



# Expanding Global and Regional Engagement

## CCPS ANNUAL REPORT 2017-18



MEMBERSHIP



EDUCATION



GLOBALIZATION



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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 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 2018, we pause to reflect on the progress we've made and recommit ourselves to Vision 20/20, the future of process safety.

## Key CCPS milestones have included:

- Global Conference on Process Safety (San Antonio, TX)
- Global Summit on Process Safety (Okayama, Japan)
- Middle East Process Safety Conference (Bahrain)
- China Conference (Nanjing, China)
- European Conference on Process Safety and Big Data (Frankfurt, Germany)
- Regional Technical Steering Committee Meetings in China, Brazil, Japan, Columbia, France, Canada, Malaysia and Argentina
- Expanded global outreach through training, speaking, and working with partner organizations
- Enhanced Responsible Collaboration (ANP, API, CSB, EI, EPA, IBP, OSHA, SCIC, SPE, UEF)

- CCPS *Process Safety Beacon* celebrated 16 years of continuous publication (192 issues)
- Electronic App for CCPS Process Safety Incident Evaluation (PSIE) Tool
- Two CCPS books published in the guidelines series
- United Engineering Federation (UEF) Grant, "Risk not Chance" completed and published on CCPS Website
- Outreach to students and professors improved through CCPS Boot Camp and SACHe
- Six new interactive SACHe modules developed and five modules translated
- Translated book entitled *Chemical Process Safety, Fundamentals with Applications, 3rd Edition* into Mandarin
- Update and relaunch of the Process Safety Incident Database (PSID)
- Continued enhancement to CCPS credentialing examination (CCPSC) program and process
- Addition of 4 new CCPS staff members, replacing former staff in similar positions

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 roadmap. Come join the Global Community Committed to Process Safety—be ready for the future by working to create it.

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# Executive Director's Message



**Shakeel Kadri**  
*CCPS Executive Director*

I wanted to take this opportunity to recap the accomplishments CCPS has made with your assistance throughout 2017. Membership is growing and becoming more diversified, our globalization effort is progressing, we are expanding into new regions and as such, the local engagement is increasing. At our global and regional conferences, workshops and meetings, participants are experiencing more open and interactive discussions. Additionally, we are starting to see an increased level of interest in project participation from new members.

Many successful worldwide meetings took place in 2017. The largest and most widely recognized was the 13th Global Congress in San Antonio, TX that brought over 900 attendees who came to share process safety best practices from nearly 300 organizations representing 30 countries.

The 5th China Conference, with over 650 delegates, was held in Nanjing in collaboration with China University of Petroleum/CCPS China Section.

CCPS held an inaugural collaborative Process Safety Congress with Eurocorr in Prague, CZ.

At the World Congress of Chemical Engineering in Barcelona, Spain, CCPS collaborated with various process safety organizations in delivering a Process Safety Symposium.

The 2nd CCPS Middle East Process Safety conference was held in Bahrain, in conjunction with the Middle East Process Engineering conference.

The 4th Global Summit on Process Safety in Okayama, Japan was held in collaboration with JSSE and The Center for Safe and Disaster-Resistant Society, Okayama University. With over 500 delegates, this Japanese conference highlighted the implementation of CCPS' Vision 20/20 initiatives in the region.

Lastly, 2017 concluded in Frankfurt, Germany with the 2nd European CCPS Conference on Process Safety and Big Data, in partnership with the European Process Safety Center.

CCPS saw continued growth in global membership this year. We welcomed 25 new members; 15 in North America, and 10 internationally, but lost several as well. Significant merger and acquisition activities; and lower oil prices continue to create economic challenges for several of our members. CCPS is closely monitoring these situations while we continue to assist those CCPS Members who face these hurdles.

CCPS continues to make good progress on our key initiatives. The Undergraduate Process Safety Education program delivered an additional six new interactive SACHe modules this year, with five modules translated. We have newly trained 125 educators in five faculty workshops hosted by Dow, Chevron, ADM, Wacker Chemicals and Reliance Industry, Ltd. [in India]. Nearly one hundred students attended four Process Safety Student Boot Camps. The CCPS Credentialing (CCPSC) program completed five certification exam cycles since its launch, resulting in over 130 people becoming CCPSC certified. Strong progress has been made on the "responsible collaboration" initiative which has resulted in developing joint industry projects, holding various cooperative conferences and is improving CCPS' engagement globally. In 2017, CCPS held ten regional/global face to face meetings and workshops to further expand our engagement.

Thank you from the entire CCPS staff for all your help, support, collaborative efforts and enthusiastic participation throughout the year. Together, we will meet our shared vision of protecting people, property and the environment by bringing the best process safety knowledge and practices to stakeholders around the world. We look forward to a very productive and safe 2018.

# Highlights from the Year

## Key CCPS milestones

CCPS welcomed more than  
**2,800**  
ATTENDEES



and held over  
**17**  
CONFERENCES  
in 2017

### Highlights include:

- ▶ Global Conference on Process Safety in San Antonio, TX attracted over **900** attendees
- ▶ Global Summit on Process Safety in Okayama, Japan attracted over **550** attendees
- ▶ Middle East Process Safety Conference in Bahrain attracted over **250** attendees
- ▶ European Conference on Process Safety and Big Data in Frankfurt, Germany attracted over **100** attendees
- ▶ China Conference in Nanjing attracted over **700** attendees
- ▶ Eurocorr Process Safety Congress in Prague, Czech Republic attracted over **75** attendees
- ▶ WCCE Process Safety Symposium in Barcelona, Spain attracted over **100** attendees
- ▶ Regional Technical Steering Committee Meetings in China, Brazil, Australia, Columbia, France, Canada, Malaysia and Argentina boasted more than **200** attendees

## PLUS!

**CCPS Process Safety Beacon** celebrated **16 years** of continuous publication with **192 issues**

- ➡ Launch of electronic App for CCPS Process Safety Incident Evaluation (PSIE) Tool
- ➡ United Engineering Federation (UEF) Grant, “**Risk not Chance**” **video** completed and published on CCPS website
- ➡ **6** new interactive SACHE modules developed and **5** modules translated
- ➡ Translated book entitled **Chemical Process Safety, Fundamentals with Applications, 3rd Edition** into Mandarin

## ...and much more!

Read on for **highlights, milestones,** and **how you can take advantage of CCPS resources** in 2018.

# Vision 20/20

CCPS Vision 20/20 looks into the not-too-distant future to describe how great process safety is collaboratively supported and delivered by process safety professionals, executives, researchers, industry agents, governmental entities, academia, and communities worldwide. Driven by the five tenets and four societal themes, Vision 20/20 envisions great process safety being championed by industry to create a sustainable, progressive process safety culture.

## Five Tenets for Industry

At the heart of Vision 20/20 is adherence to five core principles that will help industry target and drive performance improvement and achieve great process safety performance:

- Committed Culture
- Vibrant Management Systems
- Disciplined Adherence to Standards
- Intentional Competency Development
- Enhanced Applications of Lessons Learned

## Four Societal Themes

Vision 20/20 is a call to action for all of society — our industry leaders, our governments, and the public at large — to be fervent about protecting people and property. The Vision 20/20 bridge to that commitment is its four societal themes:

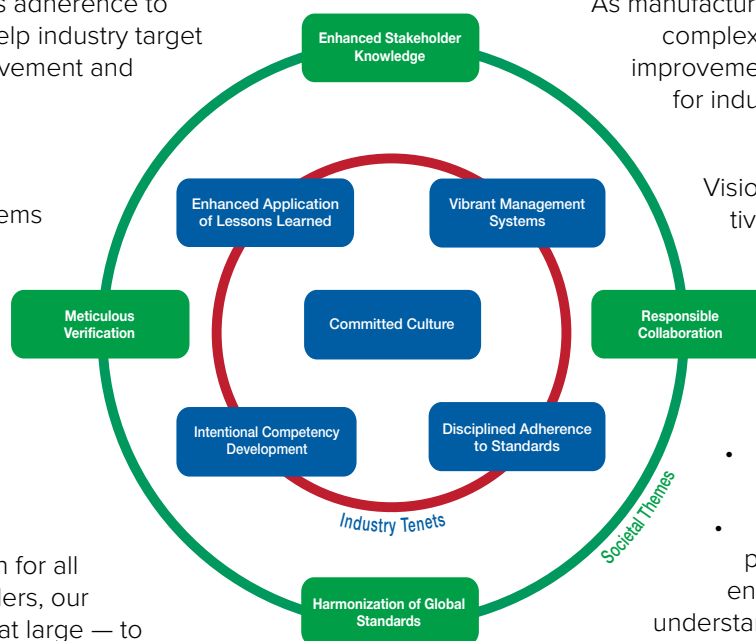
- Enhanced Stakeholder Knowledge
- Responsible Collaboration
- Harmonization of Standards
- Meticulous Verification

## Driving Improvement

As manufacturing production becomes more complex, the need to drive continuous improvement in process safety — not just for industry, but for all stakeholders — becomes increasingly urgent.

