CCPS has your Professional Development Covered from the Classroom to the Frontlines...

- Credentialing
- Faculty Workshops
- Academy
- Early Career Professional
- ECP
- SACHe
- Student Boot Camps
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The CCPS Story

Just after midnight on December 3, 1984, water contamination of a tank of methyl isocyanate in Bhopal, India, initiated a series of events that led to a catastrophic toxic release, killing more than 3,000 residents and injuring over 100,000.

In February of 1985, industry leaders asked the American Institute of Chemical Engineers (AIChE) to lead a collaborative effort to eliminate catastrophic process safety incidents. On March 23, 1985, AIChE formed the Center for Chemical Process Safety (CCPS); CCPS completed Guidelines for Hazard Evaluation Procedures a short time later.

As we enter 2020, we pause to reflect on the progress we’ve made while we continue to honor the memories of those lost in Bhopal by striving for a future where we can eliminate all process safety incidents. Toward this end, we remain committed to learning from incidents, advancing the practice, and collaborating broadly to implement safety measures. Vision 20/20 serves as our road map. Come join the global community committed to Process Safety—be ready for the future by working to create it.
As we begin a new decade, I want to pause and reflect on the Bhopal Gas tragedy, which occurred 35 years ago, killing more than 3,000 residents and injuring over 100,000 people. We honor the memories of those who lost their lives and suffered from this tragedy, and recognize the progress that CCPS and other process safety organizations have made to expand the message of process safety worldwide, to protect people, property and the environment.

CCPS’ mission is to eliminate all process safety incidents, towards that end, CCPS is enhancing its initiatives from the classroom to the frontlines, providing exciting new opportunities to learn, train and develop throughout all levels of one’s career. Whether it be online, face-to-face, networking regionally or internationally, CCPS is the home for process safety worldwide.

In 2019, CCPS held four global-regional conferences. The 15th Global Congress on Process Safety (GCPS) in New Orleans, LA brought almost 1000 attendees from about 300 organizations; the 4th Europe Conference on Process Safety and Big Data, in Frankfurt, Germany drew 115 delegates from 62 organizations; the 5th Global Summit on Process Safety (GSPS), held in Singapore, was attended by nearly 320 delegates and highlighted the Vision 20/20 implementation in the region; and the year ended with the 7th CCPS China Conference, held in Suzhou Bay, China, that brought together 1000 delegates from more than 15 countries.

CCPS expanded its engagement through two global face-to-face Technical Steering Committee (TSC) meetings as well as 3 virtual TSC Meetings. There were also six regional TSC meetings around the world in; New Delhi, Leverkusen, São Paulo, Mumbai, Calgary and Suzhou, connecting approximately 800 members and non-members to important learning and networking opportunities. Two visits to Brazil provided important opportunities to engage, collaborate and connect with member and nonmember companies throughout the region. Topics discussed included process safety challenges in mining, biofuels, and metal operations.

2019 year saw record growth in CCPS on a global scale, with 31 new members, the majority of which were outside the United States, including our first new members located in Israel and Chile. In an effort to support our continued global expansion, the CCPS Planning and Operations Committee was restructured to include more global representation to provide synergies to support the planning of the GCPS and in the development of future projects.

The Undergraduate Process Safety Education program continues to progress, with an additional eight new interactive SAcHE modules. Six faculty workshops were held and hosted by Dow, Chevron, BASF, LyondellBasell, Bayer and ExxonMobil. Additionally, seven Process Safety Student Boot Camps were conducted with a combined attendance of 265 students. The CCPS Credentialing (CCPSC) program completed three certification exams in 2019, with 192 process safety specialists becoming CCPSC certified to date. Five CCPS book titles were published in 2019, including 2 books translated into Chinese. And the Beacon celebrated 18 years of continuous publication and is available in 40 languages.

When CCPS Vision 20/20 was created, it was envisioned that by the year 2020, leaders in process safety would value and demonstrate actionable commitment to the Vision 20/20 tenets that prevent, minimize, and mitigate process safety incidents. As 2020 begins, I am encouraged that progress has been made; however, much broader advancements are needed. The CCPS Vision 20/20 team has heard your feedback and is working to expand its tools and guidance to improve its deployment support structure.

As we close the chapter on this decade, and begin a new one, I want to thank you for your continuing support. I look forward to a very productive and safe 2020.
Highlights from the Year

2019: Expanding global and regional engagement and responsible collaboration

Our growing CCPS community

And the list continues to grow, from...

→ SINGAPORE
→ SAUDI ARABIA
→ CHINA
→ CANADA
→ USA
→ KUWAIT
→ INDIA
→ GERMANY
→ COLOMBIA
→ AFRICA
→ MALAYSIA
→ ISRAEL
→ CHILE

Face-to-face meetings

CCPS WELCOMED MORE THAN 2,800 ATTENDEES
HELD OVER 15 CONFERENCES AND MEETINGS

HIGHLIGHTS INCLUDED:
→ The 15th Global Congress on Process Safety that was attended by 1,000 registrants from over 300 companies and 30 countries
→ The 7th CCPS China Conference on Process Safety had nearly 1,000 attendees, while the pre-conference workshop attracted 130 attendees.
→ The 5th Singapore CCPS Global Summit was attended by 250 delegates from around the world.

Resources to explore

Since 2012, companies have employed Vision 20/20 to create a road map for continuous improvement of their process safety efforts. Vision 20/20 is driven by five industry tenets of committed culture; compliance with standards; intentional competency; vibrant management systems; and enhanced applications of lessons learned. It is further enriched by four global societal themes, including: enhanced stakeholder knowledge; meticulous verification; harmonization of global standards; and responsible collaboration.

The Process Safety Beacon, translated into 40 languages, continues to be a go-to resource for our members.

Companies have participated in programs that have translated CCPS books and tools into spanish, chinese, and portuguese.
Get Your Company Involved

**JOIN** CCPS as a member company to help prevent catastrophic process safety incidents.

NOT A CCPS MEMBER YET?
Join CCPS: aiche.org/ccps
Email ccps@aiche.org or call 1.646.495.1371

**VOLUNTEER** for a CCPS project subcommittee. Share your knowledge and help shape industry best practices. There are several ongoing projects that can be found on the CCPS website. Highlight your expertise by contributing to project development or participate as a peer reviewer. Key contributions will be recognized in the books published. This is a chance to be immortalized as an expert in your field.

Your company must be a CCPS member to volunteer for a project. Contact a CCPS staff member or submit the form on the CCPS website (Note: Please log in as a member.)

VOLUNTEER TODAY: aiche.org/ccps

**EDUCATE** your entire workforce by getting involved with the CCPS education curriculum, with face-to-face instructor-led courses including Process Safety Boot Camp (CH 900) / Foundations of Process Safety (CH 910), Incident Investigation (CH901), Recognizing Catastrophic Incident Warning Signs (CH850), and our many eLearning courses on process safety and related topics.

aiche.org/ccps

**SHARE** your expertise by participating in the Global Congress on Process Safety (GCPS), Global Summit on Process Safety (GSPS), a CCPS Regional Conference, or a Global or Regional Technical Steering Committee meeting.

CONFERENCES, MEETING & EVENTS: aiche.org/ccps

**MODEL** your company as a process safety champion for CCPS publications and tools.

CCPS@aiche.org

**MENTOR** your new employees by bringing them to the Young Professionals program at the GCPS.

aiche.org/community/sites/committees/young-professionals

As a new member, link with an existing member company to gain valuable knowledge and improve your CCPS experience.

**COMMUNICATE** the message by forwarding CCPS’ Process Safety Beacon to your colleagues.

Sign up for the CCPS Beacon:
aiche.org/ccps/resources/process-safety-beacon

**CONNECT** with your process safety peers through CCPS LinkedIn.

Join CCPS LinkedIn Group:
linkedin.com/groups/105603

**PARTICIPATE** by getting your company involved in CCPS’ Vision 20/20 Responsible Collaboration activities throughout the year.

Contact Louisa Nara for more information: louna@aiche.org

**CERTIFY** your knowledge. The program for obtaining the “CCPS Certified” credential is gaining momentum and recognition around the globe. There are several opportunities per year to take the CCPS certification examination. The assessment process is rigorous and verifies that your knowledge is broad, deep and current. Earning the credential will gain you recognition as one of the elite certified experts in the field of Process Safety.

Learn more about the process: aiche.org/ccps/resources/certified-process-safety-professional

**ADVERTISE** your company’s services, logo and website for FREE at CCPS’ online Professional Services Directory. This opportunity is only available to CCPS member companies. For information on how to get your company listed, please contact Michele Horwitz at michh@aiche.org.

