Safe, secure process control doesn’t just happen. It requires the expertise to make it happen.

Sponsored by the ISA Technical Industry Divisions of:
- Process Measurement and Control
- Safety and Cybersecurity
- Chemical and Petroleum Industries
- Education
- Communications
- Pulp and Paper Industry
- Management
ISA is extremely excited to once again bring to Houston the Process Control & Safety Symposium and Exhibition, a content-rich, power-packed conference and exhibition designed to help process measurement and control professionals in chemical, petrochemical, energy processing, and other process industry sectors operate more safely and securely.

This far-reaching event—drawing on the global expertise of seven ISA technical divisions—offers an outstanding combination of world-class training, expert-led presentations, keynote addresses, paper sessions, tutorials, interactive panel discussions, vendor and solution demonstrations, and networking activities.

Register Now! www.isa.org/PCS2016

Expand your knowledge and capabilities in all areas of process automation

- **Benefit** from informative tutorials and incisive, thought-provoking paper sessions on safety, security, process measurement and control, and education
- **Gain** the opportunity to attend one of three essential ISA security and safety technical training short courses (and earn valuable CEUs):
  - Introduction to Industrial Automation Security and the ISA/IEC 62443 Standards (IC32C)
  - An Introduction to Safety Instrumented Systems (EC50C)
  - Electrical Controls for the Control System Technician (TI23C)
- **Learn** about the latest developments and emerging trends in process control and industrial cybersecurity that are determining future operational needs, expectations, and requirements
- **Discover** the latest technologies and applications across all core solution areas at the event’s vendor exhibition
- **Network** with the world’s leading experts in critical areas of instrumentation, communications, control systems, and safety and security. Along with other engineers, technicians, and plant managers from oil and gas, refining, chemical, petrochemical, and other process industries
- **Receive** additional technical perspectives from ISA’s subject-matter experts from its various technical industry divisions and local section members

Take a minute to review the outstanding program we’ve put together, and make your plans early to attend. To register and to gain all the details on the symposium, visit [www.isa.org/pcs2016](http://www.isa.org/pcs2016), email info@isa.org, or call +1 919-549-8411.

We look forward to seeing you in Houston!

—The PCS Planning Team
Thank you Champions!
ISA appreciates the generous support of its event Champions and their ongoing commitment to and leadership in process control and safety.

Discover an exhibit that features the latest technologies and applications across all core solution areas

Current Exhibitors
aeSolutions
Autosol
BakerRisk
Beamex
Elma Electronic
Enmet
EPLAN Software & Service
ESPSafety Inc.
exida
HIMA
Honeywell
Indegy
Kenexis Consulting Corporation
KIN-TEK Analytical
MAVERICK Technologies
MetSo
MicroPak Detection
Msi
Pointfar Automation LLC
Prozess Technologies/Hellma Analytics
Process Solutions Corp.
RKL eSolutions
Rockwell Automation
Schweitzer Engineering Labs
SIS-TECH
Ultra Electronics
United Electronic Controls
Electrical Controls for the Control System Technician (TI23C)

This course will focus on electrical control devices that are frequently overlooked in formal training programs. It will speed up the learning process involving electrical devices and result in a higher level of job performance. It will help improve knowledge-based skills, improve work flow efficiencies and minimize errors that result in unsafe circumstances and possible personal injury and property losses.

Instructor: Thomas Stokes

Thomas L. Stokes has 25 years of industrial control systems experience in production, maintenance and supervision. He also has extensive teaching experience at San Jacinto College, in the Instrumentation Technology Department, where he continues to teach as an adjunct faculty member. He has also taught short courses in various instrumentation subjects for Occidental, Eisai, Valero, Shell Oil, DuPont and the Texas High School Technical Preparation Program. He is a member of the Instrumentation Technology Advisory Committee, an ISA Senior Member, and a member of the Texas Community College Teachers Association.

Introduction to Industrial Automation Security and the ISA/IEC 62443 Standards (IC32C)

Understanding how to secure factory automation, process control, and Supervisory Control and Data Acquisition (SCADA) networks is critical if you want to protect them from viruses, hackers, spies, and saboteurs. This seminar teaches you the basics of the ISA/IEC 62443 standards and how these can be applied in the typical factory or plant. In this seminar, you will be introduced to the terminology, concepts, and models, as well as the element of creating a cybersecurity management system will be explained along with how these should be applied to industrial automation and control systems.

Instructor: John Cusimano

John Cusimano is an industrial control system cybersecurity and functional safety expert with more than 20 years of experience. He has performed or supervised numerous control system cybersecurity vulnerability and cyber risk assessments in the oil & gas, pipeline, chemical, water/wastewater, pharmaceutical and power industries per NIST, ISA/IEC 62443 and NERC CIP standards. He has also overseen and participated in the security testing and certification of several control and safety systems per the ISASecure and Achilles security certification programs. A leader in the development of ICS cybersecurity standards and best practices, John is Chairman of ISA 99 WG4 TG2 Zones & Conduits committee, and co-chair of ISA 99 WG4 TG6 Product Development committee. His is also the lead developer and instructor for the ISA IC32 series of courses. Prior to joining aeSolutions, John was director of cybersecurity services for Exida, and held several process automation and safety related positions with Siemens, Eastman Kodack Company, and Moore Products Co. John has a B.S. degree in Electrical and Computer Engineering from Clarkson University and holds CFSE, CISSP and GICSP certifications.

