wear motors, cause increased downtime, which ultimately reduce overall equipment effectiveness (OEE). From use on conveyors, motor-driven equipment, pumps, fans, etc., the good news is this these AC drive technologies are available today! In this session, attendees will learn dynamic and innovative AC drive technologies, what energy savings can be realized, what harmonic mitigation is and how it can save your motors, and how motor-driven mechanical equipment benefits from use of AC drives.

#### About the Instructor:

Mike Grant of Yaskawa America Drives is a Regional Sales Engineer who has been involved in the applications and sales of AC motors and motor drive systems of various designs for over 35 years, all with Yaskawa America. Mike is considered an expert in the AC drives field and resides in the St. Louis, MO area.

## TRAINING PROGRAM DESCRIPTION

### **Motion Control – How Can You Integrate Multi-Axis Motion into One Control Compatible with Rockwell PLC's**

#### **What you will Learn:**

As the cost of servo motors and drives has decreased with technology improvements, the use of multiple axes of servos on production or packaging machines can provide you with increased precision, flexibility, and productivity, helping the facility to save time and money. However, the task of using multiple axes of servos can seem daunting when it comes to tying those servos into a control system with multiple architectures. Today, Multi-Axis Controls have become much easier to implement with improved technology and intuitive software allowing a user to implement such a system into a seamless single-control, and the ability to interface with the most common controls/PLCs in the workplace, such as Rockwell Allen-Bradley PLCs, using Add-On Instructions (AOI's) that work within the Rockwell PLC's programming software. By attending this session, attendees will learn the basics of how easy it is to utilize AOI's when interfacing with a machine control (like a Rockwell/Allen-Bradley PLC), multi-axis motion control, what a multi-axis motion controller enables the user to do, kinematics, and finally do a hands-on demonstration/simulation with actual hardware.

#### **About the Instructors:**

Trevor Sisco of Yaskawa Motion is a Territory Sales Manager that covers Missouri, Illinois, and Eastern Wisconsin while being based out of Chicago. Trevor has been in the industrial automation and control industry for 10 years. Industries sold to include oil and gas, all plastics, DoD, general automation, semiconductor, assembly cells, and food and beverage. In the summer of 2019, Trevor joined Yaskawa Motion as a direct employee after selling Yaskawa Motion and VFD products as a distributor.

Matt Smith of Yaskawa Motion is a Senior Regional Motion Engineer that has been in the motion control industry for the past 16 years and covers the Midwest while being based out of Chicago. Prior to joining Yaskawa Motion, Matt spent 11 years with an automation distributor where he worked as an integrator on programming turnkey solutions and as a technical resource for OEMs to grow the motion control distribution business. While focused on Yaskawa motion, Matt has also worked with motion products from Rockwell, Siemens, Control Techniques, Applied Motion Products, and Galil. In 2016, Matt joined Yaskawa Motion to become their RME for the Midwest.