



Hydrogen  
Technical Section

Solutions.  
People.  
Energy.<sup>SM</sup>



Newsletter

Issue 01

Society of Petroleum Engineers

# Hydrogen Technical Section



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## About the SPE Hydrogen Technical Section

Started in 2022, H2TS is one of the latest technical sections championed by Bob Pearson, serving SPE members in enhancing their interest in the growing adaptation of Hydrogen as a clean renewable energy.

The Hydrogen Technical Section (H2TS) brings together technical professionals and academia who are active, or have a deep interest, in the use of hydrogen as an energy carrier. The new technical section aims to share knowledge, experiences, leading practice, promote industry awareness, and enhance technical competencies.

## SPE H2TS Mission

Our mission is to engage and collaborate partnerships between academia, industry, and SPE, and proactively engage students' interests through diverse educational activities, introduce continuing education programs, facilitate knowledge sharing and best practices, collaborate with other technical sections within SPE and improve H2TS visibility and influence.

The H2TS has grown under the leadership of founding chair Prof. Chris Kalli and Technical Director Hamad Marri, for the last two years and we continue to forge closer links between the energy industry and academia, help the industry by sharing knowledge and creating networking opportunities to all oil and gas and energy transition professionals through various activities in 2025.



## SPE H2TS : Meet our team

### Leadership Team



**Dr. Phaneendra Kondapi**  
Chairperson



**Yurii Moroz**  
Chairperson elect



**Christopher J Kalli**  
Past Chairperson

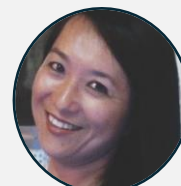
### Administrative Team



**Dr. Aziz Rahman**  
Admin Chair



**Dr. Ibrahim Muritala**  
Membersgip Chair



**Willow Liu**  
Webmaster

### Engagement Team



**Donna Lee**  
Study Group Chair



**Jeannie Chung**  
Western Hemisphere



**Claudia Molina**  
Western hemisphere



**Suhail Diaz Valderrama**  
MENA



**Sonia López Kovács**  
European Union



**Mohammad Bahar**  
Eastern Hemisphere

### Liaisons



**Bob Pearson**  
Champion / Advisor



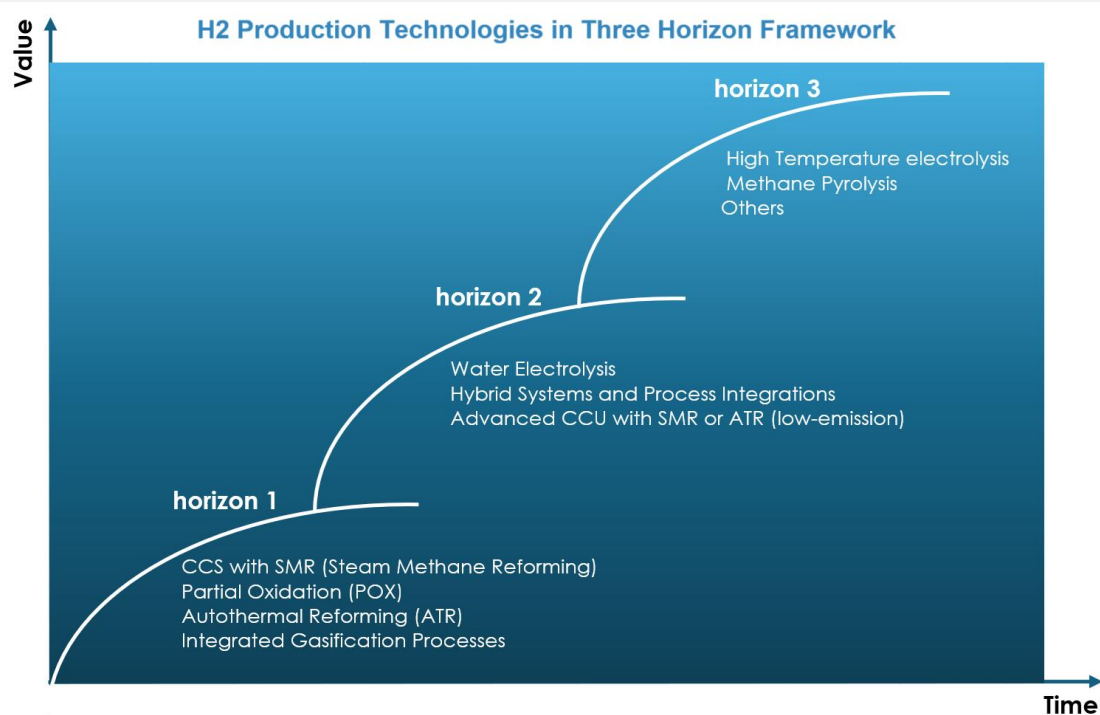
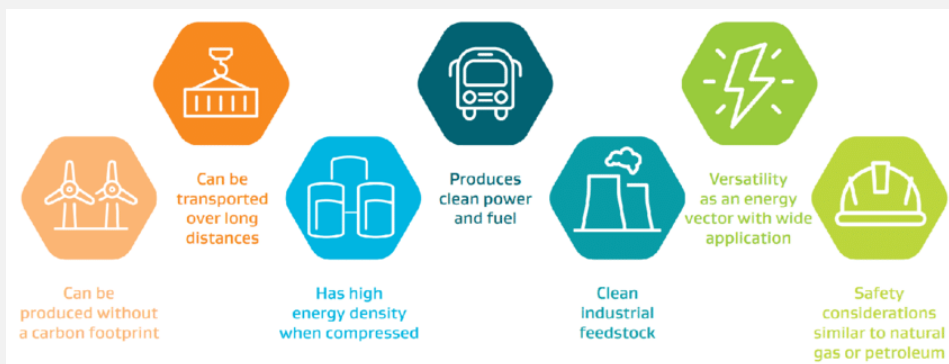
**Dr. Adrian Nengkoda**  
SPE P&F Liaison