Introduction to Safety Instrumented Systems (EC50C)

There are many different ways of designing a safety instrumented system (SIS). Questions like these are being asked by users and engineering firms alike:

- Which technology should be used (electric, electronic, or programmable)?
- What level of redundancy is appropriate (single, dual, or triple)?
- How often should systems be tested (monthly, quarterly, yearly, or once per shutdown)?
- What about field devices (technology, level of redundancy, and test intervals)?

Debate continues as to how one even makes these choices (past experience, qualitative judgment, quantitative analysis, etc.). This seminar will cover the basics of what needs to be done in the design and selection of safety systems.

Instructor: Paul Gruhn

Paul Gruhn is currently the Global Functional Safety Consultant at aeSolutions. Gruhn is a member of the ISA 84 committee, co-author of the ISA textbook “Safety Instrumented Systems: Design, Analysis and Justification,” author of many articles, and the developer of the industry’s first safety system modeling software package. He is a registered professional engineer in Texas, an ISA 84 Expert, and an ISA Fellow. He has been an ISA training instructor since 1996.

Register Now! www.isa.org/PCS2016
PCS 2016 Technical Program

Monday, 7 November

8:00 a.m. – 4:00 p.m.

ISA Training Offerings

Electrical Controls for the Control System Technician (TI23C)
Instructor: Thomas Stokes

Introduction to Industrial Automation Security and the ISA/IEC 62443 Standards (IC32C)
Instructor: John Cusimano

An Introduction to Safety Instrumented Systems (EC50C)
Instructor: Paul Gruhn

1:00 p.m. – 5:00 p.m.

Exhibitor Setup/Move In

Tuesday, 8 November

7:30 a.m. – 8:00 a.m.

Morning Refreshments and Speakers’ Breakfast

8:00 a.m. – 9:00 a.m.

Keynote Presentation

Process Safety: Are We Getting Any Better? Recollections On Four Decades of Experience and More
Paul Gruhn

9:00 a.m. – 10:30 a.m. | Morning Session I

Changing the World: ISA Standards
Chairperson: Nicholas Sands

The Amazing Secret World of ISA Standards
Nicholas Sands

Securing the Industrial World: ISA99 Highlights
Johan Nye

Keeping the Industrial World Safe: ISA84 Highlights
Paul Gruhn

Safety Session
Chairperson: Mike Scott

Panel Session: Safety Lifecycle Implementation Within a Large Capital Project
E. Limper, INVISTA; L. Swindler, Maverick; M. Fraiser, Jacobs

Security Session
Chairperson: John Cusimano

Practical Approaches to Securely Integrating Business and Production
Jim Gilsinn

Communications Session
Chairperson: Penny Chen

Implementation and Evaluation for Wireless Valve Control
Toshi Hasegawa

10:30 a.m. – 11:00 a.m.

Coffee Break and Exhibits

11:00 a.m. – 12:30 p.m. | Morning Session II

Improving Plant Efficiency Using ISA Standards
Chairperson: Nicholas Sands

Operational Excellence and Alarm Management: ISA18 Highlights
Donald Dunn

Operator Performance and HMI Design: ISA101 Highlights
Maurice Wilkins

Operation Excellence and Procedural Automation: ISA106 Highlights
Yaya Nazer

Safety Session
Chairperson: Mike Scott

Workshop: Burner Management Systems—How Invoking the Safety Lifecycle Could Save $$ on Your Project
Mike Scott

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- Take notes during the event and have them sent directly to your email
- Experience minute-by-minute updates
- And more...

See Program Updates www.isa.org/PCS2016
Security Session
Chairperson: John Cusimano

Ensuring Appropriate Cybersecurity During ICS Upgrades and Refreshes
Graham Speake

Stop Patching—Reduce Your Vulnerability Exposure at the Perimeter
Michael Firstenberg

Communication Session
Chairperson: Penny Chen

TBD

Analyzers PMCD/ChemPID Session
Chairperson: Joe Joachim

Analysis of Industrial Spectrum Monitoring Systems
Murat Aksu

Inline Process Measurement Versatility using a Modular Analyzer and Probe Approach
Dr. Stacey Carrie

Stay on the Ground and Stay Safe! How Automatic Tank Gauging Can Be Used to Keep Workers Off Tanks
Christopher Widahl

12:30 p.m. – 1:30 p.m.