Review current listings at: aiche.org/ccps/community/members/directory
Books Published in 2019

- Process Safety Leadership from the Boardroom to the Front Line
- G/L for Investigating Process Safety Incidents, 3rd Ed
- More Incidents that Define Process Safety
- G/L for Inherently Safer Chemical Processes: A Life Cycle Approach, 3rd Ed
- Guide to Making Acute Risk Decisions

Ongoing 2020 Book Projects

- Guidelines for Process Safety during Transient Operations
- Risk Based Process Safety in Pilot Plants & Laboratories
- Process Safety in Upstream Oil & Gas
- Guidelines for Updating & Revalidating PHA, 2nd Ed.
- Lessons Learned Years Later – In the Aftermath of Incidents
- Golden Rules of Process Safety for Select Technologies

Process Safety Beacon

Sponsored and produced by CCPS, the Process Safety Beacon is a resource aimed at delivering process safety messages to plant operators and other manufacturing personnel. The monthly one-pager, often used as a training tool, covers a breadth of process safety topics. Each issue discusses a real-life accident, and describes the lessons learned and practical means to prevent a similar accident in your plant. With an estimated distribution of a million readers, the Beacon is CCPS’ most widely read publication.

aiche.org/ccps/resources/process-safety-beacon/subcribe

Process Safety Incident Database (PSID)

PSID is a lessons learned tool, containing over 800 incidents, and 425 users from over 85 CCPS member companies. To enhance the benefit of the database and to expand the breadth of knowledge in the system, members are strongly encouraged to submit at least one incident per year into the database. To ensure company privacy, CCPS removes all identifiable company information from the incidents before adding them into the database.

If you’re interested in contributing to this lessons learned database, please contact Christa Pennino at chrip@aiche.org. To register for PSID, please go to http://psidnet.com.

CCPS Glossary

CCPS approved definitions for chemical process safety verbiage.

aiche.org/ccps/resources/glossary

Process Safety Incident Evaluation (PSIE)

The Process Safety Incident Evaluation app lets users evaluate a chemical incident against safety indicators.

The PSIE app has three main components: the Process Safety Incident (PSI) Evaluation Questionnaire, the Severity Weighting Questionnaire, and the Chemical and Mixtures Database.


RAST and CHEF

The Risk Analysis Screening Tool (RAST) is an Excel based software that is used to help validate hazard scenarios and evaluate process risks. RAST is an excellent tool for assisting Process Hazards Analysis (PHA) teams, managing the risks associated with changes to a process, or evaluating and potentially reducing the risks of a process during its design. The user inputs information about the chemicals, equipment and unit operations, the process conditions, and the facility
layout. The RAST software validates potentially hazardous scenarios, uses industry guidelines for event frequency and consequence impact, and estimates the risk based on the company-specific risk criteria. Users can select scenarios for further assessment through a Layer of Protection Analysis (LOPA). The RAST software was upgraded and reissued on March 25, 2019.

**Chemical Hazards Engineering Fundamentals (CHEF)** is a Calculation Aid for those interested in understanding the mathematical framework of RAST. CHEF provides the background equations that are used.


### Safe Work Practices (SWP)

Various SWPs are documented on the CCPS website. The content is designed to reach, and provide value to a very broad audience, including operations, maintenance and engineering personnel in the process industries (chemical, petrochemical, electronics, oil & gas, LNG, and others). It is also intended to appeal to management personnel as they attempt to justify the investment within their organization. This information has been tailored to reach large and small global organizations.

Specific notes and potential vulnerabilities are presented, allowing users to personalize safe work practices in order to raise a sense of vulnerability with respect to potential hazards.

In 2019, six new Safe Work Practices have been added to the website. CCPS member companies who contribute to the SWP initiative will receive special acknowledgement.

[aiche.org/ccps/resources/tools/safe-work-practices](aiche.org/ccps/resources/tools/safe-work-practices)

### Risk Based Process Safety (RBPS) Resources

This web based collection of resources are for each of the 20 elements of Risk Based Process Safety.

[aiche.org/ccps/resources/rbps](aiche.org/ccps/resources/rbps)

### CCPS on Knovel

As a CCPS member, your organization is entitled to a 35% discount on the CCPS collection on Knovel. For more information about subscribing to the CCPS collection on Knovel, contact Knovel directly at CCPSOnKnovel@elsevier.com.

Knovel ([www.knovel.com](www.knovel.com)) offers the largest standalone collection with several titles that contain importable Excel data. Included in the collection are all CCPS Guidelines and Concepts titles including:

- Process Safety Leadership from the Boardroom to the Front Line
- G/L for Investigating Process Safety Incidents, 3rd Ed
- G/L for Integrating Process Safety into Engineering Projects
- Bow Ties in Risk Management: A Concept Book for Process Safety
- Loss Prevention Symposium (LPS)
- International Conference and Workshop Proceedings (CCPS)

### Evergreen/LOPA Database

The Evergreen/LOPA database is a simplified quantitative tool for analyzing and assessing risk. The tool was originally developed by user organizations during the 1990’s as a streamlined risk assessment tool, using conservative rules and order of magnitude estimates of frequency probability and consequence severity. The resource is free for CCPS members.

[aiche.org/ccps/resources/tools/lopa](aiche.org/ccps/resources/tools/lopa)

### Professional Services Directory

The Professional Services Directory on the CCPS website is a fantastic free opportunity to feature your company’s services, logo, and website, and posting is only available to CCPS member companies. This online resource and benefit will make CCPS end-user member companies aware of your company as the service provider.

### Chemical Reactivity Worksheet

The Chemical Reactivity Worksheet (CRW) is a free software program you can use to find the chemical reactivity of thousands of common hazardous chemicals, the compatibility of absorbents, and the suitability of materials in the construction of chemical processes. The most recent update (version 4.0.3) was released on July 1, 2019. The update includes a mixture cloning function, mixture migration utility, and is compatible with the latest PC and Mac operating systems.

[aiche.org/ccps/resources/chemical-reactivity-worksheet](aiche.org/ccps/resources/chemical-reactivity-worksheet)
Student Boot Camps

Student Boot Camps, sponsored by CCPS member companies, provide an introduction to engineering students about how leading companies across a variety of chemical process industry (CPI) sectors manage process safety to prevent catastrophic accidents involving toxic, highly reactive, and flammable materials. These events are part of the Undergraduate Process Safety Learning Initiative (UPLSI), a core priority of the AIChE Foundation’s Doing a World of Good campaign.

This year, CCPS organized six boot camps as well as the first Student Process Safety Workshop in China.

- **2019 Praxair Sponsored CCPS Student Boot Camp**
  February 1-2 | Villanova University

- **2019 Trinseo Sponsored CCPS Student Process Safety Workshop**
  March 9 | Nanjing Tech University

- **2019 Covestro Sponsored CCPS Student Boot Camp**
  April 12-13 | Ohio University

- **2019 AdvanSix Sponsored CCPS Student Boot Camp**
  August 23-24 | Virginia Commonwealth University

- **2019 Bayer Sponsored CCPS Student Boot Camp**
  September 13-14 | Brigham Young University

- **2019 Syngenta and Chemours Sponsored CCPS Student Boot Camp**
  September 21-22 | North Carolina A&T State University

- **2019 Ecolab Sponsored CCPS Student Boot Camp**
  September 27-28 | University of Minnesota, Duluth
Launching your career with a strong process safety foundation to help create a safer, more livable world...

...begins in the classroom. As part of AIChE’s Doing a World of Good campaign, and in conjunction with the Center for Chemical Process Safety (CCPS), industry and academia have come together to launch a major global initiative to improve and accelerate process safety education at the university level so you can graduate with an understanding of process safety.

