



Contents of the Newsletter

[Letter from the Chair](#)

[May 2024 Dinner Meeting](#)

[List of Upcoming Events](#)

[Announcements](#)

[Recent Engagements](#)

[Contact](#)

LETTER FROM THE CHAIR



Dear members & friends,

Hope you are well. Please join us at the following upcoming events (details below). The May 1st event is another great opportunity to synergize between industry and academia before we break for the summer. During the summer months we are

focusing on networking before we kick back off in September.

- May 1st Energy Forum at the University of Houston
- May 1st STS Dinner Meeting at the University of Houston
- June 1st Ship Channel Tour
- June 15th YP Astros Game
- July 13th YP Houston Food Bank

We will be rolling out our Fall event schedule in the next couple months. Please keep your calendar open for the first Thursday of every month and SPTC in mid-October months.

Please continue to give us feedback by filling out the short survey below. We've decreased our event costs significantly per your request.

The STS Executive Committee is working hard this year for you. Please don't hesitate to reach out to any of the team for any comments. We are always looking for volunteers!

Best Regards,

William Shaw, M.S.

2024 STS AIChE Chair

E: sts-chair@aiiche.org

<https://www.linkedin.com/in/williamashaw/>

[STS AIChE MAY 2024 DINNER MEETING \(Link\)](#)

Wednesday, May 1, 2024, 4:00-8:30 pm CT

Event format: In-Person / Online

[Elizabeth D. Rockwell Pavilion](#)

Second floor of [M.D. Anderson Library](#).

The University of Houston

4333 University Dr, Houston, TX 77204 ([Map](#))

Parking: Fees apply

Please join the South Texas Section for our monthly dinner meeting. We will co-host (with Texas Industrial Energy Efficiency Program) the 2024 workshop [Energy Forum](#). The dinner keynote will be delivered by [James Turner](#), Executive Process Director at Fluor.

- **4:00 PM - 6:00 PM** TIEEP Spring Energy Forum (2 PDHs)
- **6:00 PM - 6:30 PM** Social/Networking Time

- **6:30 PM - 7:15 PM** Dinner
- **7:00 PM - 7:15 PM** Announcements and Awards
- **7:15 PM - 8:15 PM** Keynote Presentation (1 PDH)

Registration

TIEEP Spring Energy Forum is free to attend but registration is required to attend for planning purposes. Please register in the links below at the TIEEP sites linked.

- In Person - [CLICK HERE!](#)
- Online (via Zoom) - [CLICK HERE!](#)

STS AIChE Dinner Meeting

- In Person - [CLICK HERE!](#)
 - Non-members - \$30
 - STS Members -\$20
 - STS YP Members - \$10
 - STS Student Members - Free
- Online (via Microsoft Teams) - [CLICK HERE!](#)
 - Members - \$5
 - Non-members - \$10

We also encourage you to follow our [LinkedIn page](#) for updates and promote networking.

Keynote Presentation

Decarbonization of Industrial Fired Heaters by using Hydrogen Fuel

Speakers: [James Turner](#), Executive Process Director at Fluor (left)

[Stephen Rabb](#), Process Director at Fluor (right)



Abstract:

For industrial facilities, such as chemical plants and fuels production refineries, most of their CO₂ emissions to atmosphere are typically from process fired heaters and steam boilers. These companies will need to focus on these heaters as they look to reduce their CO₂ emissions.

There are incremental techniques such as Energy Efficiency and Electrification that can reduce emissions, but to significantly reduce emissions, there are two primary choices: capture the CO₂ in the flue gas (carbon capture), or use hydrogen as the fuel to the heaters.

This presentation focuses on the details of using hydrogen as a fuel, both in existing fired heaters and in new facilities. Basic parameters for hydrogen and methane combustion are discussed, as a framework to explain the potential impacts from converting to hydrogen fuel. Potential mitigation steps for these impacts are then presented.

About the Speaker:

James Turner -

James has more than 25 years of experience in process design for a wide range of projects in the refining and gas processing industry, in domestic and international locations, and managed the Process Technology & Engineering Department for the Fluor Houston Office for several years. He has published many technical articles about process design and project execution, and has a patent for a combined hydrotreater process design. In 2006, he was a Panelist at the NPRA Q&A and Technology Forum.

Active in several professional organizations, he is a past Chair of the South Texas Section of the American Institute of Chemical Engineers (AIChE). He is also on the AIChE Foundation Board of Trustees, and has held several offices with AIChE in the past, including member of the Executive Board Programming Committee, and several positions with the Fuels and Petrochemicals Division, including Chair of the Division. In 2012 he received the Fuels and Petrochemicals Service Award for distinguished service to the division and industry. He is a graduate of Texas A&M University with a bachelor's degree in Chemical Engineering, and is an active member of the Chemical Engineering Industry Advisory Board. In 2011 he was inducted into the Texas A&M Chemical Engineering Academy of Distinguished Alumni.