Vision 20/20 harnesses the collective expertise and best practices of CCPS to establish a global framework for great process safety, driven by industry tenets and global societal themes that will achieve:

- Significant reduction of industrial and plant incidents
- Consistent overlap of corporate and plant employees, to ensure enhanced process safety understanding and rigorous adherence to standards and practices
- Persistent knowledge, cultural values, understanding, and implementation strategies, which will be utilized by executives, management, technicians, engineers, students, government, and the public
- A worldwide vision, guided by CCPS — a leader in state-of-the-art process safety solutions — for managing process safety improvements to fulfill Vision 20/20



## The 20/20 Difference

**What does great process safety look like?** The Process Safety Visions column, published in *Chemical Engineering Progress* (Nov. 2016 to Dec. 2017), takes an in-depth look at each of the CCPS Vision 20/20 industry tenets and societal themes. These articles introduce how each tenet and theme can be applied by supplying practical examples that can be used by process safety leaders in their industry. **For more information on Process Safety Visions please visit <https://www.aiche.org/ccps/resources/vision-2020>**

**VISION**  
**20/20**

Over the course of the year, the Vision 20/20 theme was used as a foundation block for many conferences, workshops, TSC Regional meetings, papers, and presentations. There has been an increase in web downloads, in questions coming into CCPS relating to Vision 20/20, and in the use of the Vision 20/20 Gap Analysis Tool worldwide. Together we are making an impact.

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# Get Your Company Involved

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

**Not a CCPS Member Yet? Join CCPS:**

<http://www.aiche.org/ccps/community/membership>

Email [ccps@aiche.org](mailto:ccps@aiche.org) or call 1.646.495.1371

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**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 the 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:**

<https://www.aiche.org/ccps/community/projects/accepting-volunteers>

<https://www.aiche.org/ccps/community/projects/accepting-peer-reviewers>

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**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.

<http://www.aiche.org/ccps/resources/education>

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**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:**

<http://www.aiche.org/ccps/resources/conferences>

**MEETINGS:**

<http://www.aiche.org/ccps/resources/conferences/events>

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

<http://www.aiche.org/community/sites/committees/young-professionals>

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

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

[CCPS@aiche.org](mailto:CCPS@aiche.org)

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

**Sign up for the CCPS Beacon:**

<http://www.aiche.org/ccpsresources/process-safety-beacon>

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

**Join CCPS LinkedIn Group:**

<https://www.linkedin.com/groups/105603>

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**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](mailto:Louna@aiche.org)

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**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:** [www.aiche.org/ccps/resources/certified-process-safety-professional](http://www.aiche.org/ccps/resources/certified-process-safety-professional)

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**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](mailto:michh@aiche.org).

**Review current listings at:** <https://www.aiche.org/ccps/community/members/directory>

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# Resources to Explore

## 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-page newsletter covers the breadth of process safety topics. Each issue presents 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.

Read a sample edition of the *Process Safety Beacon*

[Subscribe to the Beacon](#)

Encourage your colleagues to register.

Subscribe to the *Beacon* <https://www.aiche.org/ccps/resources/process-safety-beacon/subscribe>

## Process Safety Incident Database (PSID)



PSIE  
Glossary

CCPS approved definitions for chemical process safety verbiage.

CCPS Process Safety Database:

<https://www.aiche.org/ccps/resources/glossary>

[Download the App](#)

iTunes <https://itunes.apple.com/us/app/ccps-glossary/id1096070774?mt=8>

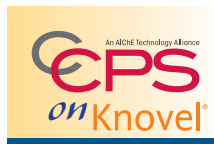
Google <https://play.google.com/store/apps/details?id=com.aiche.ccpsglossary>

## Risk-Based Process Safety (RBPS) Resources Web Tool

This project aims to create an easily accessible web-based tool for each of the 20 risk-based Process Safety elements. A central "hub" of free information of Process Safety information, tools, and resources.

<https://www.aiche.org/ccps/resources/rbps>

## CCPS on Knovel



As a **CCPS member**, your organization is entitled to a **35% discount** to the CCPS on Knovel collection. For more information about subscribing to the CCPS collection on Knovel, contact

Knovel directly at [CCPSonKnovel@elsevier.com](mailto:CCPSonKnovel@elsevier.com)

Knovel ([www.knovel.com](http://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:

- *Chemical Process Quantitative Risk Analysis (2nd Edition)*
- *Guidelines for Mechanical Integrity Systems*
- *Guidelines for Initiating Events and Independent Protection Layers in Layer*
- *Layer of Protection Analysis*
- The CCPS *Process Safety Beacon* – from 2000 to present
- The Global Congress on Process Safety (GCPS) complete from 2011 - present
- Loss Prevention Symposia (LPS) from 2000 – present
- International Conference and Workshop (CCPS) from 2000 – present

## 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, 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 out about the chemical reactivity of thousands of common hazardous chemicals, compatibility of absorbents, and suitability of materials of construction in chemical processes.

# Completed and Upcoming Book Projects



## ***Guidelines for Pressure Relief and Effluent Handling Systems, 2nd Edition***

Published: April 2017

Pages: 784

Providing in-depth guidance on how to design and rate emergency pressure relief systems, *Guidelines for Pressure Relief and Effluent Handling Systems* incorporates the current best designs from the Design Institute for Emergency Relief Systems, as well as American Petroleum Institute (API) standards. Presenting a methodology that helps properly size all the components in a pressure relief system, the book is accompanied by the CCFlow suite of design tools and the new Superchems for DIERS Lite software, making this an essential resource for engineers designing chemical plants, refineries, and similar facilities.

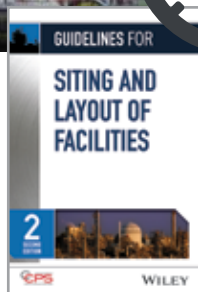
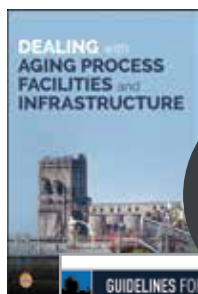


## ***Guidelines for Combustible Dust Hazard Analysis***

Published: May 2017

Pages: 256

This guideline describes how to conduct a Combustible Dust Hazard Analysis (CDHA) for processes handling combustible solids. The book explains how to do a dust hazard analysis by using either an approach based on compliance with existing consensus standards, or by using a risk-based approach. Worked examples help the user understand how to conduct a combustible dust hazards analysis.



1. ***Guidelines for Siting and Layout of Facilities (2<sup>nd</sup> Ed)*** – March 2018
2. ***Dealing with Aging Process Facilities and Infrastructure*** – March 2018
3. ***Recognizing and Responding to Normalization of Deviance*** – Q2 2018
4. ***Bow Ties in Risk Management*** – Q2 2018
5. ***Essential Practices for Creating, Strengthening and Sustaining Process Safety Culture*** – Q2 2018
6. ***Guidelines for Integrating Process Safety into Engineering Projects*** – Q3 2018
7. ***Guidelines for Process Safety During Transient Operations (Start Up/ Shut Down)*** – Q3 2018

# Education

## AICHE® ACADEMY IS THE PLACE FOR PROCESS SAFETY TRAINING

### 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.

#### eLearning Courses:

- Process Safety Management for Biodiesel
- Layer of Protection Analysis (LOPA)
- 20 Elements of Risk Based Process Safety (RBPS)
- Hazard Identification for Operators and Maintenance Workers
- Process Safety Leadership for Front-Line Supervisors
- Process Safety Management for Bioethanol
- OSHA Process Safety Management Review
- What Every New Engineer Needs to know About Process Safety
- The Importance of Codes and Standards for Process Safety
- HAZOP Studies
- Process Safety Management Overview

Some eLearning Courses are available in Spanish and Mandarin. Please check with [Academy@aiche.org](mailto:Academy@aiche.org) for details.