**Jason Wipf**  
Industry Liaison

## Hydrogen as energy carrier

We use the term “**energy carrier**” to denote all aspects of the hydrogen supply chain including production, transport, storage, and use. Ammonia and other compounds of hydrogen are also included for their potential as an energy carrier solution. There is also increasing interest in the "Natural" Hydrogen as an energy source. Hydrogen will play a part to sustainably meet our energy needs in the future, and you are invited to join our new technical section to help make it so.



## Hydrogen in the energy transition and its role within the Society of Petroleum Engineers (SPE)

Hydrogen is emerging as a cornerstone of the global energy transition, offering a clean, versatile, and scalable solution to decarbonize hard-to-abate sectors such as industry, heavy transport, and power generation. As governments and industries commit to achieving net-zero emissions, hydrogen presents a viable pathway to reduce carbon footprints while ensuring energy security and resilience. Its ability to store energy, complement renewable sources, and produce no direct emissions when used makes hydrogen a vital component in the future low-carbon energy mix.

The development and deployment of hydrogen technologies require significant innovation, collaboration, and infrastructure transformation. This aligns closely with the expertise of the petroleum engineering community, which possesses decades of experience in subsurface technologies, gas handling, safety protocols, and complex project management. By leveraging this skillset, the Society of Petroleum Engineers (SPE) can play a leading role in enabling the safe and efficient scale-up of hydrogen production, transport, and storage, particularly in areas like blue hydrogen derived from natural gas with carbon capture.

Within SPE, the Hydrogen Technical Section serves as a focal point for



professionals to collaborate, share knowledge, and advance the technical understanding of hydrogen systems. It connects members across disciplines to explore innovative solutions, disseminate research, and foster a community committed to supporting the hydrogen economy. This technical section enhances cross-sector dialogue and ensures that petroleum engineers are actively contributing to the energy transition.

By embracing hydrogen as a strategic focus, SPE reinforces its commitment to a sustainable energy future. It not only empowers its members to stay at the forefront of energy innovation but also positions the organization as a bridge between traditional oil and gas expertise and the evolving demands of a cleaner, more diversified energy system. As hydrogen gains momentum, SPE's leadership and engagement will be essential in shaping its global impact and implementation.