Stephen Rabb -

Stephen Rabb is a Process Director in Fluor's Houston Office. He has 18 years of experience in process design at FLUOR including refining, petrochemical, semiconductor, pharmaceutical, petrochemical, and is currently on energy transition and carbon abatement projects on multiple north American capital projects. He has served as Process Lead and as Engineering manager on construction projects for petrochemical facilities.

He is active in the American Institute of Chemical Engineers (AIChE) and has previously published in Chemical Engineering Progress. He is a registered Professional Engineer in Texas. He is a graduate of Texas A&M University with a bachelor's degree in Chemical Engineering. He supports the Chemical Engineering Senior Design Class and has done several presentations for the student chapter of AIChE.

Event Sponsor: Hunt Guillot & Associates



TIEEP ENERGY FORUM: PRE-DINNER WORKSHOP

2024 TIEEP Spring Energy Forum (2 PDH certificates available)

Theme: *Energy and Decarbonization: The Big Picture*

Speakers and Topics:

1) **Charles McConnell**, Energy Center Officer, Center for Carbon Management in Energy (CCME), University of Houston

Topic: CCUS: Headwinds and Tailwinds. What Will It Take?

Abstract: There is much activity in the marketplace for CCUS. Why? What will it take? What are the headwinds and tailwinds? And behind it all are the requirements for infrastructure that will enable growth. How much? How soon?

2) **Carlo Badiola**, President of Technology and Engineering for Encina Development Group

Topic: Innovative Solutions for Circular Economy: Navigating Decarbonization and Sustainability Challenges

Abstract: The road to achieving global sustainability and circularity is long. While many solutions are on the table, this presentation makes the argument for solutions that prioritize circularity and decarbonization while also being the right fit for the market and related conditions taking place.

Mr. Badiola will explore the various pathways and solutions used today and explain the operation, similarities and differences among processes like mechanical recycling, monomer recycling, and Encina's advanced recycling process.

Attendees will come away with a view of what the future could look like where supply chains are reimaged, high-value products are created, and our society has significantly reduced its reliance on new fossil fuel resources.

3) **Brian Weeks**, Senior Director, R&D Development for GTI Energy

Topic: Hydrogen Hubs... What's Next?

Abstract: This presentation will be an overview of the US DOE's hydrogen hub program, with an emphasis on the gulf coast regional "HyVelocity Hub." The presenter will discuss the commercial and regulatory issues that has led to the interest in hydrogen deployment. The presenter will also discuss overall regional goals for decarbonization and how hydrogen can provide some clean energy solutions.



Charles McConnell (left), **Carlo Badiola** (center), and **Brian Weeks** (right): Speakers for the TIEEP Spring Energy Forum

Charles McConnell : As Energy Center Officer for CCME, Charles McConnell currently leads UH's university/industry collaboration in CCUS. He has a background as a global business & operations executive, with accountability for growth of multimillion-dollar existing business and new business units. He also served as the assistant secretary of energy in the US Department of Energy from 2011-13, where he was responsible for the Office of Fossil Energy's strategic policy leadership, budgets, project management, and research and development of the department's coal, oil and gas, and advanced technologies programs, as well as for the operations and management of the U.S. Strategic Petroleum Reserve and the National Energy Technologies Laboratories. McConnell holds a bachelor's degree in chemical engineering from Carnegie-Mellon University (1977) and an MBA in finance from Cleveland State University (1984).

Mr. Badiola is the President of Technology and Engineering for Encina Development Group. He leads the technology development and commercialization of Encina's advanced recycling processes. He previously served as a technical expert for ExxonMobil Chemicals, focusing on pyrolysis steam cracking, field operations, and product optimization. His experience includes detailed reactor design, operations and maintenance, technology implementation, and continuous asset value improvement. His achievements include the successful designs of commissioned pyrolysis assets and economic improvements in asset optimization, yields, safety, and reliability in various facilities within the US worldwide. He led novel technology initiatives to commercialize concepts into ExxonMobil's pyrolysis steam cracking fleet. He holds B.S. degrees in Mechanical and Chemical Engineering and an M.S. in Chemical Engineering from the New Jersey Institute of Technology.

Brian Weeks: GTI is an independent, not-for-profit research and development institute that has been bringing innovative technology to the energy industry for 80 years. In his current role, Mr. Weeks leads large-scale technology demonstration and validation programs for public-private partnerships, primarily with the U.S. DOE and GTI Energy's many industry clients. These programs address advanced fuel infrastructure systems for hydrogen, natural gas, and hybrid electric vehicles. A recent key role was his leadership in organizing the Gulf Coast clean regional hydrogen hub (HyVelocity) where he continues to lead stakeholder outreach initiatives. Mr. Weeks also serves on the Board of the Clean Hydrogen Futures Coalition and was appointed to the Texas Railroad Commission's hydrogen advisory council. He is a sought-after advisor on technical, market, and regulatory issues surrounding the introduction of emerging energy technologies – especially those involving hydrogen, in which he has over 20 years of experience. Mr. Weeks is a graduate of Vanderbilt University where he received his

undergraduate engineering degree. He also has an MBA and is a registered Professional Engineer in the State of Texas.