#### Public Courses

- HAZOP Studies and Other PHA Techniques for Process Safety and Risk Management
- Managing Process Safety Risks During Organizational Change
- Advanced Concepts for Process Hazard Analysis
- HAZOP Studies, Other Hazard Evaluation Procedures and Advanced Concepts
- Process Safety Boot Camp/ Foundations of Process Safety
- Leader's Toolbox for Process Safety Management

#### 2018 eLearning Courses

- Management of Change
- Process Safety Orientation (Process Safety 101)
- RAGAGEP Basics (Recognized and Generally Accepted Good Engineering Practices)
- Fundamentals of PHA (Process Hazard Analysis)
- PSSR Fundamentals (Pre-Startup Safety Review)

#### CCPS MEMBERS BENEFIT IN TWO WAYS:

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

## CCPS SAFETY AND UNDERGRADUATE CHEMICAL ENGINEERING EDUCATION – SACHe – DOING A WORLD OF GOOD

AIChE and CCPS recognize that the best way to lead the way to a safer world is through better process safety education. Although most companies have extensive safety training programs, experience has shown that presenting process safety concepts earlier, as part of the undergraduate chemical engineering curriculum, proves most effective.



### The Undergraduate Process Safety Learning Initiative

The Undergraduate Process Safety Learning Initiative is an industry led collaborative effort to improve and accelerate process safety education at the university level, in order to better prepare the next generation of chemical engineers for their careers in industry. It is a core initiative of the “Doing a World of Good” campaign, a major global ‘movement’ to shape the future of the profession and positively impact society for decades to come.

AIChE is collaborating with industry partners to introduce the initiative to its 23,000 student members, 293 student chapters worldwide and over 53,000 global members through AIChE’s extensive communication channels, university outreach, membership publications, meetings, and conferences.

The **Undergraduate Process Safety Learning Initiative** is a multi-prong effort that will benefit companies, students, universities, and ultimately society. It concentrates on three primary areas:

1. Curriculum Development
2. Faculty Competence
3. Undergraduate Boot Camps and Student Outreach

- Since launching the initiative in 2015, over 21,000 students have participated in the Safety and Chemical Engineering Education (SACHe) program
- The number of completed SACHe certificates by undergraduates grew by 22% over 2016 - an increasing number of students are completing multiple modules as part of the curriculum
- Since launching the initiative in 2015, 266 new faculty members have attended industry led faculty workshops
- All Level 1 interactive e-learning Process Safety curriculum are now available



# Updates and Impact

## 374

**UNIVERSITIES PARTICIPATING**  
in undergraduate process safety  
learning initiative curriculum  
(since campaign launch)



## ↑ 22%

(2017 over 2016)

**INCREASE IN SAFETY CERTIFICATES  
COMPLETED BY STUDENTS**



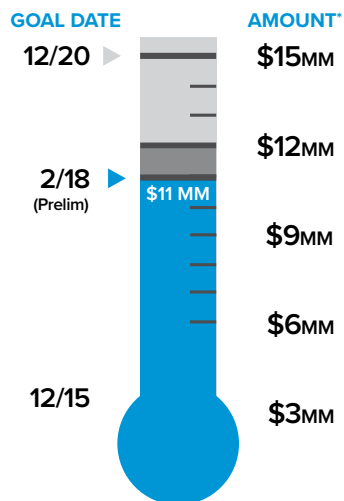
## 266

**FACULTY MEMBERS**  
educated on process safety



## Where We Are Today

### FUND-RAISING (Millions)



\*As of February 1, 2018

### FOUNDERS' CIRCLE

#### BENEFACTORS \$750,000 AND UP



#### UNDERWRITERS \$500,000 TO \$749,999



#### PATRONS \$250,000 TO \$499,999



### MAJOR CONTRIBUTORS

#### Partners - \$100,000 to \$249,999

Albemarle  
Archer Daniels Midland Company  
Covestro LLC  
Evonik  
FMC

Mitsui & Co. (U.S.A.), Inc.  
Olin  
PolyOne  
Wacker Chemical Corporation

#### Supporters - \$50,000 to \$99,999

Air Liquide  
Arkema Inc.  
Bouchard Transportation  
Cargill  
ExxonMobil Corporation  
Honeywell

Intercontinental Terminal  
Company LLC  
LANXESS  
Novus International, Inc.  
Praxair  
Trinseo

#### Friends - \$10,000 to \$49,999

3M  
Accella Performance Materials  
AdvanSix Inc.  
AEA Investors LP  
Air Products and Chemicals, Inc.  
American Chemistry Council  
Arsenal Capital Partners  
Asset Management Company  
Axalta Coating Systems  
Bank of America  
Barclays  
BBDO Worldwide  
BDP International  
Bechtel  
Benesch, Friedlander, Coplan & Aronoff  
Biogen  
Brock Group  
CCNY  
Centerview Partners  
Day & Zimmermann Inc.  
Duff & Phelps  
Fluor Corporation  
Fragomen, Del Rey,

Bernsen & Loewy, LLP  
Huntsman  
Jacobs Engineering Group Inc.  
Jenner & Block  
Johnson & Johnson  
Kirkland & Ellis LLP  
Kraton  
Lubrizol Corporation  
MANA Products  
Mayer Brown LLP  
Morgan Stanley  
NOVA Chemicals  
Omnova  
Peach State Labs, LLC  
Pfizer  
Reliance Industries LTD  
Shearman & Sterling LLP  
SNF Holding Company  
Teneo Strategy LLC  
UM US  
Whirlpool

# 2017 Events and Meetings

## CCPS 2017 AND 2018 FACULTY WORKSHOPS

As part of the Undergraduate Process Safety Learning Initiative, a core priority of the “Doing a World of Good” campaign, CCPS is partnering with industry leaders to provide faculty with free Process Safety Workshops.

Each Faculty Process Safety Workshop sponsored by the companies listed below, and hosted at the plant site, showed chemical engineering faculty how process safety is put into industrial practice while demonstrating the importance of process safety to the design and operation of a chemical plant. The goal of these workshops is to enable faculty to teach process safety in their undergraduate and graduate curricula so that all chemical engineering students have a basic understanding of process safety for their careers in industry.



▲ **LyondellBasell Sponsored CCPS Faculty Workshop**  
January 8-11, 2018 Houston, TX



▲ **Reliance Industries Limited Sponsored CCPS Faculty Workshop**  
Nagothane Manufacturing Division.  
September 5-7, 2017 Maharashtra, India



▲ **Chevron Sponsored CCPS Faculty Workshop**  
August 13-16, 2017 Richmond, CA



▲ **Archer Daniels Midland Sponsored CCPS Faculty Workshop**  
July 24-27, 2017 Decatur, IL



▲ **WACKER Sponsored CCPS Faculty Workshop**  
July 17-20, 2017 Charleston, TN



▲ **Dow Sponsored CCPS Faculty Workshop**  
June 12-15, 2017 Freeport TX

Thank you to 3M for generously providing faculty members an in-depth one day plant tour at the 3M Cottage Grove, Minnesota Facility October, 2017

(Completed 2017-2018 Workshops are listed as of Annual Report publishing date. For information on upcoming 2018 Workshops go to <https://www.aiche.org/ccps/resources/conferences/events/faculty-workshops>

# NORTH AMERICA

## THE 13<sup>th</sup> GLOBAL CONGRESS ON PROCESS SAFETY

March 26 – 29, 2017, San Antonio, TX

More than 900 attendees from over 300 companies and 30 different countries attended this conference. This world premier process safety event featured 3 luncheons with renowned speakers, 231 technical presentations and 70 poster presentations.

