# SESHA

## FALL MINI-CONFERENCE

October 28-29, 2025
Albany, New York

# PROGRAM

# SPONSORS

BENCHMARK GENSUITE®

---

GlobalFoundries®

KFPI

---

COLDEN CORPORATION
Occupational Health, Safety & Environmental Consultants

CS CLEAN SOLUTIONS

DOD Technologies

Dräger
Technology for Life

GreenSoft TECHNOLOGY, INC.

Hallam-ICS
AN EMPLOYEE OWNED COMPANY

HIGHWIRE

Honeywell

RKI INSTRUMENTS
Gas Detection for Life

# EXHIBITORS

## Benchmark Gensuite

5181 Natorp Bvld Suite 610
Mason, OH 45040
513-774-1000
www.benchmarkgensuite.com

Benchmark Gensuite® offers an integrated platform for managing EHS, ESG, Sustainability, Safety, Quality, Operational Risk, Compliance, Product Stewardship, and Supply Chain programs. Continuously co-innovated with its subscriber community, the platform engages stakeholders worldwide, delivering best-practice functionality, flexible configurations, and powerful business intelligence.

## Colden Corporation

11 Round Lake Road
Ballston Lake, NY 12019
518-490-2261
www.colden.com

Colden Corporation provides industrial hygiene, safety, environmental health, and EHS management consulting services. For over 29 years, our Certified Industrial Hygienists, Certified Safety Professionals, and compliance specialists have been providing hazard and exposure assessments, health and safety program development, audits, and risk mitigation solutions. Visit colden.com for additional details.

## CS CLEAN SOLUTIONS Inc

26 Commerce Drive
Danbury, CT 06810
203-797-8155
www.cscleansolutions-usa.com

CS CLEAN SOLUTIONS® is the global leader in dry-bed abatement systems for hazardous gas streams using passive, chemisorption-based technology to treat gas streams to outlet levels below TLV. Using proprietary granulate formulations, the systems operate at ambient temperature to abate toxic, corrosive and pyrophoric chemistries. Fuel gas, high voltage electrical power, water and acid waste neutralization are not required, providing extremely low operating cost with minimal maintenance and downtime compared to other abatement technologies. CS CLEAN also offers a new plasma abatement system for Fluorinated Greenhouse Gases, and a plasma abatement system for GaN deposition abatement of H2 and NH3.

## DOD Technologies

675 Industrial Drive, Bldg. A
Cary, IL 60013
815-788-5200
DODtec.com

DOD Technologies is the leader in low-level semiconductor gas detection, providing technologically advanced products, repair, and preventative maintenance services. We offer a range of fixed and portable solutions – as well as flexible service options – to meet your facilities' life safety needs. Call or visit us today at DODtec.com.

## Draeger

7256 South Sam Houston West Parkway
Houston, TX 77085
800-437-2437
www.draeger.com

For over 130 years, Dräger products have protected, supported and saved lives through innovative solutions and technology.

## GreenSoft Technology, Inc.

155 S. El Molino Ave. Suite 100
Pasadena, CA 91101
323-254-5961
www.greensofttech.com

GreenSoft Technology is a leading provider of environmental compliance data services and software for electronics manufacturers, offering hands-on supply chain data collection covering EU REACH, EU RoHS, Conflict Minerals, Proposition 65, Full Material Declaration and more. Plus, GreenData Manager software for due diligence reporting and centralized substance database management.

## Hallam-ICS

107 Hermes Road, Suite 210
Malta, NY 12020
518-530-7069
www.hallam-ics.com

Hallam-ICS delivers turnkey TGMS (Toxic Gas Monitoring System) engineering design, programming, installation, commissioning, and support for semiconductor, research, and high-tech facilities. We bring TGMS solutions to operation quickly and safely without compromising quality. Our engineers provide reliable life safety systems, specializing in installations, upgrades, and ongoing maintenance to ensure compliance and uptime.

