Hydrogen
Technical Section

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Newsletter

Issue 01

Society of Petroleum Engineers

Hydrogen Technical Section

Inside this Edition

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

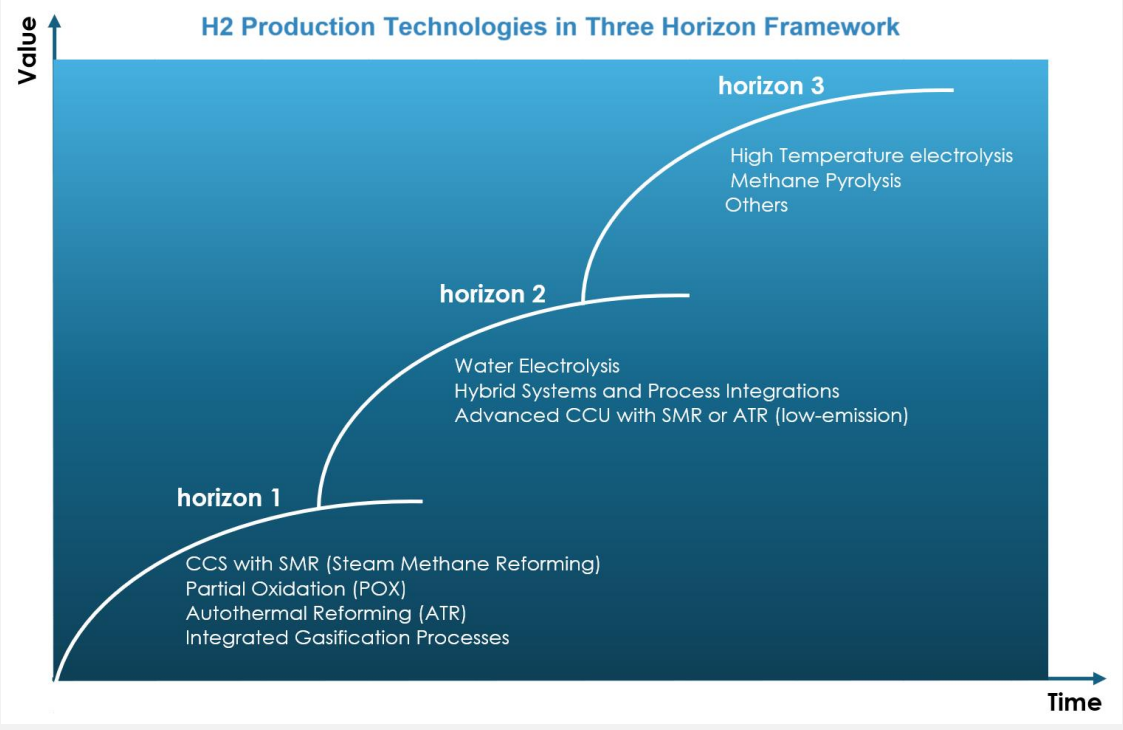
Dr. Adrian Nengkoda
SPE P&F Liaison

Jason Wipf
Industry Liaison

"Together, we'll inspire innovation, share impactful industry insights, and foster connections across the global hydrogen community"

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.

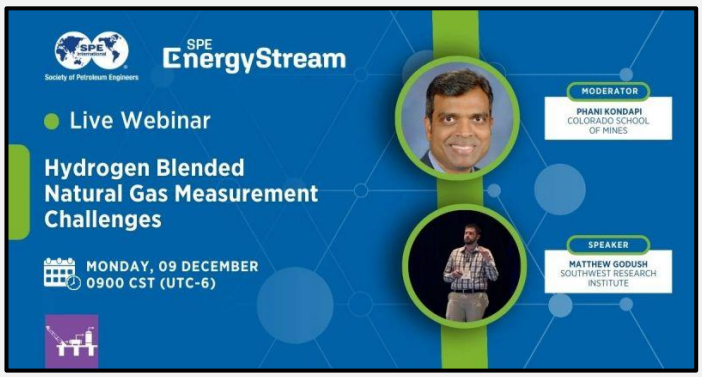
Event Formats

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

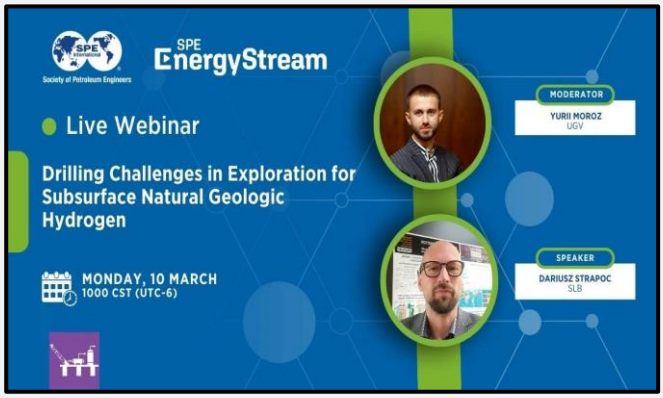
Workshops: In-person or hybrid events focusing on hands-on learning.