► 2017 Spring Meeting and 13th GCPS  
Agile Award Keynote Presentation



Photo by Margot Hartford



Photo by Margot Hartford

▲ 13th GCPS Symposia and Track Chairs



Photo by Margot Hartford

## THE CCPS SPRING TECHNICAL STEERING COMMITTEE MEETING

March 30, 2017 San Antonio, TX



## THE 2<sup>ND</sup> ANNUAL CANADIAN REGIONAL TECHNICAL STEERING COMMITTEE MEETING

September 26, 2017 Calgary, Canada

Hosted by David Guss of Nexen, the full day meeting brought together 40 people from 23 companies located in the Northwest Canadian region.

# 2017 Events and Meetings

## EUROPE



▲ Panel discussion at the 2017 Process Safety Congress at Eurocorr, Prague, CZ.



▲ 2017 European Technical Steering Committee Meeting held at Arkema in Columbes, France.



▲ Attendees at the 2nd European Process Safety and Big Data Conference, DECHMA House, Frankfurt, Germany.



▲ Shakeel Kadri's "Welcome Presentation" to the 2nd European Process Safety and Big Data Conference.



▲ Question & answer session at the 2nd European Process Safety and Big Data Conference.

# LATIN AMERICA



## ◀ CCPS-YPF MEETING

Seven senior managers from different YPF entities participated in this meeting, where CCPS was able to show YPF its worldwide penetration and the extraordinary contribution YPF has made since joining CCPS. At the end of the meeting Louisa Nara honored CCPS Fellow Gustavo Correa with a peer recognition plaque. ▼

▼ CCPS Fellow Mary Stella Corsaro, VP at PlusPetrol receives a peer recognition plaque.



## BUENOS AIRES, ARGENTINA

July 10-14, 2017

Over the course of 5 days in Argentina, CCPS Global Technical Director, Louisa Nara; Orlando Acosta, Latin American Regional Manager; and Néstor Spósito met with 4 companies – Pluspetrol, PanAmerican Energy, Arpel and YPF. Additionally, a workshop was conducted at Arpel, concluding with the Latin American Regional Meeting.



## CCPS-PLUSPETROL MEETING ▲

16 participants came to discuss Process Safety Competency, Operating Procedure and Process Safety Upstream/Shale Gas.



## CCPS-PANAMERICAN ENERGY MEETING ▲

This meeting featured discussions on the future development of working on CCPS projects as well as Latin American Conference on Process Safety (LACPS) sponsorship and participation going forward.

# 2017 Events and Meetings

## LATIN AMERICA



### CCPS-ARPEL MEETING ▲

The mission of this meeting was to improve and disseminate process safety knowledge and learning experiences in Latin America, with the possibility of issuing CCPS courses for ARPEL member companies.

### WORKSHOP CCPS-ARPEL ►

This well attended event featured 58 attendees including 12 production companies. CCPS members included Dow, Ecopetrol, PAE, Pluspetrol and YPF. Four Consulting firms also participated, including CCPS member PII and 3 organizations ARPEL, IAPG and CCPS. The presentations were highly technical and focused on the difficulties, challenges and solutions found in the implementation of Process Safety in oil and gas companies.



### ◀ CCPS LATIN AMERICA REGIONAL MEETING

The Technical Steering Committee Representatives at the meeting proposed a 2018 Workshop on Process Safety Culture for Managers and top Managers at the 8th LACPS (Latin America Conference on Process Safety) to be held in Buenos Aires, Argentina in September 2018. During that time, a two-day conference will be offered prior to the workshop.

CCPS and ARPEL agreed to work together to improve and disseminate Process Safety knowledge and learning experiences in Latin America.

◀ Gretel D'Amico, Safety & Asset Manager, Pluspetrol, presented "Process Safety Culture" in Latin America.

# ASIA PACIFIC AND MIDDLE EAST

## CCPS AUSTRALIA REGIONAL MEETING

May 19, 2017, Hyatt Regency, Perth

CCPS Executive Director, Shakeel Kadri met with Mr. Stuart Smith, Chief Executive Officer of the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) to discuss collaborative opportunities in the region.



The meeting was attended by 52 delegates from various companies from Australia: Western Australia Department of Mines and Petroleum, TRONOX, BP, Coogee Chemicals, Condor Energy, WA Energy Research Alliance, Brookman Smith, Inpex, DuPont, Cristal, Wesfarmers Chemicals Energy and Fertilizers, Woodside Energy Ltd, NOPSEMA, BHP Billiton Petroleum, Big Pond, Department of State Development Energy Resources Division, Worley Parsons, Newcrest Mining and Nalco Champion.



## CCPS ASIA PACIFIC REGIONAL TECHNICAL STEERING COMMITTEE MEETING

May 22, 2017, KLCC, Malaysia

*Hosted by PETRONAS*

The meeting was attended by 75 delegates from the Asia-Pacific Region. Member companies shared their experiences by presenting four technical topics. In this meeting, CCPS Executive Director, Shakeel Kadri briefed delegates about the CCPS credentialing program followed by a mini workshop on 'Process Safety Competency'. This workshop was facilitated by Shakeel Kadri and Ms. Sulo Belawan, PETRONAS.



▲ CCPS Asia Pacific Regional TSC Meeting, Malaysia.

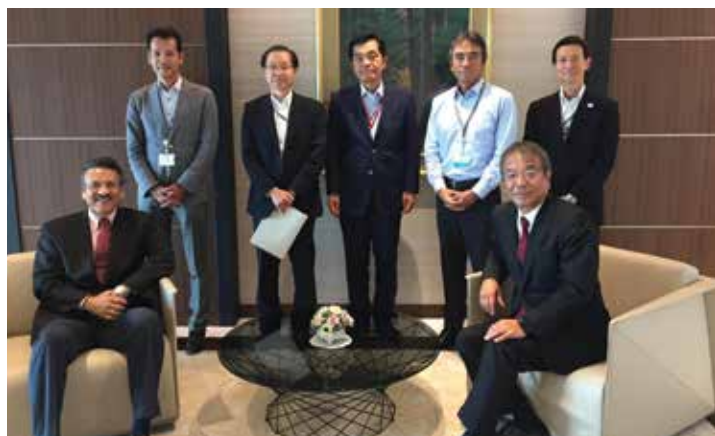
# 2017 Events and Meetings

## ASIA PACIFIC AND MIDDLE EAST

### 4<sup>TH</sup> CCPS GLOBAL SUMMIT ON PROCESS SAFETY CONFERENCE

September 12-13, 2017 at Okayama Convention Centre, Japan

The summit was jointly organized by the Center for Chemical Process Safety (CCPS), the Japan Society of Safety Engineering (JSSE) and the Center for Safe and Disaster-Resistant Society, Okayama University. The Japan Petrochemical Industry Association (JPCA) and the Japan Petroleum Institute (JPI) were official supporters of the Global Summit.



▲ Shakeel Kadri, CCPS Executive Director, met with Mr. Jun Mutoh, Executive VP of JXTG and Mr. Akio Ueda, Executive VP of Mitsubishi Chemicals as well as the JXTG staff at Mr. Mutoh's office in Tokyo to follow up on actions taken during the 4th Global Summit. Mr. Ueda is also a CCPS Advisory Board Member.



▲ Shakeel Kadri with Mr. Yoshihiro Wataya, Director, Safety & Technology Management Unit for Cosmo Oil Co. Ltd. and Cosmo staff at their Headquarters in Tokyo, Japan.

|                             |   |  |
|-----------------------------|---|--|
| <b>500+</b><br>PARTICIPANTS | <b>2</b><br>PANEL DISCUSSIONS<br>(Leaders and Academia) | <b>TECHNICAL PROGRAM</b><br><br>- 4 Parallel Tracks<br><br>- 4 Keynote Speakers<br><br>- 76 Presentations<br><br>- 28 Session Chair<br><br>- Poster Session:<br>14 Posters &<br>1 min presentation |
| <b>18</b><br>COUNTRIES      |   |  |
| <b>83</b><br>COMPANIES      | <b>14</b><br>LEADERSHIP FORUM<br>(14 Leaders)           |  |
| <b>22</b><br>ORGANIZATIONS  |   |  |
| <b>33</b><br>SPONSORS       | <b>2</b><br>PRECONFERENCE COURSES                       |  |
| <b>31</b><br>EXHIBITORS     |   |  |



▲ CCPS-SCIC (Singapore Chemicals Industry Council) MOU recognition.