26 FREE Courses

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<tr>
<th>On-Demand</th>
<th>Interactive</th>
<th>Easy-to-Use</th>
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<tbody>
<tr>
<td>→ An Introduction to Managing Process Safety Hazards</td>
<td>→ Hazards and Risk: What Can Go Wrong?</td>
<td>→ NEW! Risk Review Using LOPA (Layer of Protection Analysis)</td>
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<tr>
<td>→ Introduction to Process Safety</td>
<td>→ Hazards and Risk: Safeguards Other Than Relief Systems</td>
<td>→ The Role of Inert Gases in Process Safety</td>
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<td>→ NEW! Lab Safety</td>
<td>→ Source Models</td>
<td>→ NEW! Risk Based Process Safety - Training &amp; Procedures</td>
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<td>→ Chemical Process Safety in the Chemical Process Industries</td>
<td>→ Toxicological Hazards</td>
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<td>→ NEW! Dust Explosion Control</td>
<td>→ Understanding Hazards &amp; Risk</td>
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<td>→ Hazard Recognition</td>
<td>→ NEW! Process Safety Ethics – A Brief Introduction</td>
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<td>→ Identifying &amp; Minimizing Process Safety Hazards</td>
<td>→ NEW! Atmospheric Dispersion</td>
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<td>→ Process Safety Lessons Taught from Experience</td>
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<tr>
<td>→ Runaway Reactions</td>
<td>→ NEW! Hazards and Risk: Introduction to Hazard Identification and Risk Analysis</td>
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<tr>
<td>→ Chemical Reactivity Hazards</td>
<td>→ NEW! Risk Based Process Safety Manager Risk - Commit to Process Safety</td>
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<tr>
<td>→ Explosion Hazards</td>
<td>→ Common Chemicals and Their Major Hazards</td>
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<td>→ Fire Hazards</td>
<td>→ Inherently Safer Design</td>
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<tr>
<td>→ Hazards and Risk: Introduction to Pressure Protection</td>
<td>→ Risk Based Process Safety - Manage Risk: Operations</td>
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Early Career Professionals

Process Safety training and the understanding of practical aspects of day-to-day work are typically lacking for those early in their career. As such, in July 2019, a subcommittee of Early Career Professionals (ECP) in Process Safety was established. The subcommittee’s charter is to identify the needs of the ECP to execute their responsibilities in the Process Safety field. Because the level of training ECPs receive varies prior to starting their careers, focused courses are needed. The subcommittee will identify key focus areas that ECPs encounter, to determine the best in-class training available and to identify where the gaps are. CCPS intends to create a program to fill these gaps with training geared to the target population. In addition to the traditional delivery methods, transformational technologies, such as augmented reality and virtual reality, will also be considered.

For more information about the program, or if you would like to volunteer for the subcommittee, please contact Anil Gokhale at anilg@aiche.org.
Find CCPS Courses, Plus Much More

AIChE Academy brings a full array of education and training resources to CCPS member companies and their employees. Find CCPS courses and process safety themed webinars all in one convenient place. You can search by topic, availability of CEUs and PDHs, delivery method, skill level - even location. Start learning today.

Public Sessions, In-Company Training, and eLearning Courses

Embodying CCPS’ practice-leading guidelines, and developed by highly experienced industry professionals, process safety courses from the AIChE Academy are offered both online and in-person. Sign up for single or multiple group seats (onsite or online), Academy has just the training you and your staff need.

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<tr>
<th>eLearning Courses</th>
<th>Public Courses</th>
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<tbody>
<tr>
<td>→ 20 Elements of Risk Based Process Safety (RBPS)</td>
<td>→ CCPS / RAPID Webinar: The Link Between Process Safety &amp; Process Intensification</td>
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<tr>
<td>→ Hazard Identification for Operators and Maintenance Workers</td>
<td>→ Advanced Concepts for Process Hazard Analysis</td>
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<td>→ HAZOP Studies</td>
<td>→ Hazard Identification for Operations and Maintenance Workers</td>
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<tr>
<td>→ Layer of Protection Analysis (LOPA)</td>
<td>→ HAZOP Studies and Other PHA Techniques for Process Safety and Risk Management</td>
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<td>→ Management of Change</td>
<td>→ Incident Investigation and Root Cause Analysis</td>
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<td>→ OSHA Process Safety Management Review</td>
<td>→ Inherently Safer Design</td>
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<td>→ Process Safety Leadership for Front-Line Supervisors</td>
<td>→ Managing Process Safety Risks During Organizational Change</td>
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<tr>
<td>→ Process Safety Management for Biodiesel</td>
<td>→ Overview of Risk Based Process Safety</td>
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<tr>
<td>→ Process Safety Management Overview</td>
<td>→ Recognizing Catastrophic Incident Warning Signs</td>
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<tr>
<td>→ The Importance of Codes and Standards for Process Safety</td>
<td>→ Senior Leaders and Process Safety: The Role and the Responsibility</td>
</tr>
<tr>
<td>→ What Every New Engineer Needs to Know about Process Safety</td>
<td>→ The OSHA Regulatory Approach to Process Safety Management</td>
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<tr>
<td>Plus more than 20 SACHE modules on all aspects of Process Safety</td>
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Some eLearning Courses are available in Spanish, Portuguese, and Mandarin. Please visit aiche.org/academy for details.

CCPS MEMBERS BENEFIT IN TWO WAYS

DISCOUNTED FEES: Employees of CCPS member companies enjoy the low member rate for all CCPS and SACHE courses. And member companies are entitled to discounted rates on group training, both onsite and online. For more information, contact academy@aiche.org.

FREE SEATS: As each new eLearning course is launched, CCPS Member companies are entitled to three free seats. For more information, contact CCPS@aiche.org.
CCPS Faculty Workshops

Faculty Workshops sponsored by CCPS member companies show chemical engineering faculty how process safety is put into industrial practice and demonstrates the importance of process safety to the design and operation of a chemical plant. These events are part of AIChE’s Doing a World of Good campaign.

→ 2019 LyondellBasell Sponsored CCPS Faculty Workshop
   January 6-9, 2019 | Houston, TX

→ 2019 Dow Sponsored CCPS Faculty Workshop
   June 10-13, 2019 | Midland, MI

→ 2019 BASF Sponsored CCPS Faculty Workshop
   July 22-25, 2019 | Wyandotte, MI

→ 2019 Bayer Sponsored CCPS Faculty Workshop
   July 29 - August 1, 2019 | Muscatine, IA

→ 2019 Chevron Sponsored CCPS Faculty Workshop
   August 4-7, 2019 | Richmond, CA

→ 2019 ExxonMobil Sponsored CCPS Faculty Workshop
   August 12-15, 2019 | Baytown, TX

For more information: aiche.org/ccps/resources/conferences/events/faculty-workshops

CCPS Process Safety Professional Certification

Become recognized as an expert in Process Safety by passing the CCPS Process Safety Certification (CCPSC) exam and show your employer and colleagues that you have the depth and breadth of experience needed to excel in your career.

The exam to obtain your CCPSC credential, offered multiple times per year, is receiving global recognition and is in high demand. CCPS now has almost 200 Process Safety experts worldwide.

The requirements to qualify for this rigorous exam include references, academic and long term employment information, and an in-depth knowledge of the CCPS Risk Based Process Safety concepts and applications.

For more information about the CCPSC certification program, please go to aiche.org/ccps/resources/certified-process-safety-professional

To maintain your credentials, renewal is required annually via continuing education.
The 15th Global Congress on Process Safety (GCPS) was held March 31 – April 2, 2019 at the Hilton New Orleans Riverside. This world premier process safety conference hosted 1,000 attendees from over 300 companies and 30 countries. Attendees had the opportunity to hear and see featured keynote presentations, followed by 195 technical and 95 poster presentations.

Following the conclusion of the GCPS, a full day CCPS Technical Steering Committee Meeting with more than 160 attendees was held. Topics included:

- Updates and challenges from the CSB
- Regulatory agenda updates by the U.S. DOL/OSHA Office of Engineering Safety
- Chemical National Emphasis Program updates (NEP)
Events and Meetings

4TH ANNUAL CANADIAN TECHNICAL STEERING COMMITTEE MEETING

The 4th Annual Regional Canadian Technical Steering Committee Meeting was held in Calgary and hosted by Inter Pipeline on September 12, 2019. A record setting 70 people and 36 companies registered for the meeting, reflecting a 36% increase in company attendance over last year. Also, for the first time this year, Doctoral Candidates from the University of Alberta attended to present their research. Panel sessions were held on the subjects of Safe Operating Procedures, as well as Corrective Actions Management.

FALL TECHNICAL STEERING COMMITTEE MEETING

The Fall Technical Steering Committee (TSC) Meeting was held November 6-7, 2019 in Sugar Land, TX and attended by over 80 members, each of who contributed in workshop breakout groups, presentations and incident sharing. The evening concluded with valuable networking at the TSC reception and dinner.

Members gave very interesting presentations this year on Process Safety Management, Improvements and Learnings, Process Safety in the Steel Industry, Managing Process Safety during Mergers and Divestitures, and updates on their projects’ status.
Process Safety Outreach in Latin America

CCPS REGIONAL MEETINGS

CCPS gathered with a total of 90 people from 20 member and nonmember organizations in São Paulo and Rio de Janeiro from May 8-15, 2019. CCPS Executive Director & CEO, Shakeel Kadri, attended the events alongside Latin America Regional Manager, Marvin Szoychen, and CCPS Staff Consultant, Alexandre Glitz. The attendees discussed process safety challenges in mining, biofuels, and metals operations. While in Brazil, CCPS held a regional meeting at ABIQUIM’s São Paulo headquarters on May 8, 2019. Representatives from DuPont, FM Global, Chevron, and Johnson & Johnson were present.