## Highwire

700 District Ave, Suite 7
Burlington, MA 01803
866-572-1722
www.highwire.com

Highwire's prequalification and field applications help advanced manufacturers identify, assess, and mitigate contractor risk. Highwire delivers full-lifecycle risk management, including safety and financial assessments, on-site inspection, and incident tracking. The world's leading advanced manufacturers trust Highwire to ensure safety, reliability, and operational excellence across complex projects and facilities.

## Honeywell

2101 CityWest Blvd
Houston, TX 77042
832-252-3500
automation.honeywell.com/us/en

Honeywell provides a comprehensive portfolio of gas detection solutions which offers capabilities that help to protect against toxic and flammable threats. Our High Tech gas detection portfolio utilizes a variety of technologies, including spectroscopy, electrochemical cartridge technology, catalytic bead technology, infrared technologies, and paper tape (Chemcassette®) colorimetric technology.

## KFPI

10351 Olympic Dr.
Dallas, TX 75220
469-329-5628
www.kfpi.com

KFPI is a leading semiconductor company specializing in fire and gas safety solutions. We provide comprehensive services, including consulting, design, product installation, integration, certification, training, and support. KFPI prioritizes our system designs to maximize reliability and longevity and we always guarantee compliance with SEMI S2, FM, and NFPA standards. Also, our experts can identify which gas detection technology is best to protect personnel from hazardous chemical leaks. Notably, KFPI developed LCAS, the first automatic fire safety prevention system for BCDS with pyrophoric chemistries. With a global presence, KFPI operates in the USA, Taiwan, Japan, China, Korea, Singapore, and Europe.

## RKI Instruments, Inc.

33248 Central avanue
Union City, CA 94587
800-754-5165
www.rkiinstruments.com

RKI is an US subsidiary of RIKEN KEIKI Japan, manufacturer of Gas sensors & Gas detectors since 1939 (84 years experience). The wide range of target gases in High Tech industries are detectable with Multi-point / Single point fixed gas detectors, Portable gas detectors.

# Schedule-at-a-Glance

| Tuesday, October 28 | | | Room | |
|---|---|---|---|---|
| 8:00 AM – 5:00 PM | Registration | | Kelsey's Foyer | |
| | **SESSION 1** | **Room** | **SESSION 2** | **Room** |
| 9:00 AM – 11:00 AM | **Boot Camp 101:** Introduction<br>Semiconductor Fabrication Overview<br>Semiconductor Processing | Kelsey's | **Session 2A:** PFAS Chemistry, Uses, Alternatives, and Controls | Chambers |
| 11:00 AM – 12:30 PM | LUNCH | | Kelsey's Foyer | |
| 12:30 PM – 2:30 PM | **Boot Camp 101:** Semiconductor EHS Hazards Overview<br>Chemistry of Semiconductors | Kelsey's | **Session 2B:** Industrial Hygiene Monitoring Strategies for Semiconductor Facilities and Cleanrooms | Chambers |
| 2:30 PM – 3:00 PM | BREAK, *Sponsored by KFPI* | | | |
| 3:00 PM – 5:00 PM | **Boot Camp 101:** Fab Equipment Commissioning and De-Commissioning Protection and Monitoring Systems | Kelsey's | **Session 2C:** Comprehensive Management Approach to Process Safety Management (PSM) Round Table Discussion | Chambers |