Event Sponsor: Hunt Guillot & Associates



For additional information and updates, please use [this link](#).

LIST OF UPCOMING EVENTS:

| Date | Event Name | Speaker/Guests | Venue |
|---------|------------------------------------|--|--|
| May 1 | STS Meeting and TIEEP Energy Forum | James Turner , Stephen Rabb , Charles McConnell, Carlo Badiola, Brian Weeks | University of Houston |
| May 8 | STS Partner Discussion Luncheon | Andreas Matzakos | Christie's Restaurant, 6029 Westheimer Rd. |
| May 9 | Energy Professionals Hiring Event | -- | NRG Park |
| June 1 | Sam Houston Ship Channel Tour | -- | Sam Hou. Landing, 7300 Clinton Dr. |
| June 15 | Social - Astros Game | -- | Astros Stadium |
| July 13 | Volunteer: Houston Food Bank | -- | Houston Food Bank, 535 Portwall St. |

ANNOUNCEMENTS:

STS - AIChE 2025 Elections: Call for Nominations

STS-AIChE is seeking candidates for the following positions:

- Chair Elect
- Treasurer
- Position-1 Chair: Education
- Position-3 Chair: Communications

If you are interested in learning more about these leadership positions, please reach out to STS past-Chair Andreas Matzakos (sts-pastchair@aiiche.org). Also please feel free to suggest these positions to your friends/colleagues who are interested in engaging and contributing to the local chemical engineering community.

STS - AIChE Awards: Call for Nominations ([Link](#))



Nominations are being accepted through May 1st, 2024 for the following STS-AIChE Annual Awards:

- 2023 STS Best Applied Paper Award
- 2023 STS Best Fundamental Paper Award
- 2023 STS Best In-Practice Paper Award
- 2023 STS Outstanding Young Professional Award (Under 35)
- 2023 STS Distinguished Service Award
- 2023 STS Special Service Award(s)

Nomination Forms are available in the South Texan or on the STS–AIChE website. Nominations can also be made by contacting:

- Tom Menn 281-485-3719 ThomasMenn@SBCGlobal.net
 - Harsh Agarwal, Harsh.H.Agarwal@Shell.com
 - Matt Christiansen, Matthew.Christiansen@shell.com
-

2024 Offshore Technology Conference (OTC): Volunteers Needed ([Link](#))

- To be held between May 6-9, 2024 at NRG Park, Houston, Texas.
 - Receive Free Pass, Parking, and all the free goodies/junk you can carry away! (* entire OTC). Note: [You may attend Technical Sessions.](#)
 - Attend Orientation Mandatory Meeting & serve 4 hours in either Arrangements or Registration.
 - Contact Tom Menn, thomasmenn@sbcglobal.net
-

Spring 2024 Energy Professionals Hiring Event at Offshore Technology Conference (OTC)

- The Society of Petroleum Engineers – Gulf Coast Section (SPE-GCS) is organizing the **14th** semi-annual Energy Professionals Hiring Event for professionals of energy and upstream oil & gas disciplines. Event brings together experienced and talented professionals with energy industry employers and recruiters from various sectors, thereby serving as the platform for open and vast-ranging employment opportunities.
 - To be held face-to-face on **May 9, 2024**, at the Offshore Technology Conference (OTC) at NRG Park, Houston, Texas.
 - AIChE STS members can participate as job seekers. The employers/recruiters that have registered to date include: Oxy Petroleum, Core Group Resources, Proceanic Ltd., Real Time Data Science, and Subsurface Consultants & Associates.
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STS AIChE 2024 Sam Houston Ship Channel Tour ([Link](#))

- STS AIChE is privileged to be granted a Ship Channel Tour this year due to new restricted access to the event.
 - Tour to be held on Saturday, June 1, 2024 between 2:00 pm-3:30 pm CDT at Sam Houston Landing, 7300 Clinton Drive, Houston, Texas 77020, Gate #8.
 - Tour will accommodate up to a maximum of 65 passengers and no less than 40 passengers. Boat is air conditioned, but we can go outside. Drinks and snacks will be provided.
 - Last day to sign up for the tour is **May 23rd COB**. Please register [here](#). Up to 2 guests per registered attendee are welcome to join.
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Astros Home Game vs. Detroit Tigers: Tickets Available