▲ Participants of the Leadership Panel at the 4th Global Summit moderated by Shakeel Kadri.



◀ Reception held prior to the 4th Global Summit opening



◀ Umesh Dhake and Louisa Nara meeting with Chemical Safety Board Member Dr. Kristen Kulinowski and members from KHK [High Pressure Gas Safety Institute of Japan]

## HF MEMORIAL SEMINAR AND PROCESS SAFETY PERFORMANCE MEASUREMENT WORKSHOP

September 15, 2017 at Yonsei University, South Korea

This workshop was intended to provide hands on knowledge to measure process safety metrics and use these metrics to help companies improve their process safety performance. During the workshop, CCPS Global Technical Director, Louisa Nara reviewed the efforts that CCPS, API, AFPM and others have done to develop a system to measure both leading and lagging indicators, and provided a more detailed understanding on the most commonly used metrics tool – API-RP-754.



## CCPS-MIDDLE EAST PROCESS SAFETY CONFERENCE (CCPS-MEPSC)

October 9-11, 2017 at Bahrain International Exhibition and Convention Centre

This Middle East conference was attended by 350 delegates/stakeholders who recognize the business value of process safety and have committed to process safety as a strategic priority and core value in all of their operations. Focusing on operational excellence through effectively managing risk and reliability, this event defined, through collective industry experience, the engineering practices and leadership traits that drive industry to a zero harm culture.



▲ Shakeel Kadri presenting a recognition plaque to Mr. Roelof Heezen, EVP of Saudi Aramco Shell Refinery Company for his Keynote presentation.



▲ Shakeel Kadri presenting a recognition plaque to Mr. Richard Boocock, President – Middle East, India, Egypt and Turkey for Air Products Industrial Gases for his keynote presentation.

# 2017 Events and Meetings

## ASIA PACIFIC AND MIDDLE EAST

### CCPS WORKSHOP CATASTROPHIC INCIDENT WARNING SIGNS

October 12, 2017

*Sponsored by PSRG Asia Pacific Pte Ltd.*

Held at Holiday Inn Pattaya, and facilitated by CCPS Global Technical Director, Louisa Nara and Larry Warren from PSRG, the event was a huge success. The participants provided very encouraging feedback stating that “CCPS is a very highly recognized organization, and we hope a similar meeting will occur in Thailand every year.”

Seventy-four delegates from CCPS member and non-member companies actively participated in the workshop. AIG, Arkema, Inc., Bangchak Petroleum, Bayer, Binh Son Refining & Petrochemical Co., Ltd (BSR), Cargill, Chevron Corporation, Dow, Foster Wheeler (Thailand) Limited, Gheco-One, Huntsman (Thailand) Limited, Imperial, King Mongkut's Institute of Technology Ladkrabang, Map Ta Phut Tank Terminal, Merck & Company, Inc., Micron Semiconductor Asia Pte Ltd, PTT Energy Solutions Co. Ltd., PTT Global Chemical Public Company Limited, Purac (Thailand) Co. Ltd., Rayong Olefins Company, Shell Eastern Petroleum Pte Ltd, Star Petroleum Refining Public Company, Thai MMA, Thai PET Resin Co., Ltd., Trans Thai.



### KUWAIT INDUSTRY WORKSHOP ON PROCESS SAFETY PERFORMANCE INDICATORS API RP 754

November 27, 2017, Kuwait

*Co-organized by CCPS and ASSE-Kuwait Chapter*

### LEADERSHIP MEETING ON PROCESS SAFETY

November 29, 2017, Kuwait

*Hosted by KPC and ASSE- Kuwait Chapter*

November 28, 2017

Shakeel Kadri, CCPS Executive Director was a panel speaker on “Cultural Transformation through HSSE Innovations” at the ASSE 9th International HSSE and Loss Prevention Professional Development Conference in Kuwait. A Certificate of Appreciation was presented by Mr. Rixio E. Medina, President Elect, ASSE and Mr. Fadhel Al Ali, Chairman of the ASSE Kuwait Chapter.



November 28, 2017

Shakeel Kadri, CCPS Executive Director and Umesh Dhake, Asia Pacific Regional Manager were presented with a plaque for their support and collaboration of CCPS at the ASSE 9th International HSSE and Loss Prevention Professional Development Conference in Kuwait, by Mr. Nasser Majed Alshamma, Deputy CEO. For Kuwait National Petroleum Company (KNPC) Support Service.



# CHINA

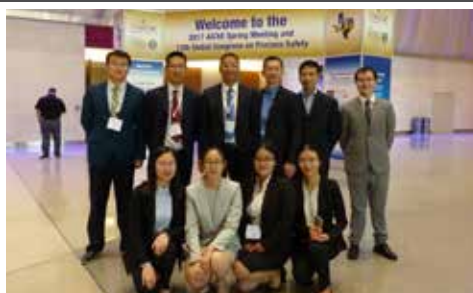
Center for Chemical Process Safety-China Section (CCPS-CS) was founded by the Center for Chemical Process Safety of AIChE and the Center for Safety and Environmental and Energy Conservation Technology of China University of Petroleum in April 2007.

## MISSION OF CCPS-CS:

- Advance the state of the art of process safety technology and management practices in China
- Serve as a premier resource for process safety information in China
- Foster process safety learning in undergraduate engineering education
- Promote process safety as a key industry value

## I. CCPS-CS 2017 PERFORMANCES

CCPS China Session organized by CCPS-CS at the 13th Global Congress on Process Safety



## II. 5th CCPS CHINA PROCESS SAFETY MEETING

More than 600 professionals worldwide attended the meeting. The theme of the meeting was to *promote chemical process safety management, and effectively prevent and resolutely curb serious accidents*.



## III. 3rd CCPS CHINA REGION TSC FACE-TO-FACE MEETING

More than 15 representatives from 10 CCPS member companies attended this meeting to discuss and share regional process safety challenges and opportunities.

## TRAINING

### 11th CCPS-CS PROCESS SAFETY TRAINING

100 attendees from industry attended the 2 days Risk Based Process Safety Workshop lead by Louisa Nara, CCPS Global Technical Director



### TEXTBOOK TRANSLATION

Translated the textbook *Chemical Process Safety Fundamentals with Applications, 3rd Edition*



### PROMOTION OF CHEMICAL SAFETY TECHNOLOGY AND CONCEPT

CCPS-CS is committed to promoting the latest process safety technology and management experience in China. CCPS-CS issued nearly 100 *Process Safety Beacon's* and translated and published more than 20 Chemical Safety Board videos through the WeChat platform. CCPS-CS is serving as a premier resource for process safety information in China.



# 2018 Meetings, Destinations and Global Offices

## NORTH AMERICA

### NEW YORK, NY

CCPS Advisory Board Dinner  
March 14, 2018

CCPS Advisory Board Meeting  
March 15, 2018

### ORLANDO, FL

14th Global Congress on  
Process Safety  
April 22-25, 2018

CCPS Latin America  
Technical Steering Committee  
Regional Meeting  
April 23, 2018

CCPS Technical Steering Committee  
Networking Dinner  
April 25, 2018

CCPS Technical Steering  
Committee Meeting  
April 26, 2018

### HOUSTON, TX

Offshore Technology Conference  
April 30 – May 3, 2018

### CALGARY, CANADA

3rd Annual Canadian  
Regional Technical Steering  
Committee Meeting  
September 20, 2018

### TORONTO, CANADA

Canadian Technical Steering  
Committee Meeting  
October 31, 2018

### HOUSTON, TX

Fall Technical Steering Committee  
Meeting  
November 8-9, 2018

## SOUTH AMERICA

### PORT OF SPAIN, TRINIDAD AND TOBAGO

Regional Technical Steering  
Committee Meeting  
Energy Chamber of  
Commerce – Conference  
Date to be Announced in 2018