| Wednesday, October 29 | | | Room | |
|---|---|---|---|---|
| 8:00 AM – 4:00 PM | Registration | | Kelsey's Foyer | |
| 8:30 AM – 9:00 AM | OPENING | | Kelsey's | |
| | **TRACK 1:** Environmental | **Room** | **TRACK 2:** Safety/Wellness/Security | **Room** |
| 9:15 AM – 10:00 AM | **Session 1:** Abatement Technologies to Enable Net-Zero Semiconductor Operations | Kelsey's | **Session 1:** LMS System Best Practice | Chambers |
| 10:00 AM – 10:30 AM | **Session 2:** Azole Chemistry Reduction | Kelsey's | **Session 2:** Empowering EHS Professionals in Sustainable Semiconductor Facility Design | Chambers |
| 10:30 AM – 11:00 AM | BREAK | | Kelsey's | |
| 11:00 AM – 12:00 PM | **Session 3:** HMIS/Code Compliance | Kelsey's | **Session 3:** Challenges of High Voltage and Amperage in Data Center Server Racks | Chambers |
| 12:00 PM – 1:00 PM | LUNCH, *Sponsored by Benchmark Gensuite* | | Kelsey's | |
| 1:00 PM – 1:30 PM | **Session 4:** Waste Collection System Projects: Integration of EHS Requirements | Kelsey's | **Session 4:** Integrating Security and EHS for Success | Chambers |
| 1:30 PM – 2:00 PM | **Session 5:** Waste Collection System Projects: Integration of EHS Requirements | Kelsey's | **Session 5:** S30 Energetic Materials and Methods for Mitigating Process Exhaust Pipe Hazards | Chambers |
| 2:00 PM – 2:30 PM | BREAK | | Kelsey's | |
| 2:30 PM – 3:15 PM | **Session 6:** Digital Transformation: Moving from chasing safety to leading safety with best practice data management and embedded AI | Kelsey's | **Session 6:** Managing Hazards in Epitaxy: Risk Controls and Safety Integration | Chambers |
| 3:15 PM – 4:00 PM | **Session 7:** FM Global 7-7 | Kelsey's | **Session 7:** Pyrophoric Chemicals – Fire Code Update 2025 | Chambers |

# Tuesday, October 28, 2025

## BOOTCAMP 101

**9:00 AM – 9:15 AM, Kelsey's**

### Welcome, Introduction, Agenda Review

John Marci – GlobalFoundries

---

**9:15 AM – 10:00 AM, Kelsey's**

### Semiconductor Fabrication Overview

- Language of the Industry
- Overview of Semiconductor Manufacturing
- Codes and Regulations
- Resources

Steve Trammell – Padre Consulting Services LLC

---

**10:00 AM – 11:00 AM, Kelsey's**

**11:00 AM – 12:30 PM Lunch, Kelsey's Foyer**

### Semiconductor Processing

- Typical processing steps / semiconductor equipment

Steve Trammell – Padre Consulting Services LLC

---

**12:30 PM – 1:30 PM, Kelsey's**

### Semiconductor EHS Hazards Overview

Joe Van Gompel – Applied Materials

---

**1:30 PM – 2:30 PM, Kelsey's**

**2:30 PM – 3:00 PM Break, Kelsey's Foyer**

### Chemistry of Semiconductors

Joe Van Gompel – Applied Materials

---

**3:00 PM – 3:45 PM, Kelsey's**

### Tool Install and Decommissioning

John Marci – GlobalFoundries

### 3:45 PM – 4:30 PM, Kelsey's

## Protection and Monitoring Systems

- Fire Safety, Detection and Suppression
- Gas Detection Technologies
- Toxic Gas Monitoring Systems Design

Mark Sherrett & Dustin Trandai – KFPI

---

### 4:30 PM – 5:00 PM, Kelsey's

## Q/A with Speakers and Attendees

**SESSION 2A**

### 9:00 AM – 11:00 AM, Kelsey's

**11:00 AM – 12:30 PM Lunch, Kelsey's Foyer**

## PFAS Chemistry, Uses, Alternatives, and Controls

Dave Speed – GlobalFoundries

**Abstract** – The presentation will cover the chemistry, physical properties and behavior of PFAS (poly and perfluoroalkyl substances); worldwide regulatory actions, analytical methods, and control technology. The presentation will also describe the principal applications in which PFAS are used to manufacture semiconductors, as well as ongoing research efforts to identify viable non-fluorinated alternatives.

**Bio** – David Speed is a Distinguished Member of the Technical Staff at GlobalFoundries. He has a PhD in Environmental Engineering and has spent his entire career in the semiconductor industry. He has led chemical substitutions projects, and developed processes for chemical recycling, water and waste treatment, and air emissions control. His experience includes roles in manufacturing and technology development, with over 20 published papers and 4 patents.