## Why We Host Events

1. Facilitate **technical knowledge exchange** on hydrogen production, storage, transport, and utilization.
2. Promote **cross-disciplinary collaboration** among SPE members.
3. Enable **networking and mentorship** within the hydrogen energy community.

## Event Formats

**Webinars & Virtual Panels:**  
Technical deep dives, expert panels, and case studies.

**Workshops:** In-person or hybrid events focusing on hands-on learning.

**Conferences & Symposia:** featuring keynote speakers, technical sessions, and poster presentations.

**Tech Talks & Student Events:**  
Focused on career development and



**SPE ATCE** 1924-2024 **100 YEARS** **SPECIAL SESSION**

**WEDNESDAY, 25 SEPTEMBER | 0830-0945**

**SUBSURFACE SYNERGIES:  
HOW EXPERIENCE IN GAS STORAGE AND  
CCUS CAN HELP US STORE HYDROGEN  
UNDERGROUND**

**>> SPEAKERS:**

Abraham Grader, Halliburton  
Milind Deo, The University of Utah  
Priya Ravi Ganesh, Battelle Memorial Institute  
Denis Klemin, SLB

**Moderators:**

Phaneendra Kondapi, Colorado School of Mines  
Dominic Pepicelli, Department for Energy and Mining

atce.org | #ATCE2024



**LIVE WEBINAR**  
**H2 AS PART OF THE ENERGY MIX -  
TECHNOLOGY ADVANCEMENTS**

**FRIDAY  
29 MARCH** | **TIME  
1000 CDT (UTC-5)**

**SPEAKER:** THIEN NGUYENDO, UTILITY GLOBAL

**MODERATOR:** ZACHARY EVANS, DARKVISION



**SPE EnergyStream**

**Live Webinar**  
**Hydrogen Blended  
Natural Gas Measurement  
Challenges**

**MONDAY, 09 DECEMBER  
0900 CST (UTC-6)**

**MODERATOR:** PHANI KONDAPI, COLORADO SCHOOL OF MINES

**SPEAKER:** MATTHEW GODUSH, SOUTHWEST RESEARCH INSTITUTE

## SPE H2TS Past Events



**Dr. Christopher J Kalli**

Professor Chris Kalli is an Adjunct Professor at The University of Western Australia and a Fellow of the Institution of Chemical Engineers. Based in Perth, he brings over 20 years of experience in chemical engineering, including a notable 15-year tenure with Chevron as a Senior Technology Advisor and Consultant Process Engineer. His career spans both industry and academia, with significant contributions to process engineering and technological innovation.

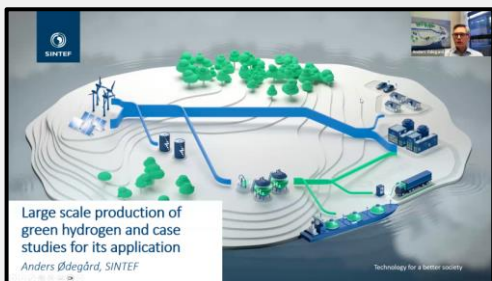
### Hydrogen: A Pathway to a Sustainable Future (Webinar)

**Dr. Christopher J Kalli**  
Date: 20th November 2024  
Time: 1-2 p.m. (Lunch will be provided)  
Location: Manufactory Building, Classroom 116  
The winner of Kahoot! will be given a surprise gift.



#### Abstract:

Hydrogen offers a promising route to reduce greenhouse gas emissions as a clean energy source. Despite challenges, engineering has a proven track record of overcoming obstacles to deliver affordable energy. This talk, in collaboration with the Qatar Flow Assurance Group, highlights the crucial role of engineers in advancing hydrogen technologies and the exciting opportunities for students and graduates to help build a sustainable, climate-friendly future.





