

UNIVERSITY OF UTAH & UNIVERSITY OF HOUSTON JOINT TECHNICAL CONFERENCE

on Energy Geosciences and the Energy Transition

Oct. 24 - 25, 2024
University of Houston



Welcome

Welcome Message from Dr. Milind Deo and Dr. Ramanan Krishnamoorti

As energy research and deployment continues to shape the future of global sustainability, we are excited to bring together two leading programs—UH Energy and the Energy & Geoscience Institute (EGI) at the University of Utah—now both part of the same sports conference following the reshaping of the Big-12, to engage with the industry partners in the energy capital of the World.

The Energy & Geoscience Institute (EGI) at the University of Utah has been at the forefront of energy science, driving innovation and research in collaboration with academic, industry, and government partners. Over the past five decades, EGI has been advancing global energy exploration and production, carbon management and geothermal energy. Notably, EGI manages the U.S. Department of Energy's premier enhanced geothermal research project, the Frontier Observatory for Research in Geothermal Energy (FORGE), pushing the boundaries of geothermal technology.

UH Energy is an umbrella for efforts across the University of Houston to position the university as a strategic partner to the energy industry by producing trained workforce, strategic and technical leadership, research and development for needed innovations and new technologies. The recently created UH Energy Transition Institute, along with the Center for Carbon Management in Energy and the Subsea Systems Institute are pioneering engaged fundamental and applied research to drive an all of the above solution set that address the energy trilemma of delivering affordable, reliable and sustainable energy for all. We invite you to join us for a day-long program featuring discussions on modern energy technologies, from oil and gas exploration to natural hydrogen, energy efficiency and grid resilience, carbon dioxide capture and sequestration, and geothermal energy. Please register and take part in this exciting inaugural event.



Dr. Milind Deo,
University of Utah



Dr. Ramanan Krishnamoorti,
University of Houston





Event Agenda

October 24, 2024



Start	End	Topic/ Presentation	Speaker(s)
7:30 AM	8:30 AM	Continental Breakfast and Networking	Continental Breakfast
8:30 AM	8:50 AM	Welcome and Introductions	Dr. Ramanan Krishnamoorti Dr. Milind Deo University of Houston and University of Utah
Morning Technical Sessions - Oil, Gas, & CCUS			
8:50 AM	9:10 AM	CO2 EOR and Energy Transition	Dr. Ganesh Thakur University of Houston
9:10 AM	9:30 AM	Hydrocarbons and Basins R&D: Overseas and Domestic	Dr. Rasoul Sorkhabi University of Utah
9:30 AM	9:50 AM	Staying Current to Keep One Step Ahead in Natural Hydrogen Research	Dr. Eiichi Setoyama & Dr. Bryony Richards University of Utah
9:50 AM	10:00 AM	Break	
10:00 AM	10:20 AM	Quest for fracture permeability using seismic data	Dr. Yingcai Zheng University of Houston
10:20 AM	10:40 AM	CCUS, 45Q, MRV Plans	Dr. Brian McPherson University of Utah
10:40 AM	11:00 AM	The Methane Intermodal Energy Superhighway	Dr. Christine Economides University of Houston
11:00 AM	11:20 AM	CO2 Storage in Gas Fields and Blue Hydrogen Generation	Dr. Dimitrios Hatzignatiou University of Houston
11:20 AM	12:00 PM	AI, Geosciences and the Energy Transition	Dr. Sriram Srinivasan Halliburton
12:00 PM	1:00 PM	Lunch Keynote - Energy Poverty and the Energy Transition	Dr. Scott Tinker Bureau of Economic Geology at UT Austin; Tinker Energy Associates
1:00 PM	1:20 PM	Energy Transition in an Offshore Setting	Dr. Ram Seetharam University of Houston
Afternoon Technical Sessions - Renewables & Decarbonization			
1:00 PM	1:20 PM	Energy Transition in an Offshore Setting	Dr. Ram Seetharam University of Houston
1:20 PM	1:40 PM	The Hydrogen Economy: Implications for Geosciences	Dr. Joseph Powell University of Houston
1:40 PM	2:00 PM	Decarbonization: Working Smarter, Not Harder	Dr. Kody Powell University of Utah
2:00 PM	2:20 PM	Artificial Intelligence for Enhancing Power Grid Resilience Against Extreme Weather Events	Dr. Masood Parvania University of Utah
2:20 PM	2:40 PM	Direct Lithium Extraction Through Successful Commercialization	Dr. Devin Shaffer University of Houston
2:40 PM	2:50 PM	Break	
Geothermal Focus			
2:50 PM	4:20 PM	Geothermal Panel and Q&A: Current and Future Breakthroughs in Enhanced Geothermal Systems	Tim Latimer (CEO of Fervo Energy), Dr. Joe Moore, Dr. John McLennan, Dr. Birol Dindoruk (University of Houston), Cindy Taff (CEO of Sage Geosystems)
4:20 PM	4:30 PM	Break	
4:30 PM	6:00 PM	Reception & Networking	
6:00 PM	8:30 PM	VIP Dinner at the Hilton	