### BOGOTA, COLUMBIA

CCPS Columbia Chapter  
Kick-off Meeting  
Date to be Announced in 2018

### BUENOS AIRES, ARGENTINA

Latin American Conference on  
Process Safety (LACPS)  
September 10-12, 2018

### BUENOS AIRES, ARGENTINA

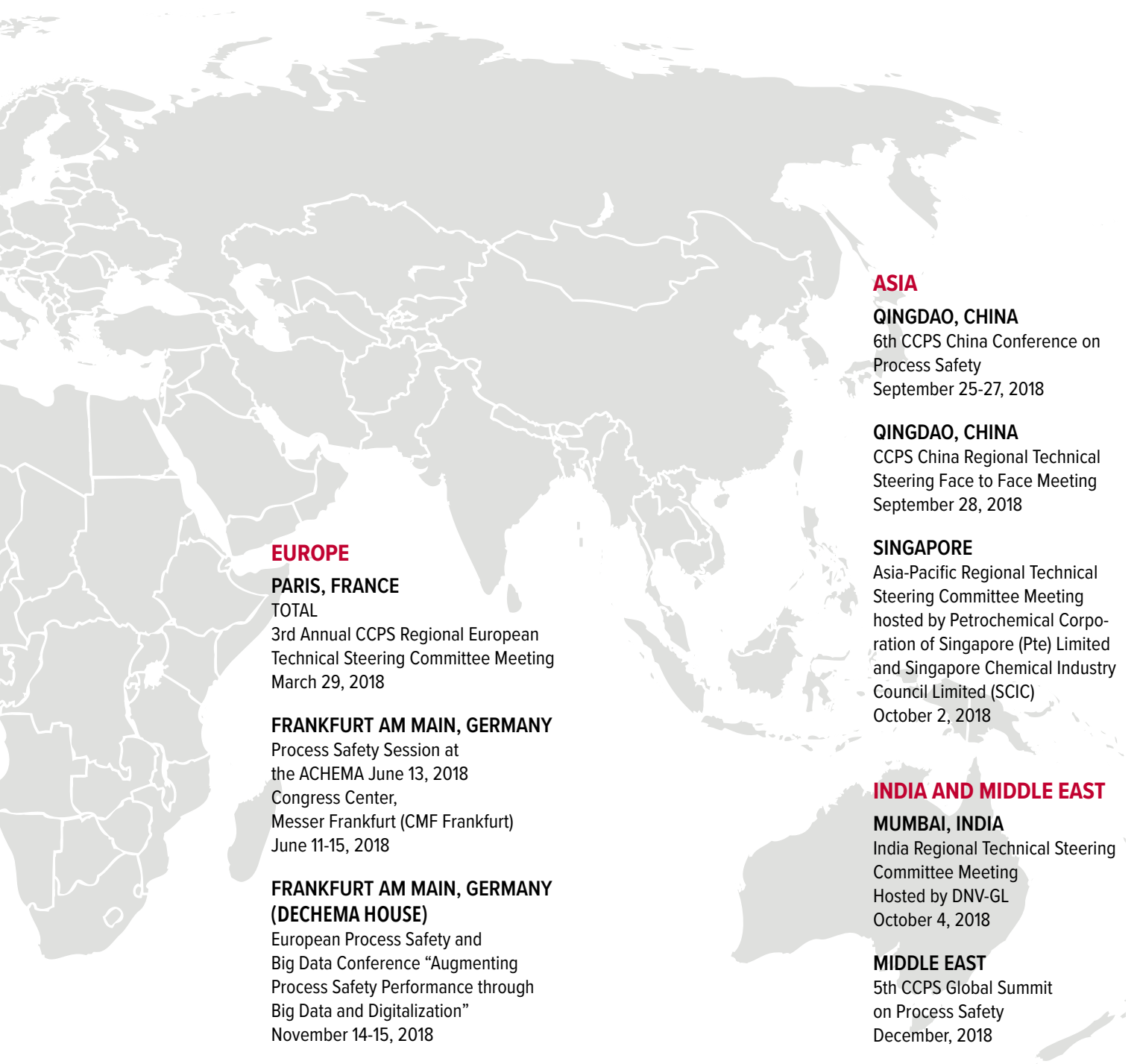
CCPS Argentina Technical Steering  
Committee Meeting  
September 13, 2018

### SALVADOR BAHIA, BRAZIL

CCPS Brazilian Technical Steering  
Committee Meeting  
Date to be Announced in 2018

### RIO DE JANEIRO, BRAZIL

CCPS Brazilian Technical Steering  
Committee Meeting  
Date to be Announced in 2018



## EUROPE

### PARIS, FRANCE

#### TOTAL

3rd Annual CCPS Regional European  
Technical Steering Committee Meeting  
March 29, 2018

### FRANKFURT AM MAIN, GERMANY

Process Safety Session at  
theACHEMA June 13, 2018  
Congress Center,  
Messer Frankfurt (CMF Frankfurt)  
June 11-15, 2018

### FRANKFURT AM MAIN, GERMANY (DECHEMA HOUSE)

European Process Safety and  
Big Data Conference “Augmenting  
Process Safety Performance through  
Big Data and Digitalization”  
November 14-15, 2018

## ASIA

### QINGDAO, CHINA

6th CCPS China Conference on  
Process Safety  
September 25-27, 2018

### QINGDAO, CHINA

CCPS China Regional Technical  
Steering Face to Face Meeting  
September 28, 2018

## SINGAPORE

Asia-Pacific Regional Technical  
Steering Committee Meeting  
hosted by Petrochemical Corpo-  
ration of Singapore (Pte) Limited  
and Singapore Chemical Industry  
Council Limited (SCIC)  
October 2, 2018

## INDIA AND MIDDLE EAST

### MUMBAI, INDIA

India Regional Technical Steering  
Committee Meeting  
Hosted by DNV-GL  
October 4, 2018

## MIDDLE EAST

5th CCPS Global Summit  
on Process Safety  
December, 2018

## CCPS OFFICES

- New York, NY
- Frankfurt, Germany
- Houston, TX
- Mumbai, India
- Qingdao, China
- Singapore

## GLOBAL TECHNICAL STEERING COMMITTEE WEB CONFERENCES

February 7, 2018

June 28, 2018

September 26, 2018

Look for upcoming events on our website.  
**[www.ccps.org](http://www.ccps.org)**

Dates are tentative. Visit [www.ccpsonline.org](http://www.ccpsonline.org) for  
the most up-to-date information.

# 2018 Important Dates and Events

| EVENT   | LOCATION  | DATE                         |
|---|---|------------------------------|
| Energy Chamber of Commerce Conference   | Port of Spain, Trinidad and Tobago                                | Date to be Announced in 2018 |
| CCPS Columbia Chapter Kick-off Meeting  | Bogota, Columbia  | Date to be Announced in 2018 |
| Technical Steering Committee Winter Web Conference                                  | Global Web Conference   | February 7, 2018             |
| CCPS Advisory Board Dinner  | New York, NY  | March 14, 2018               |
| CCPS Advisory Board Meeting   | New York, NY  | March 15, 2018               |
| 3rd Annual European Regional Technical Steering Committee Meeting (Hosted by TOTAL) | Paris, France   | March 29, 2018               |
| 14th Global Congress on Process Safety  | Orlando, FL   | April 22-25, 2018            |
| CCPS Latin America Technical Steering Committee Regional Meeting                    | Orlando, FL   | April 23, 2018               |
| CCPS Technical Steering Committee Networking Dinner                                 | Orlando, FL   | April 25, 2018               |
| CCPS Technical Steering Committee Meeting   | Orlando, FL   | April 26, 2018               |
| Houston Offshore Technology Conference  | Houston, TX   | April 30-May 3, 2018         |
| ACHEMA 2018   | Messe Frankfurt, Ludwig-Erhard-Anlage 1, 60327 Frankfurt, Germany | June 11-15, 2018             |
| Technical Steering Committee Summer Web Conference                                  | Global Web Conference   | June 28, 2018                |
| Latin American Conference on Process Safety (LACPS)                                 | Buenos Aires, Argentina   | September 10-12, 2018        |

| EVENT  | LOCATION                                   | DATE                  |
|--|--|-----------------------|
| CCPS Argentina Technical Steering Committee Meeting  | Buenos Aires, Argentina                    | September 13, 2018    |
| 3rd Annual Canadian Regional Technical Steering Committee Meeting  | Calgary, Canada                            | September 20, 2018    |
| Technical Steering Committee Fall Web Conference   | Global Web Conference                      | September 26, 2018    |
| 6th CCPS China Conference on Process Safety  | Qingdao, China                             | September 25-27, 2018 |
| CCPS China Regional Technical Steering Committee Meeting   | Qingdao, China                             | September 28, 2018    |
| Asia Pacific Regional Technical Steering Committee Meeting - hosted by Petrochemical Corporation of Singapore (Pte) Limited and Singapore Chemical Industry Council Limited (SCIC) | Singapore                                  | October 2, 2018       |
| India Regional Technical Steering Committee Meeting hosted by DNV-GL   | Mumbai, India                              | October 4, 2018       |
| Canadian Technical Steering Committee Meeting  | Toronto, Canada                            | October 31, 2018      |
| European Process Safety and Big Data Conference  | Frankfurt am Main, Germany (DECHEMA House) | November 14-15, 2018  |
| 5th CCPS Global Summit on Process Safety   | Middle East                                | December 2018         |

Look for upcoming events on our website  
[www.ccpsonline.org](http://www.ccpsonline.org)



# Organizational Structure

## 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 Global Technical Director 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 Committee
- Technical Steering Committee

Additionally, members of the Technical Steering Committee and other member company representatives serve on sub-committees 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.