**SESSION 2B**

### 12:30 PM – 2:30 PM, Kelsey's

**2:30 PM – 3:00 PM Coffee Break, Kelsey's Foyer**

## Industrial Hygiene Monitoring Strategies for Semiconductor Facilities and Cleanrooms

Michele Shepard – Colden Corporation

**Abstract** – This session will review effective IH monitoring strategies as a cornerstone of successful occupational health and safety management systems for semiconductor fabrication facilities, material and equipment manufacturers, other vendors, and in research and development. This session will use case studies from semiconductor facilities and cleanroom operations to highlight key components of IH monitoring strategies, from prioritizing resources and evaluating risk through banding, screening and modeling tools to defining monitoring objectives, planning, sampling, documenting, and analyzing and communicating exposure data.

Drawing from decades of experience and industry studies, this course will share real-world examples to illustrate best practices and lessons learned in designing IH monitoring strategies and completing exposure monitoring for semiconductor facilities and cleanrooms. Participants will leave with practical strategies to improve future monitoring strategies and enhance their industrial hygiene programs, contributing to worker protection and continual improvements in health and safety management and compliance.

**Bio** – Michele (Noble) Shepard is a Principal owner and Vice President at Colden Corporation with over thirty years of EHS experience in industry, academic research, and consulting. Dr. Shepard has a Bachelor of Science in Industrial Hygiene and Environmental Toxicology from Clarkson University, a Master of Science in Environmental Studies from the University of Oregon, and a doctorate degree in Nanobioscience from the University at Albany College of Nanoscale Sciences and Engineering. She was awarded a U.S. EPA STAR Fellowship for research on engineered nanoparticle exposure and risk assessment methods and applications in the semiconductor industry. Michele is a current member of the AIHA ultrafine particles project team and previously served as the Chair of the AIHA Nanotechnology Working Group and as former President of the AIHA Eastern Upstate NY local section. She has led or conducted dozens of risks assessments and exposure monitoring projects for semiconductor industry sites, the former SEMATECH, and for other advanced technology research and manufacturing facilities.

## SESSION 2C

### 3:00 PM – 5:00 PM, Chambers

## Comprehensive Management Approach to Process Safety Management (PSM) Round Table Discussion

Ashley Fernandez – AMF Compliance

**Abstract** – Performance based regulations have consistently driven a variety of interpretations on how a regulating agency interprets and enforces the requirements of these standards. The OSHA Process Safety Management (PSM) rule is no exception. With recently issued PSM enforcement guidance from OSHA, this session will provide timely information on existing compliance strategies and revised approaches based on the current regulatory landscape. This session will include a panel of professionals with experience in developing, implementing, and evaluating management systems in accordance with the OSHA Process Safety Management standard (PSM) 29 CFR 1910.119. It will be a frequently asked questions (FAQ) approach with a scripted list of common, industry applicable questions. The panel will provide their opinion, and insights on a successful approach to implementing the comprehensive management systems required by the performance based regulation.

**Bio** – Ashley Fernandez has 19 years of experience in the practice and management of Safety, Industrial Hygiene and Risk Management. Ms. Fernandez is currently the President of AMF Compliance, an Environmental, Health and Safety Consulting Firm. With AMF Compliance she works in a variety of industries, including chemical and plastics manufacturing, semiconductor manufacturing, food and beverage, and private equity groups. Ms. Fernandez has successfully designed and implemented safety and health management systems that have ensured compliance, reduced occupational risks, lowered company incident rates, and improved overall safety culture for clients. Ms. Fernandez at AMF Compliance is dedicated to partnering with clients to offer proactive occupational safety and health services to support strategic growth and enhance customer value.