CCPS also met with various member and non-member companies from May 9-15, 2019. Organizations included Usiminas and Raízen in São Paulo, as well as IBP and Petrobras in Rio de Janeiro.

REGIONAL MEETING AT GCPS

CCPS organized a Latin America Regional Meeting during the 15th Global Congress on Process Safety. 25 attendees participated, and discussed process safety in the mining and metallurgical industries.
Events and Meetings

AÇOBRASIL CONFERENCE

CCPS attended the AçôBrazil Conference in Brasilia from August 20-21, 2019. Shakeel Kadri was a keynote speaker and conducted a pre-conference workshop on Process Safety Management.

PROCESS SAFETY BOOT CAMP

CCPS organized a Foundations for Process Safety Boot Camp in Costa Rica from July 29 - August 2, 2019. Sponsored by Cargill, the event was translated for its 35 attendees.

EUROPE

4TH EUROPEAN REGIONAL TECHNICAL STEERING COMMITTEE MEETING

The meeting held on March 6-7, 2019 in Leverkusen, Germany, hosted by Covestro, was represented by 24 attendees from 18 CCPS member and non-member companies. The day and a half meeting featured incident sharing, case studies, new product development, a round table discussion, as well as corporate presentations specific to each company's lessons learned on varying topics of interest.
PROCESS SAFETY IN EUROPE, ORGANIZATIONS, NETWORKS AND THE INDUSTRY

The Center for Chemical Process Safety (CCPS) and The European Chemical Industry Council (Cefic) jointly hosted the European Process and Plant Safety Conference in Brussels, Belgium on September 11, 2019. Forty-one persons attended this event from 33 organizations, including 9 CCPS member companies. The one-day conference consisted of 2 keynote presentations, 10 technical talks, and 3 sessions.

2019 EUROPEAN CONFERENCE ON PROCESS SAFETY AND BIG DATA

Organized by CCPS and EPSC, and hosted at the DECHEMA House in Frankfurt am Main, Germany on October 1-2, 2019, the conference boasted 116 attendees from 39 organizations, 24 of which were CCPS member companies. The conference opened with a Keynote on the subject of “Integrating the Digital Field Worker;” followed by a Panel on “Process Industry’s Evolution towards Big Data for Process Safety: Challenges and Successes.” Panelists were from Dow, DuPont, Total, and Shell. Three additional sessions were conducted throughout day one, on topics which included:

- Tools to Avoid Human Errors Session
- Data Lakes / Intelligent Dashboards / KPIs and Big Data Analytics
- Big Data Analytics and Standards

Day two, featured two Keynotes, the first entitled “Applying Safety Analytics for Improving Organizational Risk Capability to Reduce Incident Frequency and Severity: From Heavy Industry to the Modern Tech World” and the second on “Artificial Intelligence for Process Safety: Past, Present, and Future.” This was followed by a panel discussion on Current Technology Developments for EHS Digital Solutions. Panelists were from Sphera, Honeywell and IBM.

The day concluded with sessions on the following topics:

- Practical Examples/Case Studies and Plant Monitoring Session
- Robotics in Support of Safety and Predictive Maintenance
- Standard and Methods and Augmented Reality Session
ASIA PACIFIC & MIDDLE EAST

3RD KUWAIT INTERNATIONAL HEALTH, SAFETY, SECURITY AND ENVIRONMENT (KIHSSE) CONFERENCE • FEBRUARY 18-20, 2019

CCPS staff played a key role at the Kuwait International Health, Safety, Security, and Environment (KIHSSE) 2019 Conference. The 2019 event stood at the forefront of blending HSSE as a practice to attain Business Excellence under the theme, “Transforming HSE Culture for a Resilient Future.”

CCPS Executive Director & CEO, Shakeel Kadri, delivered the keynote speech, while Bruce Vaughen, Lead Process Safety Subject Matter Expert, presented a paper on the Risk Analysis Screening Tool (RAST). Umesh Dhake, Asia Pacific & Middle East Regional Manager, presented CCPS’ work at a technical session on key updates incorporated in the 3rd edition of CCPS Guidelines on Investigating Process Safety Incidents. Bruce Vaughen and Umesh Dhake also provided a one-day pre-conference workshop on the RAST Tool, which was attended by 35 delegates.

CCPS INDIA REGIONAL TECHNICAL STEERING COMMITTEE MEETING

The meeting was hosted by HPCL-Mittal Energy Limited (HMEL) on February 22, 2019 in Delhi. Forty-five delegates from leading companies were in attendance, which included Reliance, DNV GL, LR, Sajjan India, Syngenta, ONGC, Essar, HPCL, and Adani Group. Various case studies and incidents were shared by attendees.
CCPS Executive Director & CEO, Shakeel Kadri and Asia Pacific & Middle East Regional Manager, Umesh Dhake, participated in the International Process Safety Conference (INPSC) which promotes innovative technologies and winning strategies in tackling the challenges of the global process safety industry, including the sharing and learning of experiences and best practices.

The theme of INPSC 2019 was “Culture, Competency and Excellence,” which was designed to meet key strategic objectives on business critical issues while facilitating the development of more comprehensive safety systems. Also addressed was the implementation of best global practices and engaging executive leaders in catastrophic event prevention. Shakeel Kadri was featured as the keynote speaker and guest of honor. His topic was “Process Safety Leadership, Managing a Line in the Sand.” Umesh Dhake presented a RAST tool overview during a technical session.

CCPS INDIA REGIONAL TECHNICAL STEERING COMMITTEE MEETING

This meeting, one of the largest ever gatherings in the region, was hosted by Reliance Industries Ltd. in Mumbai on August 7, 2019, and was attended by more than 140 delegates from 48 companies throughout India. Eight process safety professionals from different companies shared their valuable PSM case studies and incident learnings to support the mission of encouraging a shared knowledge mindset to help create safer and more sustainable operations. The session ended with a commitment from member companies to share more incident case studies from their organizations during the next CCPS Technical Steering Committee Meeting.
5\textsuperscript{TH} CCPS GLOBAL SUMMIT ON PROCESS SAFETY

The Center for Chemical Process Safety (CCPS) and The Singapore Chemical Industry Council (SCIC) jointly organized the 5th Global Summit on Process Safety in Singapore from October 22-23, 2019 and was attended by more than 320 delegates from throughout the world. Themed “CCPS Vision 20/20 – The Five Industry Tenets and Four Societal Themes,” the meeting’s aim was to transform this vision into result-oriented actions for achieving process safety excellence.

NICS-CCPS MOU SIGNING CEREMONY

The National Institute of Chemical Safety (NICS) of the Republic of Korea and the Center for Chemical Process Safety (CCPS) signed a Memorandum of Understanding (MoU) on October 23, 2019 in Singapore to strengthen the collaboration between NICS and CCPS for both parties’ institutional support of projects with mutual interest. Both CCPS and NICS will support the promotion of each other’s activities and events through their databases, websites, e-mail marketing, and other communication channels, while participating in each other’s technical committees, and the joint organization of events and courses.
The Center for Chemical Process Safety-China Section (CCPS-CS) was founded by the Center for Chemical Process Safety of the American Institute of Chemical Engineers and the Center for Safety and Environmental & Energy Conservation Technology of the China University of Petroleum in April 2007.

Missions of CCPS-CS:

- Advancing the state of the art process safety technology and management practices in China
- Serving as a premier resource for process safety information in China
- Fostering process safety learning in undergraduate engineering education
- Promoting process safety as a key industry value

CCPS CHINA SESSION ORGANIZED BY CCPS-CS AT THE 15TH GLOBAL CONGRESS ON PROCESS SAFETY

7TH CCPS CHINA PROCESS SAFETY MEETING

Louisa Nara, Global Technical Director, CCPS and David Moore, AcuTech, were the instructors for a two-day preconference course on the “Overview of Risk Based Process Safety” from October 29-30, 2019. A total of 130 participants from the Chinese government, to industry and academia attended the course, which was supported by a translator. The course focused on Metrics, Inherently Safer Design and Human Factors.