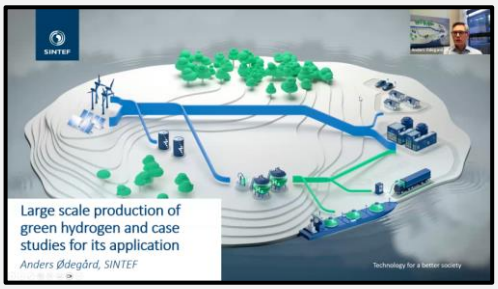
Conferences & Symposia: featuring keynote speakers, technical sessions, and poster presentations.

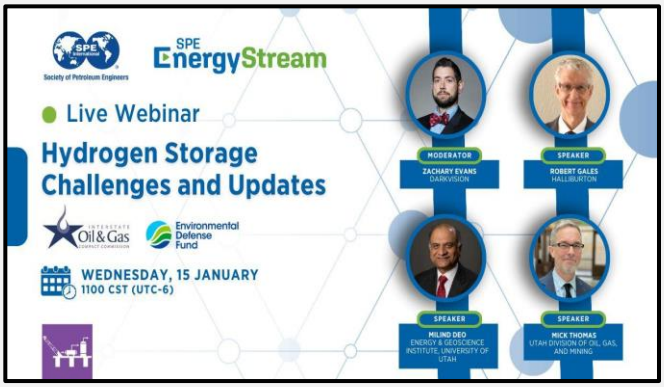
Tech Talks & Student Events: Focused on career development and emerging technologies.

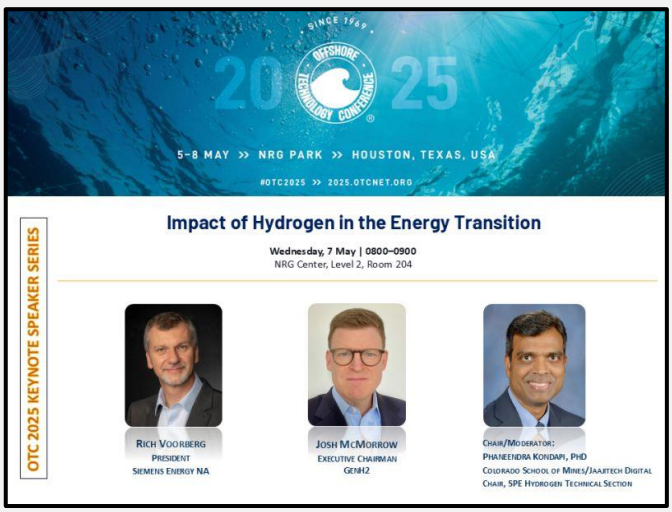


SPE H2TS Past Events









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.

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

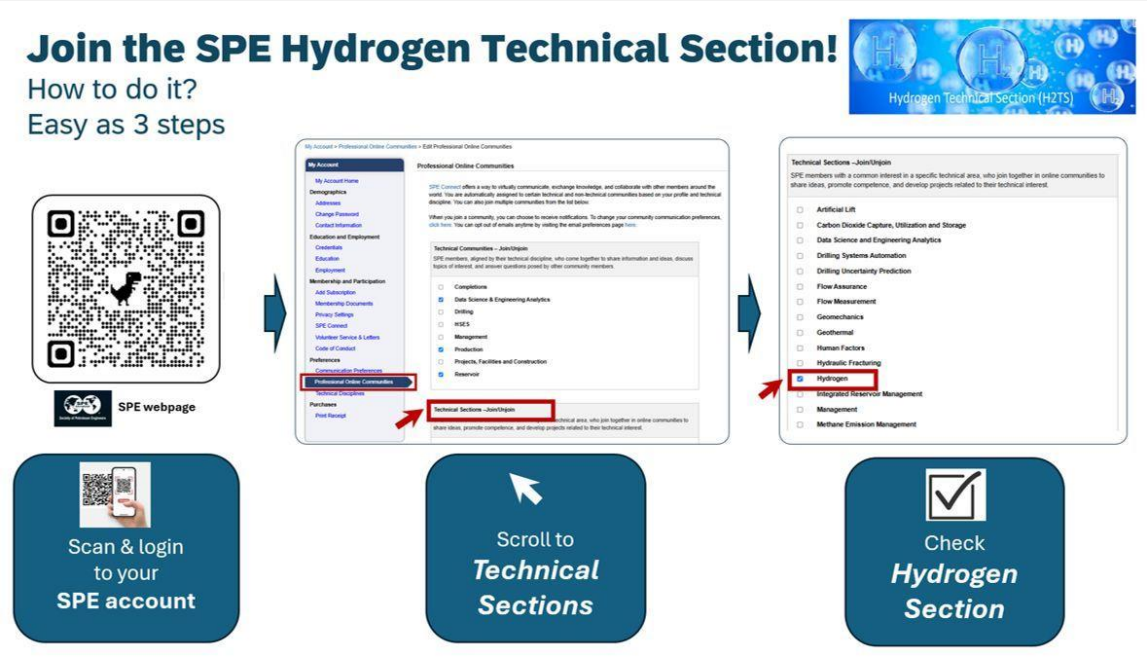
Chevron: Explainer: harnessing the power of hydrogen — Chevron

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.



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