- To be held on Saturday, June 15th, 2024 at 3:10 pm CDT.
 - Join STS-AIChE colleagues for a fun day. Tickets are available by registering [here](#). Cost is \$20 for AIChE STS members and \$30 for non-members.
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Volunteer with Houston Food Bank ([Link](#))

- To be held on Saturday, July 13th, 2024 from 8:10 am -12:00 pm CDT at Houston Food Bank, 535 Portwall St., Houston, TX. 77029.
 - Volunteer support is critical to Houston Food Banks's mission of **food for better lives!** Most of the support at the warehouse involve inspecting, sorting, and repackaging of donated food items for community distribution.
 - Registrants will need to make a volunteer profile and register to get a QR code at the link [here](#). Please use the Group Name as AIChE STS, Organizer as Dan Kenyon, and Organizer Phone as 717-557-8087 during registration. For questions, reach out to Dan directly.
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STS Book Donation Drive

- STS would like to join the [AIChE Fellows](#) “Save the Books” campaign and donate books from STS members to a small village in Nigeria.
 - The non-profit [TENEF](#) will ship the books from Houston to Nigeria late this summer. Any book donation is welcome, not only scientific books.
 - If you are located in or near Houston, please email sts-pastchair@aiiche.org so that we can arrange to get your books. If you are planning to come to the May 1st Energy Forum and dinner meeting, please bring them and give them to Andreas Matzakos.
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STS Partnership Drive

- STS is interested to partner with employers and companies in our geographic area to improve the benefits to its members and to reach win-win outcomes.
 - Besides the monetary contribution to our programs (like event subsidies and student scholarships), we are seeking educational, networking, and career benefits for the employees of these companies and also to STS members. *The ultimate objective is to improve the STS Value Proposition.*
 - If you lead a company interested in partnering with STS please contact Andreas Matzakos at sts-pastchair@aiiche.org . You are also welcome to join a "partner discussion" luncheon on **Wednesday May 8th** at [Christie's Restaurant](#) on 6029 Westheimer Rd. at 11 AM to 1 PM. Please [RSVP](#) to Andreas Matzakos.
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STS AIChE Mentorship Program Initiative

- STS AIChE has worked diligently to launch its own mentorship program.
 - A team of STS AIChE officers and committee chairs made their best efforts to match mentors and mentees based upon the received data and inform mentors and mentees accordingly.
 - The mentorship program was kicked off in December 2023. For questions about the program, please contact Mona Setoodeh, at mona.setoodeh@gmail.com
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STS AIChE Engagement Survey

- Request to fill out the following Short Engagement Survey so that we can get a pulse on what you like/dislike in the past and work on improving in 2024.
 - Please see this [link](#) for survey.
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Recordings of AIChE STS Dinner Meetings

- All recordings of AIChE STS 2024 Dinner Meetings are now available on our YouTube Channel. Do check them out [here](#).

LinkedIn Page for STS AIChE



Follow our [LinkedIn page](#) for updates. Don't forget to tag the page (type "@South Texas" and select South Texas Section of AIChE) in your personal posts related to STS AIChE.

Add STS to your AIChE National membership.



Add on option: <https://ecommerce.iche.org/aiche-online/Membership/Home/MemberAddonsStandAlone>

STS-AIChE Join Us link: <https://ecommerce.iche.org/aiche-online/Membership/Home/MemberAddonsStandAlone>

Membership is free for students.

RECENT ENGAGEMENTS:

AIChE SW Regional Student Conference

- Held between April 12-13, 2024 at McNeese State University Campus, Lake Charles, LA.
- Andreas Matzakos and Sarah Olmedo from AIChE STS attended the conference.
- AIChE STS team was involved in one workshop presentation, student/faculty interaction, and STS promotion.



Some snippets of AICHE STS Members at AICHE SW Regional Student Conference.

Global Solutions and Outreach Programs (GSOP) March Progress Meeting and August Open Letter

- On March 16, our 2019 STS Chair Tom Rehm hosted a [GSOP Progress Meeting](#), attended by 90 people from around the world.
- Tom presented his review of four global projects which have the objective to resolve global warming. Tom's presentation focused on how those projects will fail without the international integrated-systems analyses of GSOP.
- [Open Letter](#) to Antonio Guterres, Secretary General of the United Nations, and John Podesta, United States Climate Diplomat was also presented in the meeting.
- Signatories on the open letter will be accepted through to the end of July when the letter will be sent. As of April 15, 36 had signed the letter. [Your signature](#) is welcome (and encouraged).

CONTACT:

Contact STS-AICHE Newsletter Editor, [Dr. Harsh Agarwal](#) at aiche.sts.newsletter@gmail.com with feedback, questions, and ideas for the next newsletter.

Reach out to the communication officer at sts-position3@aiiche.org if you have any questions

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