The 7th CCPS China Conference on Process Safety, which took place from October 31 – November 1, 2019 in Suzhou, China was organized by CCPS, the China University of Petroleum, and the China Chemical Safety Association. The conference, which attracted a record 1,000 attendees from around the world, featured a presentation by the Vice Minister of Emergency Management, Sun Huashan, who spoke about China’s need to look at inherently safer design.
Throughout the two-day conference, three major themes were addressed, which included:

- Process Safety Management
- Risk Identification, Analysis and Management, and;
- Safety Management and Technology of the Fine Chemicals Industry

In addition, 15 keynote and 47 technical presentations were delivered throughout the two-day period.

5TH CCPS CHINA REGION TECHNICAL STEERING COMMITTEE MEETING

The CCPS China Regional Technical Steering Committee was formally created with signatures of support from 12 companies (TÜV Rheinland, IRC, Shanghai Secco, CNOOC, Cargill, PSRG, Tronox, Chemours, Shenyang Research Institute, Corteva, Starr Tech, and Wanhua Chemicals), as well as representatives from the CCPS China Section. Two member company presentations were given on “Audit Findings and Follow-up” and “Various Components of Asset Integrity Management.” During the meeting, Mr. Malcolm Pu of Wanhua Chemicals, was appointed as the Chair for this committee; he vowed to spread CCPS’ mission and vision throughout China. The CCPS China Regional Technical Steering Committee Members also discussed potential topics for future meetings and expressed their willingness to support CCPS activities in China.
2020 Meetings, Destinations and Global Offices

NORTH AMERICA

NEW YORK, NY

→ CCPS Advisory Board Meeting
  8:00am-5:00pm • March 11, 2020

→ CCPS Advisory Board Dinner
  6:30pm-9:00pm • March 11, 2020

→ CCPS Advisory Half Day Board Meeting
  8:00am-1:00pm • March 12, 2020

HOUSTON, TX

→ 16th Global Congress on Process Safety
  March 29-April 1, 2020

→ CCPS Technical Steering Committee Networking Dinner
  April 1, 2020

→ CCPS Technical Steering Committee Meeting
  April 2, 2020

→ DIERS Spring Meeting
  April 27-29, 2020

→ Offshore Technology Conference
  May 4-7, 2020

→ TSC Planning Committee Meeting
  (CCPS Houston Office)
  June 9-10, 2020

CALGARY, CANADA

→ 5th Annual Canadian Regional Technical Steering Committee Meeting
  Hosted by Aon Energy Risk Engineering
  September 10, 2020

VIRTUAL MEETING

→ Advisory Board Virtual Meeting
  10:00am-12:00 noon EST • October 22, 2020

SUGAR LAND, TX

→ Fall Technical Steering Committee Meeting
  November 4-5, 2020

HOUSTON, TX

→ DIERS Fall Meeting
  November 9-11, 2020

EUROPE

BASEL, SWITZERLAND

→ 5th Europe Regional Technical Steering Committee Meeting
  Hosted by Syngenta Global Headquarters
  March 18-19, 2020

FRANKFURT, GERMANY

→ 5th Europe Process Safety and Big Data Conference
  October 13-14, 2020

SOUTH AMERICA

→ 9th Latin America Conference on Process Safety (LACPS)
  4th Quarter 2020
  Location TBD

SAO PAULO, BRAZIL

→ Regional Technical Steering Committee Meeting
  Meeting date to be announced in 2020
ASIA

KUALA LUMPUR, MALAYSIA

- Asia Pacific Regional Technical Steering Committee Meeting
  Hosted by Petronas
  August 18, 2020

PERTH, AUSTRALIA

- Australia Regional Committee Meeting
  August 20, 2020

QINGDAO, CHINA

- 8th CCPS China Conference on Process Safety
  September 17-18, 2020

- 6th CCPS China Regional Technical Steering Committee Face to Face Meeting
  September 19, 2020

BAHRAIN

- Middle East Regional Technical Steering Committee Meeting
  Hosted by BAPCO
  February 9, 2020

DAMMAM, SAUDI ARABIA

- Middle East Process Safety Conference
  June 30-July 1, 2020

SOHAR, OMAN

- Middle East Technical Steering Committee Meeting
  Hosted by Orpic
  Date to be Confirmed

MUMBAI, INDIA

- India Regional Technical Steering Committee Meeting
  Hosted by L & T Hydrocarbon Engineering Ltd.
  September 22, 2020

NAVI MUMBAI, INDIA

- 6th Global Summit on Process Safety
  December 15-16, 2020

INDIA AND MIDDLE EAST

NOIDA, INDIA

- CCPS India Regional Technical Steering Committee Meeting
  Hosted by GAIL (India) Limited
  February 6, 2020

SOHAR, OMAN

- Middle East Technical Steering Committee Meeting
  Hosted by Orpic
  Date to be Confirmed

GLOBAL TECHNICAL STEERING COMMITTEE WEB CONFERENCES

- February 19, 2020
- June 17, 2020
- September 16, 2020

All Web Conferences are from 10:00am-12:00pm EST

Look for upcoming events on our website — aiche.org/ccps
Organizational Structure

THE TECHNICAL STEERING COMMITTEE (TSC)

The Technical Steering Committee (TSC) is the main body of CCPS, with one representative from each CCPS member company. The key functions of the TSC are to assist the CCPS Executive Director & CEO in:

- Developing an overall multi-year program for CCPS
- Defining the priorities for project selection
- Selecting specific projects for CCPS
- Defining and reviewing the scope for these specific projects
- Suggesting membership for the Project Subcommittees
- Reviewing the status of project programs.

The CCPS Technical Steering Committee meets face to face two times a year and by web conference three times a year.

CCPS ACTIVITIES MANAGEMENT

Activities are monitored and directed by the

- Managing Board
- Advisory Board
- Project Planning & Operating Committee
- Technical Steering Committee

Additionally, members of the Technical Steering Committee and other member company representatives serve on subcommittees that oversee CCPS projects. The Managing Board has fiduciary responsibility for CCPS’s operations. The Advisory Board has strategic responsibility for CCPS. Board members review CCPS’s mission and strategies and recommend new initiatives. The Planning and Operations Committee is responsible for evaluating opportunities and gaps in CCPS programs relative to its strategy and generating potential initiatives to address them.

2020 CCPS MANAGING BOARD

June Wispelway
AIChE Executive Director & CEO (Chair)

Rick Cain
AIChE Chief Financial Officer

Shakeel Kadri
CCPS Executive Director & CEO

Monty Alger
AIChE President

Deborah L. Grubbe
AIChE President-Elect

Kim Ogden
AIChE Past President

Ana Davis
AIChE Director

Pete Lodal
AIChE Director

Lorie McDowell
AIChE Director

Joseph Smith
AIChE Secretary

Rose Wesson
AIChE Treasurer

Sincere gratitude to the outgoing 2019 Managing Board members

Billy Bardin
AIChE Director

Christine Seymour
AIChE Past President
ADVISORY BOARD

Shakeel Kadri
CCPS (Chair)

Khaled Alalyani
SABIC

Bob Bahr
ExxonMobil

Garry Bryan
Bayer

Yong Sai Chung
Petronas

Al Cusson, IV
Air Liquide

Ana Davis
Syngenta Corporation

Rob DiValerio
BP

Derek A. Fairclough
BASF

Abdullah A. Ghamdi
Saudi Aramco

Dave Greganti
DOW

Cheryl Kennedy
DuPont Company

Karen Koster
Honeywell

Perry Logan
3M

Yoshizumi Masahiro
Mitsubishi Corporation

Anne O’Neal
Chevron

Cari Parker
Eastman Chemical

Keith Silverman
Ashland

Mike Snyder
DEKRA Insight

Prasad Tipnis
Reliance Industries, Ltd.

June Wispelwey
AIChE

John Wnek
Evonik Corporation

Kristine Williams
Ecolab

Sincere gratitude to the outgoing 2019 Advisory Board Members

Khaled Saleh S. Al-Kharboush
SABIC

Sulo Belawan
Petronas

Delia Contreras
Ecolab

David A. Lewis
Occidental Chemical Corporation

Debra Small
Bayer

PROJECT PLANNING & OPERATING COMMITTEE

Fred Henselwood
NOVA Chemicals (Chair)

Chris Aiken
Cargill (1st Vice Chair)

Jerry Forest
Celanese Chemicals (2nd Vice Chair)

Abdul Aldeep
Siemens

Steve Arendt
ABS Consulting Group

Vivek Bichave
Reliance Industries, Ltd.