Lunch and Exhibits

1:30 p.m. – 3:00 p.m. | Afternoon Session I

Improving Plan Performance with Smart Manufacturing: ISA Standards-Based Data Connectivity Session
Chairperson: Maurice Wilkins

Smart Plant Maintenance: ISA108 Highlights
Herman Storey

Smart Instrument Connectivity: ISA100 Highlights
Herman Storey

ISA95: The Framework for the Industrial Internet of Things (IIoT)
Chris Monchinski

Safety Session
Chairperson: Mike Scott

Practical Considerations for the Identification of Alarms as Protection Layers
N. Sands, DuPont; L. Garcia, Siemens

J. Pittman, Chevron

Security Session
Chairperson: John Cusimano

Cybersecurity Risk Assessments in the Safety Lifecycle
Harold Thomas

Communication Session
Chairperson: Penny Chen

TBD

Control Performance PMCD/ChemPID Session
Chairperson: Brad Carlberg

Control Valve Stiction Compensation—New Approach
Mohamed Hassan

Finding and Evaluating Valve Condition: A Part of Any Safe and Efficient Operation
Steven T. Obermann

Innovations in Process Modeling Facilitate Improved Control and Plant-Wide Optimization
Dr. Bob Rice

3:00 p.m. – 3:30 p.m.

Coffee Break and Exhibits

3:30 p.m. – 5:00 p.m. | Afternoon Session II

Productivity Results: Application of ISA Standards Session
Chairperson: Maurice Wilkins

Combining Standards for Operator Effectiveness
Bridget Fitzpatrick

Application of Advanced Decision Support
Maurice Wilkins

Putting the Pieces Together: How ISA95 Has Been Used to Integrate Standards
Dave Emerson

Safety Session
Chairperson: Mike Scott

Specifying the Instrumented Safeguard Response Time: How Fast is Fast Enough?
E. Roche, SIS-Tech

Contributions to Risk and Cost Reduction Through External In Situ Testing of Tuning Fork Technology
T. Ruta, R. Holmelin, and C. McIntyre, Endress+Hauser; C. Garcia, Dow

Security Session
Chairperson: John Cusimano

Eliminating Security Blind Spots in ICS Networks
Barak Perelman

Communications Session
Chairperson: Penny Chen

Radio Frequency Propagation and Impacts on ISA 100.11a Operations
Rick Candell
See Program Updates www.isa.org/PCS2016
Thursday, 10 November

7:30 a.m. – 8:00 a.m.

Morning Refreshments and Speakers’ Breakfast

8:00 a.m. – 9:00 a.m.

Keynote Presentation

Safe and Secure? The State of Industrial Cybersecurity
Steve Mustard

9:00 a.m. – 10:30 a.m. | Morning Session I

Safety Session
Chairperson: Mike Scott

SIS Identification and Design Guideline Development at Williams
J. Kennedy, Williams

Automated SIS Validation—Benefits and a Practical Approach to Implementation
J. Miller, Schneider Electric; N. Muthiah, Wood Group

10:30 a.m. – 11:00 a.m.

Coffee Break and Exhibits

11:00 a.m. – 12:30 p.m. | Morning Session II

Safety Session
Chairperson: Mike Scott

Workshop: Taking Ownership of The Fire and Gas System (FGS) While Reducing Cost and Increasing Safety—A Practical Approach to F&G Design
J. McNay, Micropak

Security Session
Chairperson: John Cusimano

Evening Reception/YAPFest—A Networking Opportunity for Students and Young Automation Professionals

TBD

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Operational Excellence with Model Predictive Control
PMCD/ChemPID Session
Chairperson: Fares Karadsheh

Recent Advances in MVC Technology
Katherine Persac

Model-Free Adaptive (MFA) Control for Industrial Flares and pH Processes to Comply with EPA Regulations
Dr. George Cheng

Steam Generator Process Modelling and Process Automation Dynamic Simulator Development Using Matlab Simulink
Ikhtander

12:30 p.m. – 1:30 p.m.
Lunch and Exhibits

1:30 p.m. – 3:00 p.m. | Afternoon Session I

Safety Session
Chairperson: Mike Scott

How Important is Realistic Failure Rates for Safety Instrumented Functions?
L. Steward, Exida

Advanced Diagnostic Coverage to Extend Proof Test Intervals
T. Wyatt, E. Mathiason, A. Coleman, Emerson

Security Session
Chairperson: John Cusimano

TBD

DCS Migration PMCD/ChemPID Session
Chairperson: Fares Karadsheh

A New Paradigm for Control System Migrations
David Finlay

Upgrade Refinery DCS to Experion
Mohamed Ashraf Alsayed

Successful MOD5 DCS Migration to Honeywell Experion PKS
Michael Martin

3:00 p.m. – 3:30 p.m.

Coffee Break

3:30 p.m. – 5:00 p.m. | Afternoon Session II

Safety Session
Chairperson: Mike Scott

Panel Session: Implementation of the Safety Lifecycle in the Real World—What’s Working and What’s Not
D. Bennet, P66; M. Thompson, Koch; A. Desphande, Total; S. Mourier, Dow

Security Session
Chairperson: John Cusimano

TBD

Student Session
Chairperson: Randy Buchanan

TBD

Calibration PMCD/ChemPID Session
Chairperson: Fares Karadsheh

Calibration Management in Tough Economic Times
Ashok Acharya

Understanding Variability for Instrument Calibration
Eric Webb

Testing In-situ Corilis Meter Verification Technology—“Detecting Corrosion and Erosion”
Eric Harman, CEESI; Tom O’Banion, Emerson

5:00 p.m.

Closing Remarks

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