# Wednesday, October 29, 2025

**TRACK 1**

### 9:15 AM – 10:00 AM, Kelsey's

## Abatement Technologies to Enable Net-Zero Semiconductor Operations

Josh Ratchford – Pfeiffer Vacuum + Fab Solutions

**Abstract** – Abatement technologies have moved beyond their traditional role of meeting safety, manufacturing uptime, and sustainability needs for semiconductor manufacturing operations thanks to the semiconductor industry's commitment to Net-Zero initiatives. This presentation explores how various abatement technologies from Pfeiffer Vacuum + Fab Solutions not only mitigate process risks but can reduce environmental impact through Smart Abatement Control as well as Carbon-Free technology integration. Attendees will gain insight into how Pfeiffer's next-generation abatement strategies can support both operational excellence and sustainability leadership.

**Bio** – Josh Ratchford is an industry professional with over 20 years of experience in materials research, field applications with end-users and OEMs, manufacturing operations, and business development. At Pfeiffer Vacuum + Fab Solutions, he leads efforts to advance abatement technologies that improve safety, efficiency, and sustainability. Josh is committed to developing solutions to support the semiconductor industry's ESG goals.

---

### 10:00 AM – 10:30 AM, Kelsey's

## Azole Chemistry Reduction

Tim Love – GlobalFoundries

**Abstract** – Azole based water treatment chemistries are frequently used for the necessary corrosion protection within cooling tower systems. However, they can present challenging issues for wastewater treatment facilities trying to nitrify ammonia in their biological treatment systems. GlobalFoundries teamed up with Nalco Water to implement a new azole free chemistry and show the positive effect it has on the local environment and facilities processes.

**Bio** – Timothy Love is a Principal EHS Engineer at GlobalFoundries FAB8 in Malta, New York. Timothy owns the Wastewater, Stormwater, and Groundwater compliance programs on site and has a background in civil engineering. Timothy is interested in all things water and has completed many wastewater improvement projects both onsite at GlobalFoundries and across the country at his previous engineering job.

---

### 11:00 AM – 12:00 PM, Kelsey's

## HMIS and Code Compliance

Andrew Jesitis – Arcadis

**Abstract** – The semiconductor industry is characterized by rapid technological advancement and stringent operational requirements involving the use of hazardous chemicals, specialized gases, and sophisticated manufacturing processes. Ensuring the safety of personnel, assets, and the environment within these facilities requires strict adherence to a framework of building codes and standards. This presentation provides an overview of hazardous building codes as they pertain to semiconductor manufacturing facilities. It will address the regulatory impacts—including but not limited to, the International Building Code (IBC), the International Fire Code (IFC) and National Fire Protection Association (NFPA) standards.

**Bio** – An Architectural SME for Advanced Technology with over 40 years' experience internationally in Life Science facilities, Laboratories, Nanotech Research facilities, Battery and Solar manufacturing and Semiconductor facilities, with a small foray into a national free-electron laser facility.

### 1:00 PM – 2:00 PM, Kelsey's

## Waste Collection System Projects: Integration of EHS Requirements

Dave Hoffman – Riverside

**Abstract** – Hazardous waste collection systems are subject to a variety of EHS requirements which affect how the system is designed, constructed, and operated. Proper integration of these requirements into each phase of the project will help to minimize the potential impact to project cost, scope, and schedule.

Failure to properly integrate EHS requirements into the design, construction, commissioning/testing, and operation phases of a hazardous waste installation/modification/demolition project can negatively impact project cost, scope, and schedule. Revising project design after completion, implementing change orders during construction, incorrectly commissioning/testing, and failing to account for all operational requirements can all lead to cost and schedule overruns.

Using lessons learned from multiple hazardous waste collection system projects, we will discuss how to optimize integration of EHS requirements into each project phase. Correct integration of EHS requirements into each phase of the project means that the impacts are properly built into the scope, schedule, and cost of the project, minimizing the potential for unanticipated changes.

**Bio** – Mr. Hoffman has a BS in Aerospace Engineering from the University of Michigan, an MS in Mechanical Engineering from the University of Florida and an MS in Civil Engineering from Florida Atlantic University. Mr. Hoffman has over 30 years of engineering experience and has worked in environmental compliance both for industry and as a consultant since 1994. Mr. Hoffman is currently the owner of Riverview Engineering and has worked directly for a semiconductor fab since 2010.