Todd Aukerman
LanXess Corporation

Gustavo Jose Correa
YPF

Eric Freiburger
Linde plc

Cheryl Grounds
Emeritus

Greg Horton
SABIC

Shakeel Kadri
CCPS

Gregg Kiihne
BASF

Pete Lodal
Emeritus

Jack McCavit
Emeritus

Louisa A. Nara
CCPS

Cathy Pincus
ExxonMobil

Karen Tancredi
Chevron Corporation

Jatin Shah
BakerRisk

Scott Wallace
Olin Corporation

John Wincek
Dekra Insight
Projects and Volunteers

PROJECT 244: PROCESS SAFETY - VISION 20/20
Anne O’Neal, Chair
Chevron Corporation
Ken Tague
CCPS Staff Consultant
Chris Aiken
Cargill
Todd Aukerman
LanXess Corporation
Jeffrey L. Fox
Emeritus
Cheryl Grounds
Emeritus
Gregg Kiihne
BASF
Peter N. Lodal
Emeritus
Jack McCavit
Emeritus
Louisa A. Nara
CCPS
Ellen Ross
Chevron Corporation
Samantha Scruggs
BP Corp

PROJECT 248: GUIDE TO MAKING ACUTE RISK DECISIONS
Fred Henselwood, Co-Chair
NOVA Chemicals
Jeffrey C. Stawicki, Co-Chair
The Lubrizol Corporation
Dave Belonger
CCPS Staff Consultant
Christopher S. Buehler
Exponent, Inc.
Sorin Dan
NOVA Chemicals
Seshu Dharmavaram
Corteva Agriscience
Elizabeth Lutostansky
Air Products & Chemicals, Inc.
Albert Ness
Emeritus
Derek Miller
Air Products & Chemicals, Inc.
Robin M Pitblado
DNV GL, Retired
Martin Timm
Linde plc
John H. Traynor
Evonik Corporation
Florine Vincik
BASF

PROJECT 255: EVERGREEN LOPA/IPL DATABASE
John F. Murphy
CCPS Staff Consultant
J. Wayne Chastain
Eastman Chemical Company
Jing Chen
CCPS
Kimberly Mullins
Occidental Chemical Corporation

PROJECT 270: PROCESS SAFETY IN UPSTREAM: OIL AND GAS
Jean Bruney, Chair
Chevron Corporation
Eric Freiburger, Co-Chair
Linde plc
Cheryl Grounds
CCPS Staff Consultant
Steve Arendt
ABS Consulting Group
Michael Broadribb
BakerRisk
Christopher S. Buehler
Exponent, Inc.
Rajender Dahiya
AIG
Anil Gokhale
CCPS
Kevin He
Shell Downstream Manufacturing
David R. Mohler
Delek
Carolina Morales
Ecopetrol

PROJECT 270 MEMBERS FROM THE SPE
Charlie Williams, Co-Chair
Center for Offshore Safety
John Crump
Consultant
John Gidley
Atwood Oceanics, Retired
James F. Langer
PetroSkills
Hisham Saadawi
Ringstone Petroleum Consultants
Brad Smolen
BP Corp
Terrance Sookdeo
Baker Hughes, Inc.

PROJECT 275: PROCESS SAFETY DURING TRANSIENT OPERATIONS (START-UP/SHUT-DOWN)
Theresa Broussard, Chair
Chevron Corporation
Daniel Sliva
CCPS Staff Consultant
Katherine Anderson
Vertellus Specialties, Inc.
Susan Bayley
Linde plc
Donald Connolley
AcuTech
Eddie Dalton
BASF
Reyyan Koc Karabocek
ExxonMobil
Mikelle C. Moore
Buckman North America
Masaki Nakagawa
Mitsubishi Chemical Corporation
Pamela Nelson
Solvay USA, Inc.
Jitesh Patel
New Jersey DEP
Sara Saxena
BP Corp
Scott Schiller
BakerRisk
Mario Sumida
Braskem
Robert J. Weber
PSRG, Inc.
Elliot Wolf
The Chemours Company

PROJECT 276: GUIDELINES/ESSENTIALS OF SAFE WORK PRACTICES
David Lewis, Chair
Occidental Chemical Corporation
Dave Belonger
CCPS Staff Consultant
Katherine M. Anderson
ioMosaic Corporation
Vivek Bichave
Reliance Industries, Ltd.
Simon Jones
Sphera
Dan Miller
Emeritus
Jitesh Patel
New Jersey DEP
## PROJECT 277: GUIDELINES FOR INHERENTLY SAFER CHEMICAL PROCESSES: A LIFE CYCLE APPROACH, 3RD ED.

John Wincek, Chair  
Dekra Insight  
   
Daniel Sliva  
CCPS Staff Consultant  
   
Steve Arendt  
ABS Consulting Group  
   
Susan Bayley  
Linde plc  
   
Prashanti Bhupathi  
Reliance Industries, Ltd.  
   
Wayne Chastain  
Eastman Chemical Company  
   
Oliva Cheng  
Chevron Corporation  
   
Robert Coover  
Linde plc  
   
Carolina Del Din  
PSRG, Inc.  
   
Jonas Duarte  
LanXess Corporation  
   
Emmanuelle Hagey  
NOVA Chemicals  
   
Scott Haney  
Marathon Petroleum Company  
   
Dennis Hendershot  
AIChE Fellow  
   
Nicole Loontjens  
Americas Styrenics  
   
Dan Miller  
Emeritus  
   
Dave Moore  
AcuTech  
   
Jitesh Patel  
New Jersey DEP  
   
Katherine Prem  
Arkema, Inc.  
   
Srabha Putruele  
Pluspetrol  
   
Morgan Reed  
Exponent, Inc.  
   
Sonny Sachdeva  
PSRG, Inc.  
   
Randy Sawyer  
Contra Costa Health Services  
   
Scott Wallace  
Olin Corporation  

### PROJECT 279: MORE INCIDENTS THAT DEFINE PROCESS SAFETY

Cheryl Grounds  
CCPS Staff Consultant  
   
Albert Ness  
CCPS Staff Consultant  
   
Rajender Dahiya  
AIG  
   
Sean Dee  
Exponent, Inc.  
   
Tony Downes  
Honeywell  
   
Jerry Forest  
Celanese Chemicals  
   
Melissa Holliday  
The Dow Chemical Company  
   
Derek Miller  
Air Products & Chemicals, Inc.  
   
Rhian Drath Morgan  
BP Corp  
   
David Prior  
Honeywell  
   
Bhavesh P. Shukla  
Michelman, Inc.  
   
Karen Tancredi  
Chevron Corporation  
   
Tracy Whipple  
BP Corp  

## PROJECT 281: HUMAN PERFORMANCE FOR PROCESS SAFETY PROFESSIONALS

Chris Aiken, Chair  
Cargill  
   
Eric Freiburger, Vice Chair  
Linde plc  
   
Sandra Adkins  
BP Corp  
   
Charles Cowley  
CCPS Staff Consultant  
   
Mayara Carbono  
Ecolab  
   
Carlos Carvalho  
Petrobras  
   
Erin Collins  
Jensen Hughes  
   
Ruskin Damani  
Reliance Industries, Ltd.  
   
Gretel D’Amico  
Pluspetrol  
   
Joseph Deeb  
ExxonMobil  
   
Tony Downes  
Honeywell  
   
Monica Lavoyer Escudeiro  
ANAC (Brazil Aviation Regulator)  
   
SP Garg  
GAIL  
   
Alexandre Glitz  
Emeritus  
   
Cheryl Grounds  
Emeritus  
   
Anil Gokhale  
CCPS  
   
Jeff Hazle  
Marathon Petroleum Company  
   
Gregg Kihne  
BASF  
   
Sahika Kormaz  
Chevron Corporation  
   
Caroline Morais  
ANP (Brazil Petroleum Regulator)  
   
Andrew Moulder  
Inter Pipeline  
   
Louisa A. Nara  
CCPS  
   
Christa Pennino  
CCPS  
   
Meg Reese  
Occidental Chemical Corporation  
   
Scott Wallace  
Olin Corporation  

## PROJECT 281 MEMBERS FROM THE ENERGY INSTITUTE

Stuart King, Co-Chair  
Energy Institute  
   
Lee Aliford  
Energy Institute  
   
Rob Saunders  
Shell  

## PROJECT 282: GUIDELINES FOR INVESTIGATING CHEMICAL PROCESS INCIDENTS, 3RD ED.

Jerry Forest, Chair  
Celanese Chemicals  
   
Daniel Sliva  
CCPS Staff Consultant  
   
Michael Broadribb  
BakerRisk  
   
Laurie Brown  
Eastman Chemical Company  
   
Chonai Cheung  
Contra Costa Health Services  
   
Eddie Dalton  
BASF  
   
Carolina Del Din  
PSRG, Inc.  
   
Scott Guinn  
Chevron Corporation  
   
Christopher Headen  
Cargill  
   
Lee Vanden Heuvel  
ABS Consulting Group  
   
Kathleen Kas  
The Dow Chemical Company  
   
Mark Paradies  
System Improvements, Inc.  
   