Conference speakers and guests



Lance Cook

Lance Cook spent 36 years at Shell Oil with final positions of Vice President of Wells Technology and Chief Scientist. Lance Cook's focus is on identifying, developing and implementing technologies that can not only have a widespread impact on Shell's global operations, but that are affordable and can be replicated in the field, too.



Dr. Milind Deo

Milind Deo is the Peter D. and Catherine R. Meldrum Endowed Professor of the Chemical Engineering Department at the University of Utah in Salt Lake City. He is the former Chair of the University of Utah's Department of Chemical Engineering and current Director of the Energy and Geoscience Institute (EGI). A renowned expert in a variety of energy-related research areas, including reservoir engineering, fractures and enhanced fluid recovery and hydrogen, Dr. Deo leads EGI's impactful energy transition research programs.



Dr. Birol Dindoruk

American Association of Drilling Engineers Endowed Professor of Petroleum Engineering & Chemical and Biomolecular Engineering at the University of Houston. Dr. Dindoruk is well-known for his extensive work on thermodynamics of phase behavior/EOS development and experimental work.



Dr. Christine Ehlig-Economides

Is Professor of Petroleum Engineering and Hugh Roy and Lillie Cranz Cullen Distinguished University Chair at the University of Houston. Prior to UH, she taught at Texas A&M University for 10 years and worked 20 years for Schlumberger. Ehlig-Economides is a member of the U.S. National Academy of Engineering and is an honorary member of the Society of Petroleum Engineers.



Dr. Dimitrios Hatzignatiou

Dr. Dimitrios is Interim Department Chair and Professor at the University of Houston. He holds a Ph.D. in petroleum engineering from the University of Tulsa, and has taught at four universities, worked in various technical and management positions with a major service company, and consulted with the oil & gas and energy industries.



Dr. Detlef Hohl

Dr. Hohl is Chief Scientist of Computation and Data Science at Shell. He oversees Shell's entire computational and computer science portfolio, including elements of AI, physical systems simulation at all spatial and temporal scales, chemicals and chemical engineering modeling, future energy systems optimization, atmospheric and Earth science modeling.



Conference speakers and guests



Dr. Ramanan Krishnamoorti

Ramanan Krishnamoorti is the Vice President for Energy and Innovation at the University of Houston. He leads the Division of Energy and Innovation, which drives UH's efforts to establish education, research and outreach partnerships to address global energy and innovation challenges while positioning the university as a leading strategic partner to industry within the Energy Capital of the World.



Dr. John McLennan

A USTAR Professor in the Dept. of Chemical Engineering at the Univ. of Utah, Dr. McLennan has extensive experience with petroleum service and technology companies. An expert in such diverse energy research as coalbed methane recovery, mechanical properties determinations, produced water and drill cuttings reinjection, he has worked on hundreds of subsurface energy recovery and storage projects. As co-principal investigator of the DOE FORGE geothermal project, he has been a leader in enhanced geothermal science and engineering, including developing innovative directional drilling and stimulation techniques for the FORGE project.



Dr. Brian McPherson

Dr. McPherson is a USTAR Professor of Civil and Environmental Engineering at the University of Utah, in addition to directing the Carbon Science and Engineering Research group at EGI. He has conducted carbon management and engineering research, especially geological carbon sequestration.



Dr. Joseph Moore

Dr. Moore is Managing PI The Utah FORGE project which is an international field laboratory that is managed by EGI at the University of Utah and sponsored by the Department of Energy. Dr. Moore has participated in DOE projects since the mid-1970s. He has published more than 150 reports and articles on his investigations.



Dr. Masood Parvania

Is the Roger P. Webb Endowed Professor and an Associate Professor at the Dept. of Electrical and Computer Engineering at the Univ. of Utah. Research interests include the operation, economics and resilience of power and energy systems, modeling and integration of distributed energy resources, and modeling and operation of interdependent critical infrastructures.