---

### 2:30 PM – 3:15 PM, Kelsey's

## Digital Transformation: Moving from Chasing Safety to Leading Safety with Best Practice Data Management and Embedded AI

Aron Yellot – Benchmark Gensuite

**Abstract** – This presentation outlines proven strategies for evolving from reactive safety compliance to proactive risk leadership through digital transformation and AI integration. With 80-90% of workplace incidents involving human factors, organizations must adopt comprehensive approaches that address behavioral, communication, and cultural elements.

Best Practice Framework: The presentation introduces a five-stage EHS maturity model with specific implementation recommendations:

- Digital EHS Systems: Deploy platforms enabling real-time visibility, automated workflows, and standardized global data collection
- AI-Powered Analytics: Implement machine learning algorithms for pattern recognition, predictive analytics, and dynamic risk identification
- Proactive Risk Management: Establish AI-driven ""hot spot"" detection to enable mitigation before incidents occur
- Advanced Benchmarking: Utilize ML algorithms for industry-specific, adaptive performance comparisons

Proven Results: Organizations following these best practices achieve:

- 20-40% reduction in incident rates
- 15-25% decrease in insurance premiums
- Significant improvements in employee engagement and operational efficiency
- Implementation Success Factors

The presentation provides a practical roadmap emphasizing critical success factors: maintaining human-centered approaches while leveraging technology, ensuring data quality management, and establishing sustainable change management processes while focusing on industry best practices. Real-world case studies and examples of "real world" AI usage demonstrate measurable impacts on safety performance, cultural transformation, and financial returns.

**Bio** – Aron Yellott brings a unique combination of personal passion and professional expertise to workplace safety. Twenty-one years ago, she lost her husband in a workplace incident—a tragedy that ignited her unwavering commitment to preventing similar incidents from happening to others.

As Associate Director of Strategic Solutions and Growth at Benchmark Gensuite, Aron leads cross-portfolio solution strategy across Operational Safety, Regulatory, Chemical, Analytics, and Platform domains, driving alignment between product vision, subscriber outcomes, and scalable go-to-market execution for a global subscriber base. With over a decade of progressive leadership experience at industry-leading organizations including L'Oréal USA, Colgate-Palmolive, General Electric, ABB, PCA, Kinder Morgan, and Intercontinental Terminals, she has established herself as a compliance-driven executive achieving exceptional results in sustainability and environmental health and operational safety.

Aron holds a Master of Science in Environmental & Chemical Sciences from McNeese State University, with specialized expertise in building positive safety cultures, regulatory compliance, ESG strategies, and comprehensive management systems. Her speaking engagements focus on transforming workplace safety culture, implementing sustainable business practices, and leveraging technology for EHS excellence, combining data-driven insights with heartfelt personal experience to drive meaningful organizational change.

---

### 3:15 PM – 4:00 PM, Kelsey's

## FM Global 7-7

Joyce Dunkerly – FM Global

**Abstract** – FM Property Loss Prevention Data Sheet (DS) 7-7 has been updated to include current industry practices and reflect recent industry property loss events. DS 7-7 was first developed in the 1970s to address the property protection of a fledgling industry. Since its inception, DS 7-7 has been continuously reviewed and updated to reflect changing practices and processes in semiconductor fabrication, as well as lessons learned from loss events reported by FM insured clients. As a leading industrial property insurer, FM is committed to learning from losses and improving our recommendations for good engineering practices. The latest edition of DS 7-7 was released in April 2025. The presentation will provide an overview of DS 7-7, including its scope and structure, the recent changes, and references to additional information. Attendees can download the data sheet for free from the FM website: https://fm.com/datasheets.

**Bio** – Joyce Dunkerley is a Senior Engineering Specialist at FM's Dallas, TX office. She holds a Chemical Engineering degree from Penn State and has over 25 years of experience supporting FM's semiconductor clients. FM is a mutual insurance company specializing in commercial property insurance and loss prevention. Joyce conducts risk evaluations, identifies hazards, and applies engineering and scientific analysis to develop innovative strategies that safeguard critical assets—advancing FM's mission to protect businesses through proactive risk management.