Nestor Paralitici  
Marathon Petroleum Company  
   
Muddassir Penkar  
Evonik Corporation  
   
Morgan Reed  
Exponent, Inc.  
   
Meg Reese  
Occidental Chemical Corporation  
   
Marc Rothschild  
DuPont  
   
Joy Shah  
Reliance Industries, Ltd.  
   
Robert Stankovich  
Eli Lilly & Company  
   
Rohan Vardekar  
Reliance Industries, Ltd.  
   
Terry Waldrop  
AIG  
   
Scott Wallace  
Olin Corporation  
   
Della Wong  
Canadian Natural Resources Ltd.
PROJECT 283: GUIDELINES FOR THE REVALIDATION OF PHAS, 2ND ED

Laura Turci, Chair
Ashland

Warren Greenfield
CCPS Staff Consultant

Mohammed Baig
Bayer Corporation

Cecil Clements
The Chemours Company

Michael Hazzan
AcuTech

Manuel Herce
DuPont

Alok Khandelwal
Shell

Wajih Naeem
Husky Energy

Lisa Parker
Braskem

Jordi Costa Sala
Celanese Chemicals

Martin Timm
Linde plc

Fred Henselwood
NOVA Chemicals

Dave Hurban
American Electric Power

Reyyan Koc Karabocek
ExxonMobil

Hope Luebeck
The Chemours Company

Georges Melham
ioMosaic Corporation

Dan Miller
Emeritus

Louisa A. Nara
CCPS

Mike Neill
Petrotechnics

Annie Nguyen
PSRG, Inc.

Matt Pfeifer
Ashland

Katherine Prem
Arkema, Inc.

David Prior
Honeywell

Adrian Sepeda
Emeritus

Jatin Shah
BakerRisk

Karen Tancredi
Chevron Corporation

Tran Nguyen Hoai Thu
Binh Son Refining & Petrochemical Co., Ltd.

Michael Toraason
BakerRisk

Herve Vaudrey
DEKRA Insight

Erik Vettergren
Agrium

Dan Wilczynski
Marathon Petroleum Company

Eric Atkins
Olin Corporation

Walt Frank
Emeritus

Paul Gathright
Ascend Performance Materials

Amy Gay
Occidental Chemical Corporation

Leonard Gomes
Cheniere Energy, Inc.

David Greganti
The Dow Chemical Company

Mark Hazzan
AcuTech

Ng Em Huay
Petronas

Gregg Kihne
BASF

Louisa A. Nara
CCPS

Cathy Pincus
ExxonMobil

Jatin Shah
BakerRisk

Scott Wallace
Olin Corporation

Paul Gathright
Ascend Performance Materials

Stephen Greco
Kuraray

Anil Gokhale
CCPS

Nirupama Gopalaswami
Honeywell

Alan Kobayashi
The Dow Chemical Company

Marcus Miller
TapRoot

Louisa A. Nara
CCPS

Assem Saleh
Petro Rabigh

Matt Walters
Exponent, Inc.

Stephanie Wardle
Husky Energy

PROJECT 285: PROCESS SAFETY: LEADERSHIP FROM THE BOARDROOM TO THE FRONTLINES

John Wincek, Chair
Dekra Insight

Bernard Groce, Co-Chair
Calumet Specialty Products Partners L.P.

Daniel Silva
CCPS Staff Consultant

Don Abrahamson
Emeritus

Steve Arendt
ABS Consulting Group

Theresa Broussard
Chevron Corporation

David Cummings
DuPont

Edward Dyke
Merck & Co., Inc.

Marc Guindon
Suncor Energy

Kevin He
Shell Downstream Manufacturing

Jordi Costa Sala
Celanese Chemicals

Martin Timm
Linde plc

PROJECT 286: LESSONS LEARNED YEARS LATER

Daniel Silva
CCPS Staff Consultant

Steve Arendt
ABS Consulting Group

Pedro Bonilla
Buckman North America

Christopher Bowtell
Cheniere Energy, Inc.

San Burnett
BHP Billiton

Donald Connolley
AcuTech

Elena Donya
Repsol

Robert Fisher
Starr Technical Risks Agency, Inc.

Larry Floyd
BASF Corporation

Fred Henselwood
NOVA Chemicals

Matt Korfist
Chevron Corporation

Allison Knight
3M

Denise Chastain-Knight
Exida

Jeffrey Lu
Wanhua Chemical Group

PROJECT 289: GOLDEN RULES OF PROCESS SAFETY FOR SPECIFIC TECHNOLOGIES

Chris Devlin, Chair
Celanese Chemicals

Warren Greenfield
CCPS Staff Consultant

Denise Albrecht
3M

Denise Chastain-Knight
Exida

Jeffrey Lu
Wanhua Chemical Group

PROJECT 290: GUIDELINES FOR ABNORMAL SITUATION MANAGEMENT

Tony Downes, Chair
Honeywell

Brian Farrell
CCPS Staff Consultant

Todd Aukerman
LanXess Corporation

Susan Behr
Braskem

Michelle Brown
FMC

Seshu Dharmavaram
Corteva Agriscience

Amy Gay
Occidental Chemical Corporation

Felix Azenwi Fru
National Grid

SP Garg
GAIL

Cathy Pincus
ExxonMobil

Jatin Shah
BakerRisk

Scott Wallace
Olin Corporation

Projects 292: LESSONS LEARNED YEARS LATER

Daniel Silva
CCPS Staff Consultant

Steve Arendt
ABS Consulting Group

Pedro Bonilla
Buckman North America

Christopher Bowtell
Cheniere Energy, Inc.

San Burnett
BHP Billiton

Donald Connolley
AcuTech

Elena Donya
Repsol

Robert Fisher
Starr Technical Risks Agency, Inc.

Larry Floyd
BASF Corporation

Fred Henselwood
NOVA Chemicals

Matt Korfist
Chevron Corporation

Allison Knight
3M

Denise Chastain-Knight
Exida

Jeffrey Lu
Wanhua Chemical Group
Projects and Volunteers

The following programs are ongoing. Instead of a predetermined end target, they are set up to produce valuable Process Safety tools, guidelines etc., on a periodic basis.

**PROJECT 152: PROCESS SAFETY BEACON**

Georges Melhem - Sponsor
ioMosaic Corporation

Don Abrahamson
Emeritus

Mike Snyder - Sponsor
DEKRA Insight

Katherine M. Anderson
ioMosaic Corporation

John Herber, Co-Chair
Emeritus

Christopher Devlin
Celanese Corporation

Rüdiger Lenz, Co-Chair
Celanese Corporation

Seshu Dharmavaram
DuPont

Dennis Hendershot
CCPS Staff Consultant

Tony Downes
Honeywell

Albert Ness
CCPS Staff Consultant

Jeffrey L. Fox
Emeritus

Jing Chen
CCPS Project Manager

Thomas Guest
Nexen, Inc.

Kathleen Kas
The Dow Chemical Company

Dan Miller
Emeritus

Hafiz Zeeshan Ahmad
Tronox

Pamela Nelson
Solvay USA, Inc.

Denise Albrecht
3M

Annie Nguyen
PSRG, Inc.

Abdul Aldeeb
Siemens Energy, Inc.

Sufan Nor
Petronas

Mohammed Baig
Bayer Corporation

Michael Lauzana
Petrobras, Retired

Jennifer Brittain
AdvanSix

Mohammed Baig
Siemens Energy, Inc.

Gill Sigmon
AdvanSix

Michelle Brown
FMC Corporation

Ken Tague
Emeritus

Cho Nai Cheung
Contra Costa Health Services

Elliot Wolf
The Chemours Company

Russ Davis
Mistras Group, Inc.

PROJECT 293: GUIDELINES FOR PROCESS KNOWLEDGE MANAGEMENT

Daniel Silva
CCPS Staff Consultant

SP Garg
GAIL

Hafiz Zeeshan Ahmad
Tronox

Wayne Garland
Eastman Chemical Company

Denise Albrecht
3M

Amy Gay
Occidental Chemical Corporation

Abdul Aldeeb
Siemens Energy, Inc.

Andrew Goddard
Arkema, Inc.

Mohammed Baig
Bayer Corporation

Stephen Greco
Kuraray

Jennifer Brittain
AdvanSix

Mark R. Hall
Mallinckrodt Pharmaceuticals

Michelle Brown
FMC Corporation

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BASF

Cho Nai Cheung
Contra Costa Health Services

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Gateway Consulting Group, Inc.

Russ Davis
Mistras Group, Inc.