**SPE EnergyStream**  
Society of Petroleum Engineers


● Live Webinar

**Drilling Challenges in Exploration for Subsurface Natural Geologic Hydrogen**

**MODERATOR**  
YURI MOROZ  
UGV

**SPEAKER**  
DARIUSZ STRAPC  
SLB

**MONDAY, 10 MARCH**  
1000 CST (UTC-6)



**SPE EnergyStream**  
Society of Petroleum Engineers

● Live Webinar

**Hydrogen Storage Challenges and Updates**

**MODERATOR**  
ZACHARY EVANS  
DAIRVISION

**SPEAKER**  
ROBERT SALES  
HALLIBURTON

**SPEAKER**  
HIND DEO  
ENERGY & GEOSCIENCE  
INSTITUTE, UNIVERSITY OF UTAH

**SPEAKER**  
NICK THOMAS  
UTAH DIVISION OF OIL, GAS  
AND MINING

**WEDNESDAY, 15 JANUARY**  
1100 CST (UTC-6)

Wednesday, 28 May | 0900 CDT (UTC-5)

**SPE Live:**

**Hydrogen in Action. Today's Use Cases and What We Might See by 2050**





Mohamed Ragdy

Ibrahim Hurrilata

Cullen Hall

SINCE 1946

**2025 OFFSHORE TECHNOLOGY CONFERENCE**


5-8 MAY >> NRG PARK >> HOUSTON, TEXAS, USA

OTC2025 >> 2025.OTCNET.ORG

**Impact of Hydrogen in the Energy Transition**

Wednesday, 7 May | 0800-0900  
NRG Center, Level 2, Room 204

**OTC 2025 KEYNOTE SPEAKER SERIES**





**RICH VOORBERG**  
PRESIDENT  
SIEMENS ENERGY NA

**JOSH MCMORROW**  
EXECUTIVE CHAIRMAN  
GCHW2

**CHAIR/MODERATOR:**  
PHANEENDRA KOTHAPALLI, PhD  
CONRADUS SCHOOL OF MINES/JAATECH DIGITAL  
CHAIR, SPE HYDROGEN TECHNICAL SECTION

## SPE H2TS innovative activities

**SPE H2TS Study Group**, led by Donna Lee has been formed to share industry practices and insights across a wider audience of professionals. The H2TS board has launched a high-level, invitation-only study group dedicated to critical and emerging issues in the hydrogen sector, including production, storage, policy, and geopolitics. The group meets virtually for 90-minute monthly sessions, each featuring short expert briefings and structured synthesis. The focus is on intelligence sharing and strategic foresight. Key insights are logged, and every fourth session assesses potential for collaborative papers or public outputs. Participants include professionals from government, industry, and academia with proven influence and execution capacity in energy systems.

**SPE H2 Working Group for MENA**, Led by Suhail Diaz Valderrama, this initiative marks a significant milestone in advancing low-carbon hydrogen knowledge, collaboration, and best practices in the MENA region.

The Working Group will play a pivotal role in fostering innovation, empowering young professionals, and shaping the future of hydrogen in the energy transition.

### MENA HYDROGEN TECHNICAL SECTION WORKING GROUP

Year 2025 Steering Committee Members

				
Suhail Diaz Valderrama XRG, UAE Chair Person	Magdy Aly XRG, UAE Vice Chair Person	Abhijith Subayin ADNOC L&S, UAE Young Professionals Committee		
				
Dr. Lourdes Vega Khaila University, UAE Committee Member	Dr. Talal Al Aulqi SPE Oman Committee Member	Osama Fawzy Georgy Henein Hydrogen Intelligence, Egypt Committee Member	Dr. Dimitri Kyritsis NEOM University, SAUDI Committee Member	Dr. Ardian Nengkoda Aramco, SAUDI Committee Member
				
Shahjahan Khan MOL Group, Pakistan Committee Member	Oumer Tahir Hunting, UAE Committee Member	Swati Gupta Rara Energy, UAE Committee Member	Karthik Kamatchi Perumal WOOD, UAE Social Media Committee	

## SPE Upcoming Events



### ► SPE Symposium: Hydrogen and Hydrogen-Based Fuels.

Jakarta, Indonesia. June 11-12, 2025

H2TS Liaison: Ardian Nengkoda

<https://www.spe-events.org/europeenergyconference>

### ► SPE Europe Energy Conference & Exhibition

Vienna, Austria. June 10-12, 2025

<https://www.spe-events.org/europeenergyconference>



### ► SPE Workshop: Hydrogen Exploration and Production and Carbon Capture in Western Canada, Calgary, 7-9 October 2025

**H2TS committee members: Willow Liu and Januar Wirawan**

<https://www.spe-events.org/workshop/hydrogen-exploration-production-carbon-capture-western-canada>