**TRACK 2**

### 9:15 AM – 10:00 AM, Chambers

## LMS System Best Practice

Melanie Landry – Axcelis Technologies

**Abstract** – Learning Management Systems are powerful tools that can disseminate information to employees, measure training comprehension, and support organizational learning goals. This presentation will discuss strategies to extract high quality information from subject matter experts and deliver focused content to all levels of a business.

**Bio** – Melanie Landry is a Sr EHS Manager at Axcelis Technologies in Beverly, MA. She holds a CSP and an MS in Engineering Management from Tufts University. Throughout her career she has focused on establishing meaningful relationships to foster innovation and work collaboratively to win-win solutions. She enjoys biking, hiking, skiing, and the company of her family and friends.

---

### 10:00 AM – 10:30 AM, Chambers

## Empowering EHS Professionals in Sustainable Semiconductor Facility Design

Catherine Bobenhausen – Colden Corporation

**Abstract** – EHS professionals play a critical yet often underrecognized role in advancing sustainability and material transparency in semiconductor facility design. As design teams pursue LEED and WELL material goals, EHS expertise ensures these frameworks also reduce worker exposures during construction, commissioning, operation, and maintenance. This session explores how EHS professionals can collaborate with architects, engineers, and sustainability teams to integrate EHS principles into material selection and installation practices. By interpreting product disclosures such as Health Product Declaration documents, Declare labels, and Cradle to Cradle certifications, EHS leaders can identify safer substitutes, establish procurement guardrails, and transform transparency efforts into measurable worker protection.

**Bio** – Catherine C. Bobenhausen is a Fellow of the American Industrial Hygiene Association, an Authorized GreenScreen Practitioner, and a LEED Accredited Professional in Building Design + Construction. Catherine partners with design and sustainability teams to embed EHS principles into early design decisions, and supports chemical specifications, VOC certifications, and lower-impact product integration. She has also served as an expert witness, collaborated with Building Product Ecosystems and the American Institute of Architects, and supports indoor environmental quality and construction safety projects.

---

### 11:00 AM – 12:00 PM, Chambers

## Challenges of High Voltage and Amperage in Data Center Server Racks

Dave Haver – Shirley Parsons

**Abstract** – As data centers scale to meet the demands of high-performance computing, AI workloads, and cloud infrastructure, the shift toward higher voltage and amperage power delivery for server racks introduces complex engineering and operational challenges. These include increased risks of arc flash incidents, thermal management complications, and the need for specialized equipment and training. This abstract explores the implications of high-power distribution in modern data centers, emphasizing safety, reliability, and efficiency. It also highlights the evolving standards and best practices required to support these power densities while maintaining uptime and minimizing hazards.

🎯Key Learning Objectives

Understand the Safety Risks and Mitigation Strategies Learn how high-voltage and high-amperage systems increase the risk of electrical hazards such as arc flash, and explore the protective measures, PPE requirements, and design strategies to reduce these risks.
Explore Infrastructure and Design Considerations Examine how power distribution architecture, rack-level PDUs, cabling, and cooling systems must be adapted to handle higher electrical loads without compromising performance or reliability.
Review Compliance, Standards, and Workforce Training Needs Gain insight into the regulatory frameworks (e.g., NFPA 70E, IEEE standards) and the importance of training personnel to safely operate and maintain high-power systems in mission-critical environments.

---

### 1:00 PM – 1:30 PM, Chambers

## Integrating Security and EHS for Success

Gary Lauver – GlobalFoundries

---

### 1:30 PM – 2:00 PM, Chambers

## S30 Energetic Materials and Methods for Mitigating Process Exhaust Pipe Hazards

Matt Kowalski– Edwards Vacuum

**Abstract** – In July 2019 SEMI published the S-30 Standard for Safety Guidelines for Use of Energetic Materials in Semiconductor R&D and Manufacturing Processes. Borne from the 2013 Sematech Industry benchmarking where over 70 energetic related incidents were recorded it can be seen that a large majority of these are post reactor. This presentation will introduce the SEMI S-30 standard then review the risks associated with these energetic materials and describe methods for mitigating process exhaust pipe hazards in high-volume manufacturing. In particular, we will describe an approach based on the integrating vacuum pumps and point-of-use abatement systems with essential safety devices and monitoring systems into a complete sub-fab vacuum and abatement solution. Such modular integrated sub-fab systems employ Best Known Methods (BKM) for each process tool and applications to ensure safe system operation, including mitigation of process exhaust hazards, and reduce exposure of service staff to hazardous materials.