Abhinav Jain
Bayer Corporation

Carolina Del Din
PSRG, Inc.

Allison Knight
3M

Tekin Kunt
PSRG, Inc.

Benjamin K. Lee
DuPont

Sufan Nor
Petronas

Rebecca Lipp
Marathon Petroleum Company

Richard Pawulski
Air Liquide

Steve Murphy
Syngenta

Janet Persechino
EPM Inc.

Annie Nguyen
PSRG, Inc.

Katherine Prem
Covestro LLC

Ravi Ramasamy
Nghi Son Refinery & Petrochemical LLC

Gill Sigmon
AdvanSix

Miguel E. Rizo
Contra Costa Health Services

Ken Tague
Emeritus

SP Garg
GAIL

Jeffrey E. Todd
Marathon Petroleum Company

Kathleen Kas
The Dow Chemical Company

Benjamin K. Lee
DuPont

Rebecca Lipp
Marathon Petroleum Company

Don Abrahamson
Emeritus

Wayne Garland
Eastman Chemical Company

Katherine M. Anderson
ioMosaic Corporation

Amy Gay
Occidental Chemical Corporation

Dave Krabacher
BASF, Retired

Christopher Devlin
Celanese Corporation

Antonio Lauzana
Petrobras, Retired

Seshu Dharmavaram
DuPont

Larry LeMesurier
Syncrude Canada

Tony Downes
Honeywell

Marc Levin
Washington State University

Jeffrey L. Fox
Emeritus

Jack McCavit
Emeritus

Thomas Guest
Nexen, Inc.

Louisa A. Nara
CCPS

Jeffery E. Todd
Marathon Petroleum Company

Jing Chen
CCPS Project Manager

William M. Olsen
Merck & Company, Inc.

Kathleen Kas
The Dow Chemical Company

Yasser A. Rahim
Gulf Petrochemicals Industries Company

Jan Windhorst
Emeritus

Roy Sanders
PPG, Retired

Annie Nguyen
PSRG, Inc.

Nicholas P. Sands
DuPont

Jatin Shah
BakerRisk

John C. Stoney
BP

Don Abrahamson
Emeritus

Jeffery E. Todd
Marathon Petroleum Company

Katherine M. Anderson
ioMosaic Corporation

Antonio Lauzana
Petrobras, Retired

Dave Krabacher
BASF, Retired

Christopher Devlin
Celanese Corporation

Larry LeMesurier
Syncrude Canada

Seshu Dharmavaram
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Washington State University

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Honeywell

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Jeffrey L. Fox
Emeritus

William M. Olsen
Merck & Company, Inc.

Thomas Guest
Nexen, Inc.

Louisa A. Nara
CCPS

Jatin Shah
BakerRisk

Kathleen Kas
The Dow Chemical Company

Yasser A. Rahim
Gulf Petrochemicals Industries Company

Jan Windhorst
Emeritus
### PROJECT 251: PROCESS SAFETY IN PILOT PLANTS AND LABORATORIES

**Katherine M. Anderson**  
ioMosaic Corporation, Co-Chair

**Jerry Jones**  
CCPS Staff Consultant

**Bruce Bullough**  
Pfizer Inc.

**Jeffrey Foisel**  
Dow Carning

**Jeff Grant**  
Abemarle Corporation

**Randy Keller**  
The Dow Chemical Company

---

**Katherine M. Anderson**  
ioMosaic Corporation, Co-Chair

**Jerry Jones**  
CCPS Staff Consultant

**Bruce Bullough**  
Pfizer Inc.

**Jeffrey Foisel**  
Dow Carning

**Jeff Grant**  
Abemarle Corporation

**Randy Keller**  
The Dow Chemical Company

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**Penghui Lu**  
The Dow Chemical Company

**Souwei Wang**  
Shandong Huatai Interax Chemical Co., Ltd

**Yangli Zhang**  
 Fujian Fuahaihuang Petrochemical Co., Ltd

**Yichen Zhang**  
Fuyuan Industrial & Commerical Development Co., Ltd (Gulei Branch)

**Xiaoming Zeng**  
DEKRA Insight (Shanghai)

---

### PROJECT 260: TRANSLATION OF CCPS BOOKS INTO SPANISH

**Laura Turci**, Co-Chair  
Ashland

**Gustavo Jose Correa**, Co-Chair  
YPF

**Nestor Spósito**  
CCPS Staff Consultant

**Nehuen Sebastian Angleri**  
YPF

**Christian Prieto Barragan**  
Pluspetrol

**Juan Manuel Fernandez Becerra**  
YPF

**Trina Carrillo**  
Técnicas Reunidas

**Ricardo Ceskiavikus**  
YPF

**Gretel D’Amico**  
Pluspetrol

**Ronald Ivan Tello David**  
Pluspetrol

**Federico Hosenen**  
Cargill

**Rodolfo Edgardo Kramer**  
YPF

**Luis Andres Landa**  
YPF

**Andrés Leguizamon**  
Pluspetrol

**Juan Manuel Martinez**  
YPF

---

**Matias Massello**  
Process Improvement Institute, Inc.

**Paul Enzon Rodriguez Paucar**  
Pluspetrol

**Martin Jose Rebollo**  
YPF

**Carlos Facundo Rodriguez**  
Pluspetrol

**Federico Rybner**  
Pluspetrol

**Jordi Costa Sala**  
Celanese Chemicals

**Heber Varela**  
Pluspetrol

**Sergio Leandro Vilches**  
Pluspetrol

**Josefina Yaniez**  
Técnicas Reunidas

---

### PROJECT 261: TRANSLATION OF CCPS BOOKS INTO PORTUGUESE

**Americo Diniz Carvalho Neto**, Chair  
Emeritus

**Nestor Spósito**  
CCPS Staff Consultant

**Mayara Carbono**  
Ecolab

**Deyse Cassais**  
RSE

**Carlos Cazarotto**  
BP

**Isadora Ferreira**  
Clariant

**Joedson Jose Goncalves Ferreira**  
Tronox

**Eduardo Maio Francisco**  
DuPont

**Erick Garcia**  
Braskem

**Talita Guimarães**  
DuPont

**Lucy Helena**  
Braskem

**Luciana Láconis**  
The Dow Chemical Company

**Marcel Leite**  
Fuzzy Eng

---

**Silvio Martins**  
Mosaicco

**Eduardo Meinking**  
DuPont

**Luiz Maia Neto**  
Petrobras

**Tiago Do Monte Correa Novo**  
Braskem

**Paula Onishi**  
BASF

**Gustavo Peron**  
Cargill

**Sergio Silva**  
Petrobras

**Mario Enji Yamaguchi Sumida**  
BASF

---

### PROJECT 280: DOW RISK ANALYSIS SCREENING TOOL (RAST)

**Albert Ness**  
CCPS Staff Consultant

**Ken First**  
CCPS Staff Consultant

**Umesh Dhake**  
CCPS

**Jesse Diaz**  
Arkema, Inc.

**Dave Hazan**  
DuPont

**Pier-Jan Hettema**  
DSM/EPSC

**Michell LaFond**  
The Dow Chemical Company

**Duncan Rose**  
The Dow Chemical Company

**Kenan Stevick**  
Emeritus

**Bruce Vaughten**  
CCPS

**Scott Wallace**  
Olin Corporation
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1. Shakeel Kadri  
   Executive Director & CEO

2. Gary Amideneau  
   Lead Process Safety Engineer

3. Jennifer Bitz  
   Lead Engineer & Project Manager

4. Vishal Chavan  
   Asia Pacific Project Manager

5. Jing Chen  
   Senior Engineering Specialist

6. Umesh Dhake  
   Asia Pacific and Middle East Regional Manager

7. Anil Gokhale  
   Director of Projects

8. Michele Horwitz  
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    European Regional Manager

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12. Christa Pennino  
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    Latin America Regional Manager

15. Bruce Vaughen  
    Lead Process Safety Subject Matter Expert

16. Professor DongFeng Zhao  
    Director, CCPS China Section

17. Dr. Yi Liu  
    Assistant Director, CCPS China Section

18. Yifei Meng  
    Assistant Director, CCPS China Section
Updates and Impact

Where We Are Today

FUNDRAISING (Millions)

<table>
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<tr>
<th>GOAL DATE</th>
<th>AMOUNT*</th>
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<td>$6MM</td>
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</tbody>
</table>

*As of December 2019

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Huntsman
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Nutrien
Occidental Chemical Corporation
Oil Industry Safety Directorate
Olin Corporation
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Orpic
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New York (home office), Frankfurt, Houston, Mumbai, and Qingdao
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