## 2018 CCPS MANAGING BOARD

**June Wispelwey**  
AIChE Executive Director (Chair)

**Shakeel Kadri**  
CCPS Executive Director

**Christine Seymour**  
AIChE President

**Bond Calloway**  
AIChE Past President

**Kim Ogden**  
AIChE President-Elect

**Freeman Self**  
AIChE Secretary

**Rose Wesson**  
AIChE Treasurer

**Billy Bardin**  
AIChE Director

**Lori McDowell**  
AIChE Director

**Tim Odi**  
AIChE Director

**Rick Cain**  
AIChE, Chief Financial Officer

**Sincere gratitude to the outgoing 2017 Managing Board**

**Alan Nelson**  
AIChE Director

**Greg Stephanopoulos**  
AIChE Past President

**Joseph Smith**  
AIChE Past Treasurer

## ADVISORY BOARD

**Shakeel Kadri**  
CCPS (Chair)

**Rob DiValerio**  
BP

**Khaled Saleh S. Al-Kharboush**  
SABIC

**Bob Bahr**  
ExxonMobil

**Sulo Belawan**  
Petronas

**Richard Boocock**  
Air Products

**Delia Contreras**  
Ecolab

**Ana Davis**  
Syngenta Corporation

**Derek A. Fairclough**  
BASF

**Dave Greganti**  
DOW

**Linda Hicks**  
Vertellus, Inc.

**Robin Higgs**  
3M

**Matthew Koenings**  
DuPont Company

**David A. Lewis**  
Occidental Chemical Corporation

**Edward Mills**  
Honeywell

**Anne O'Neal**  
Chevron

**Cari Parker**  
Eastman Chemical

**Keith Silverman**  
Ashland

**Debra Small**  
Monsanto

**Mike Snyder**  
DEKRA Insight

**Prasad Tipnis**  
Reliance Industries, Ltd.

**Akio Ueda**  
Mitsubishi Corporation

**June Wispelwey**  
AIChE

**John Wnek**  
Evonik Corporation

## PROJECT PLANNING COMMITTEE

**Pete Lodal**  
Eastman Chemical Company (Chair)

**Chris Aiken**  
Cargill

**Todd Aukerman**  
LanXess Corporation

**Tony Downes**  
Honeywell, Inc.

**Jerry Forest**  
Celanese Chemicals

**Jeff Fox**  
Emeritus

**Eric Freiburger**  
Praxair, Inc.

**Fred Henselwood**  
NOVA Chemicals

**Shakeel Kadri**  
CCPS

**Jack McCavit**  
Emeritus

**Louisa A. Nara**  
CCPS

**Cathy Pincus**  
ExxonMobil

**Ken Tague**  
ADM

**Karen Tancredi**  
Chevron Corporation

**Jatin Shah**  
BakerRisk

**Scott Wallace**  
Olin Corporation

**John Wincek**  
Dekra Insight

# Projects and Volunteers

## Project 152: *Process Safety Beacon*

**Georges Melhem - Sponsor**  
ioMosaic Corporation

**David Moore - Sponsor**  
Acutech

**John W. Herber, Co-Chair**  
Emeritus

**Rüdiger Lenz, Co-Chair**  
Celanese Corporation

**Dennis Hendershot**  
CCPS Staff Consultant

**Albert Ness**  
CCPS Staff Consultant

**Donald W. Abrahamson**  
Emeritus

**Katherine M. Anderson**  
ioMosaic Corporation

**Pedro A. Bonilla**  
Buckman North America

**Christopher Devlin**  
Celanese Corporation

**Seshu Dharmavaram**  
DuPont

**Jeffrey L. Fox**  
Emeritus

**David Guss**  
Nexen, Inc.

**Kathleen Kas**  
The Dow Chemical Company

**George King**  
Huntsman Corporation, Retired

**Dave Krabacher**  
BASF

**Antonio Lauzana**  
Petrobras, Retired

**Larry LeMesurier**  
Syncrude Canada

**Marc Levin**  
Washington State University

**Mike Marshall**  
OSHA

**Jack McCavit**  
Emeritus

**Louisa A. Nara**  
CCPS

**William M. Olsen**  
Merck & Company, Inc.

**Yasser A. Rahim**  
Gulf Petrochemicals Industries  
Company

**Roy Sanders**  
PPG, Retired

**Nicholas P. Sands**  
DuPont

**Adrian L. Sepeda**  
Emeritus

**Jatin N. Shah**  
BakerRisk

**John C. Stoney**  
BP

**Tom Spicer**  
University of Arkansas

**Anthony A. Thomson**  
Monsanto Company, Retired

**John C. Wincek**  
DEKRA Insight

**Jan Windhorst**  
Emeritus

## Project 233: *Key Performance Indicators for Risk-Based Process Safety*

**Daniel Sliva**  
CCPS Staff Consultant

**Elroy Christie**  
Koch

**Sorin Dan**  
NOVA Chemicals

**Sean Dee**  
Exponent, Inc.

**Nancy Faulk**  
Siemens Energy

**Jeffrey L. Fox**  
Emeritus

**Eric Freiburger**  
Praxair, Inc.

**Wayne Garland**  
Eastman Chemical Company

**Andrew Goddard**  
Arkema, Inc.

**Mahendran Gurusamy**  
Orpic

**Carl Harrison**  
Formosa Plastics Corporation

**Rukyah Hennessay**  
CCPS

**Michell LaFond**  
The Dow Chemical Company

**Mikelle C. Moore**  
Buckman North America

**Louisa A. Nara**  
CCPS

**Mark Paradies**  
System Improvements

**Cesar Puma**  
Pluspetrol

**Sonny Sachdeva**  
PSRG, Inc.

**Scott Wallace**  
Olin Corporation

**Dan Wilczynski**  
Marathon Petroleum Company

### Project 244: Process Safety - Vision 2020

**Anne O'Neal, Chair**  
Chevron Corporation

**Todd Aukerman**  
LanXess Corporation

**Jeffrey L. Fox**  
Emeritus

**Cheryl A. Grounds**  
Emeritus

**Rukyah Hennessey**  
CCPS

**Peter N. Lodai**  
Eastman Chemical Company

**Jack McCavit**  
Emeritus

**Louisa A. Nara**  
CCPS

**Samantha N. Scruggs**  
BP

**Karen Tancredi**  
Chevron Corporation

### Project 248: Tools for Making Acute Risk Decisions

**Fred Henselwood, Co-Chair**  
NOVA Chemicals

**Jeffrey C. Stawicki, Co-Chair**  
The Lubrizol Corporation

**Dave Belonger**  
CCPS Staff Consultant

**Albert Ness**  
CCPS Staff Consultant

**Christopher S. Buehler**  
Exponent, Inc.

**Seshu Dharmavaram**  
DuPont

**Elizabeth Lutostansky**  
Air Products & Chemicals, Inc.

**Guilherme da Silva Telles Naegeli**  
Petrobras

**Pamela M. Nelson**  
Solvay USA, Inc.

**Anne-Michael Pelupossy**  
AkzoNobel

**Robin M Pitblado**  
DNV GL

**Adrian L. Sepeda**  
Emeritus

**Jatin N. Shah**  
BakerRisk

**Martin L. Timm**  
Praxair, Inc.

**John H. Traynor**  
Evonik Corporation

**Dinesh Vaidya**  
Reliance Industries, Ltd.

**Florine Williams Vincik**  
Syngenta

### Project 249: Essential Practices for Developing, Strengthening and Implementing Process Safety Culture

**Eric Freiburger, Co-Chair**  
Praxair, Inc.

**Karen Tancredi, Co-Chair**  
Chevron Corporation

**Bob Rosen**  
CCPS Staff Consultant

**Henry Brinker**  
Monsanto Company

**Gretel D'amico**  
Pluspetrol

**Mike Dossey**  
Contra Costa County Health Services

**Walt Frank**  
Emeritus

**Michael Hazzan**  
AcuTech

**Louis Higgins**  
Solvay USA, Inc.

**Dave Jones**  
Chevron Corporation

**Shakeel Kadri**  
CCPS

**Jack McCavit**  
Emeritus

**Dan Miller**  
Emeritus

**Gilsa Monteiro**  
Petrobras

**Richard Piette**  
Suncor Energy

# Projects and Volunteers

## Project 250: Process Safety in Capital Projects

**Eric Freiburger, Chair**  
Praxair Inc.

**Dave Belonger**  
CCPS Staff Consultant

**Christopher S. Buehler**  
Exponent, Inc.

**Jonas Duarte**  
LanXess Corporation

**Andrew Goddard**  
Arkema, Inc.

**Emmanuelle Hagey**  
NOVA Chemicals

**Graeme Leggett**  
BP