### ► SPE Annual Technical Conference and Exhibition (ATCE) | 20-22 October 2025 | Houston, Texas, USA.

H2TS Committee Members: Phaneendra Kondapi, Aziz Rehman and Willow Liu

## SPE H2TS Editorial Message

The SPE Hydrogen Technical Section was created in response to the growing recognition of hydrogen's critical role in the global energy transition. As the oil and gas industry continues to evolve toward low-carbon solutions, hydrogen emerges as a versatile energy carrier with the potential to decarbonize a wide range of sectors—from industrial processes to transportation and power generation.

This Technical Section brings together professionals from across the industry to share knowledge, discuss challenges, and accelerate the development and deployment of hydrogen technologies. It serves as a platform for collaboration on topics such as hydrogen production (including blue and green hydrogen), storage, transportation, infrastructure, and safety—all essential to building a viable hydrogen economy.

The SPE H2TS Newsletter enhance communication across the hydrogen community; share research, news, and member insights; highlight events and achievements as well build a connected and informed base.

We invite members to actively participate, share insights, and contribute to shaping the future of hydrogen within the energy mix. Through webinars, technical papers, and cross-disciplinary engagement, the Hydrogen Technical Section aims to bridge innovation and application, supporting SPE's broader mission of advancing energy solutions for a sustainable future.



**Sonia López Kovács**

SPE H2TS European  
Union

## Hydrogen Resources

### **IEA:**

The Future of Hydrogen – Analysis - IEA

<https://iea.blob.core.windows.net/assets/5bd46d7b-906a-4429-abda-e9c507a62341/GlobalHydrogenReview2021.pdf>

### **DoE:**

The Department of Energy Hydrogen Program Plan | Hydrogen Program

U.S. Department of Energy (DOE) Hydrogen Program and National Clean Hydrogen Strategy

- <https://www.energy.gov/eere/fuelcells/h2scale>
- <https://www.energy.gov/eere/fuelcells/hydrogen-storage>
- <https://www.energy.gov/sites/prod/files/2018/12/f58/fcto-webinarslides-hydrogen-carriers-120618.pdf>
- <https://www.energy.gov/sites/default/files/2021-12/h2iq-12082021.pdf>
- <https://www.hydrogen.energy.gov/pdfs/hydrogen-program-plan-2020.pdf>

**ExxonMobil:** ACS Executive Summary

MIT's Drake Hernandez sees a future with hydrogen solutions | ExxonMobil

**Chevron:** Explainer: harnessing the power of hydrogen — Chevron

**Babcock:** BrightLoop™ Low-Carbon Hydrogen Production » Babcock & Wilcox

## Connect with SPE H2TS

If you are a professional SPE member and you wish to engage in our Geothermal Technical Section discussion posts, please [click here](#) to join our community.

If you are not already an SPE member and wish to join our society, please [click here](#).

### Join the SPE Hydrogen Technical Section!

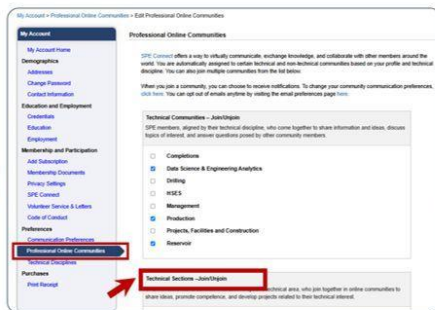
How to do it?  
Easy as 3 steps



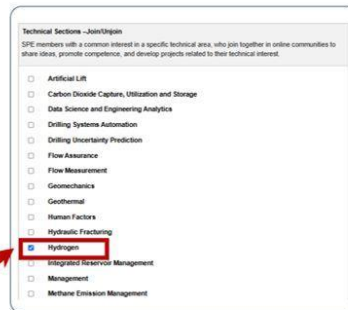
SPE webpage



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SPE account



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**Hydrogen  
Section**

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