**Bio** – Matthew Kowalski is an Applications Manager at Edwards Vacuum. Over his 10+ years with Edwards, he has worked within the Applications group in multiple capacities, focusing on equipment specification, evaluation, and sustaining for semiconductor manufacturers and industrial customers. In his current role, he provides internal and external training and manages the North America applications team. He holds a BS in Mechanical Engineering from the University of Massachusetts Amherst and has been working in the semiconductor industry for 14+ years.

---

### 2:30 PM – 3:15 PM, Chambers

## Managing Hazards in Epitaxy: Risk Controls and Safety Integration

Robert Knazik – AMAT

**Abstract** – The epitaxial process involves the use of highly reactive and toxic gases such as silane, hydrogen, arsine, and phosphine. These substances pose significant risks including fire, explosion, acute toxicity, and environmental release. This presentation will explore the key hazards associated with epitaxial deposition, focusing on the chemical properties, and reaction byproducts.

### 3:15 PM – 4:00 PM, Chambers

## Pyrophoric Chemicals – Fire Code Update 2025

Mark Sherrett – KFPI

**Abstract** – Over the past 5+ years KFPI has been involved in many R&D projects testing fire and gas safety systems for effectiveness within semiconductor and hi-tech applications. Projects have included fire detection and fire suppression systems testing effectiveness of energetic chemical fires such as pyrophoric liquid metal organics like TMA (trimethyl aluminum). Projects also included fire and gas detection testing effectiveness of silane leaks within gas cabinets/VMB enclosures. The results of these projects have identified many challenges and limitations in the effective of traditional protection schemes using previous fire codes and standards. As a result of this test data and new technology developments, many of the associated fire safety codes and standards have now been changed. This presentation will highlight the findings of the past pyrophoric testing projects, new pyrophoric fire safety technology advancements (such as LCAS), and various changes to fire safety codes and standards between 2022-2025. Mark Sherrett is the Application Engineer and Lab Manager for KFPI LLC, a company which specializes in fire and gas safety solutions for the global semiconductor industry. Mark holds a BS in Chemical Engineering from the University of Cincinnati. He began his career in semiconductor gas detection at MST Measurement Systems in 1996, where he collaborated with electrochemical sensor manufacturers around the world to develop solutions for the semiconductor market. Through over 25 years' experience, his gas detection expertise grew to include many other commonly used Life Safety detection technologies. In addition to his gas detection lab expertise, he has had previous roles as High Tech Product Marketing Manager, LSS Systems Integration Manager, and Technical Support Specialist for the semiconductor market. In his current role at KFPI, Mark now continues providing LSS gas detection expertise for the semiconductor market with new sensor development and application support.

**Bio** – Mark Sherrett is the Application Engineer and Lab Manager at KFPI LLC with over 25 years of experience. Mark's current role provides LSS gas detection expertise for the semiconductor market that includes new sensor development and application support. His product knowledge includes FTIR, NDIR, IR, FIP, MS, acoustic, catalytic bead, and colorimetric technologies. Mark holds a BS in Chemical Engineering from the University of Cincinnati. Mark began his career in semiconductor gas detection at MST Measurement Systems in 1996. He collaborated with electrochemical sensor manufacturers around the world to develop solutions for the semiconductor market. Mark Sherrett's sensor knowledge and application experience includes previous roles at Telosense, ATMI and Honeywell Analytics where he had responsibilities including High-Tech Product Marketing Manager, LSS Systems Integration Manager, and Technical Support Specialist for the semiconductor market.