**Chee Ong**  
BP

**Leisa Porter**  
Fluor Corporation

**Kevin D. Watson**  
Chevron Corporation

## Project 255: Evergreen LOPA/IPL Database

**John F. Murphy**  
CCPS Staff Consultant

**J. Wayne Chastain**  
Eastman Chemical Company

**Jing Chen**  
CCPS

**Art Dowell**  
Process Improvements Institute, Inc.

**Christopher Illies**  
Evonik Corporation

**Kimberly Mullins**  
Occidental Chemical Corporation

**Kathy Shell**  
aeSolutions

**Angela Summers**  
SIS-Tech Solutions

**Scott Wallace**  
Olin Corporation

## Project 257: Translation of CCPS Books/Tools Into Chinese

**Byron Sun**  
CCPS Staff Consultant

**Ge Anka**  
Binh Son Refining and Petrochemical  
Co., Ltd.

**Catherine Chen**  
SABIC

**Jing Chen**  
CCPS

**Michael Ding**  
Celanese Chemicals

**Ming Han**  
LanXess Corporation

**Kevin Li**  
Eastman Chemical Company

**Lynn Lin**  
The Dow Chemical Company

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### Project 260: Translation of CCPS Books Into Spanish

|  |  |  |
|--|--|--|
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| <b>Ricardo Ceskiavikus</b><br>YPF              | <b>Luis Andres Landa</b><br>YPF                              | <b>Jordi Costa Sala</b><br>Celanese Chemicals    |
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### Project 261: Translation of CCPS Books Into Portuguese

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| <b>Carlos Cazarotto</b><br>BP                      | <b>Frederico Kobaishi</b><br>Croda, Inc.                | <b>Paula Onishi</b><br>BASF                    |
| <b>Jonas Duarte</b><br>LanXess Corporation         | <b>Sergio Machado da Silva</b><br>Petrobras             |  |
| <b>Isadora Rocha Ferreira</b><br>Clariant Suzano   | <b>Louisa A. Nara</b><br>CCPS                           |  |

### Project 270: Guidelines for Process Safety in Upstream Oil, Gas and Shale Ops

|   |   |   |
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| <b>Eric Freiburger, Co-Chair</b><br>Praxair Inc.    | <b>Jonas Duarte</b><br>LanXess Corporation        | <b>Jason W. Nicholls</b><br>ExxonMobil        |
| <b>Dave Belonger</b><br>CCPS Staff Consultant       | <b>Anil Gokhale</b><br>CCPS                       | <b>Tony Poullassichidis</b><br>Anadarko       |
| <b>Amar Ahiuwakia</b><br>DNV GL                     | <b>Sergio Luiz Guedes</b><br>Petrobras            | <b>Kevin D. Watson</b><br>Chevron Corporation |
| <b>Steve Arendt</b><br>ABS Consulting Group         | <b>Kevin He</b><br>Shell Downstream Manufacturing | <b>Robert J. Weber</b><br>PSRG, Inc.          |
| <b>Michael P. Broadribb</b><br>BakerRisk            | <b>David R. Mohler</b><br>Honeywell, Inc.         |   |

# Projects and Volunteers

## Project 271: Process Safety Applications for Electronic Devices (Smart Phones/ Tablets/Desktop, etc.)

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Petrochemical Co., Ltd.

**Sian Miller**  
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## Project 275: Process Safety During Transient Operations (Start-Up/Shutdown)

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## Project 276: GL/Essentials of Safe Work Practices/Conduct of Operations

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**Dan Wilczynski**  
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### Project 277: Guidelines for Inherently Safer Design

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### Project 278: Risk Based Process Safety Web Application Tool

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### Project 279: Incidents That Define Process Safety, Volume I

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### Project 280: Dow Risk Analysis Screening Tool (RAST)

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## Project 281: Human Performance for Process Safety Professionals

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## Project 282: Guidelines for Investigating Chemical Process Incidents

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### Project 283: Guidelines for the Revalidation of PHAs, 2nd Ed

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### Project 284: UEF Risk Not Chance

CCPS was awarded the Risk Not Chance grant in 2016 by the United Engineering Foundation (UEF). The intent of this grant was to produce short videos to provide outreach to three key stakeholder groups: STEM Students, First Responders and the Community; to provide greater risk awareness, and to improve the understanding of risk and choice.

These videos focus on improving the understanding of how risk plays a

role in our everyday lives, how it can be misunderstood and how we use it every day to make decisions.

Our end product consists of three short videos that can be accessed online free of charge.

Collaborating Groups:  
CCPS/ AIChE, ASCE, ASME, SME, SPE, UEF

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For additional information on the grant, and to see the 3 videos on "Risk not Chance," please visit:  
<https://www.aiche.org/ccps/uef-risk-not-chance>.

### Project 285: Business Case for Process Safety/Sustainability and Process Safety

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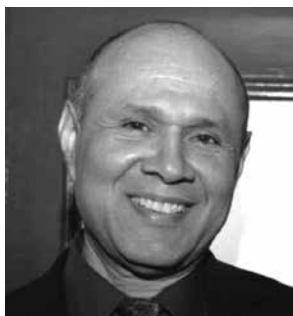
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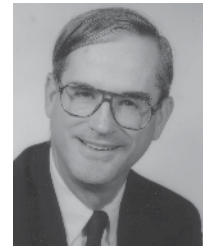
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 Linde Gas  
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 Pan American Energy LLC  
 Petrobras  
 Petrochemical Corporation of  
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 Petronas  
 Petrotechnics USA, Ltd.  
 PETROTRIN  
 Phillips 66  
 Phoenix Park Gas Processors Ltd  
 Pluspetrol S.A.  
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 SINOPEC  
 SIS-Tech Solutions  
 Solvay USA Inc.  
 Southern Company Services, Inc  
 Starr Technical Risks Agency Inc  
 State of California - PSM  
 Strem Chemicals Inc  
 Syngenta  
 System Improvements, Inc  
 Teijin Aramid B.V.  
 Tellurian  
 The Bahrain Petroleum Company  
 (Bapco)  
 The Chemours Company  
 The Dow Chemical Company  
 The Lubrizol Corporation  
 The Mosaic Company  
 The National Gas Company of  
 Trinidad and Tobago Ltd  
 Total  
 TPC  
 TransCanada  
 US EPA / OEM  
 Venator Corporation  
 Vertellus Specialties Inc  
 Wesfarmers Chemicals Energy and  
 Fertilisers  
 Yara Trinidad Ltd  
 YPF - Yacimientos Petroliferos  
 Fiscales