Dr. Joseph Powell

Joe Powell is the Aspire Shell Endowed Executive Director of the Univ. of Houston Energy Transition Institute. A nationally renowned chemical engineering expert, he previously served as Shell's first Chief Scientist — Chemical Engineering, culminating a 36-year industry career where he led R&D programs in numerous processes, biofuels and more while advising on global strategy for the energy transition.



Conference speakers and guests



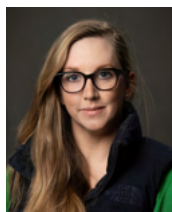
Dr. Kody Powell

Dr. Powell is Associate Professor of Chemical Engineering at the Univ. of Utah. Research focuses on dynamic simulation, optimization, and control of complex, integrated systems with a special emphasis on energy systems and how energy storage and hybridization can be used to enhance the efficiency of these systems.



Tim Latimer

Tim Latimer is the CEO of Fervo Energy, which focuses on carbon free energy through development of next-generation geothermal power. Tim began his career as a Drilling Engineer with BHP Billiton and has also worked as a Consultant for the Boston Consulting Group, Biota Technology and McClure Geomechanics. He holds a degree in Mechanical Engineering from The University of Tulsa.



Dr. Bryony Richards

Dr. Richards is a Research Scientist at EGI. She is recognized for her expertise in critical mineral exploration and the innovative re-mining of mine waste using remote sensing technologies including hyperspectral imaging. Her work enhances mineral detection and supports environmental sustainability.



Dr. Ram Seetharam

Ram Seetharam is executive director of the Repurposing Offshore Infrastructure for Clean Energy (ROICE) Project at UH Energy. With nearly 40 years of experience in the Upstream industry, Seetharam leads research efforts to prolong the use of existing oil and gas assets for sustainable energy sources.



Dr. Eiichi Setoyama

Dr. Setoyama is a Research Scientist at EGI. His expertise is in benthic foraminifera, a microfossil group that is critical in the industry and academia for paleoenvironmental reconstructions to underpin the understanding of the distribution of source and reservoir sediments and margin paleogeography.



Dr. Devin Shaffer

Dr. Shaffer is an Assistant Professor in Civil and Environmental Engineering at the Univ. of Houston and studies materials and processes for water purification and resource recovery. The goal of his research is to promote resilient communities and ecosystems through treatment processes that both create and recover valuable resources.



Conference speakers and guests



Dr. Rasoul Sorkhabi

Dr. Sorkhabi is a Research Professor in Civil & Environmental Engineering at the University of Utah. Dr. Sorkhabi has extensive industry experience, including working for the Japan National Oil Corporation. As an accomplished geoscientist, researcher, teacher author and editor, Dr. Sorkhabi's broad energy expertise extends to basin evolution and analysis, integrative tectonostratigraphic records, and geologic structures and fluid flow.



Dr. Sriram Srinivasan

Dr. Sriram Srinivasan is Senior Vice President, Global Technology at Halliburton. There, Dr. Srinivasan oversees Halliburton's technology investment and intellectual asset management, the development of new products and services, and the strategy and structure of the Company's global Technology organization.



Cindy Taff

Taff has over 35 years in the oil and gas industry, most recently serving as vice president of unconventional wells and logistics over Shell's global operations. She led a team of over 350 Shell staff and 1,200 contractors across five countries. Cindy is the CEO of Sage Geosystems.



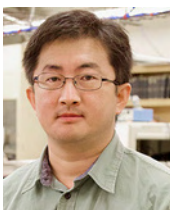
Dr. Ganesh Thakur

Dr. Thakur is Distinguished Professor of Petroleum Engineering and Director of University of Houston's Energy Industrial Partnerships. He is a world-recognized leader in reservoir engineering and management, leading authority in the fundamentals and applications of integrated waterflood management as applied to secondary recovery of oil, EOR of conventional and unconventional reservoirs



Dr. Scott W. Tinker

Dr. Tinker is a global energy explorer working to bring industry, government, academia, and nongovernmental organizations together to address major societal challenges in energy, the environment, and the economy. He is Director Emeritus of the Bureau of Economic Geology at UT Austin, CEO of Tinker Energy Associates and Chairman of the nonprofit Switch Energy Alliance.



Dr. Yingcai Zheng

Dr. Zheng is the Robert and Margaret Sheriff Professor in Applied Geophysics at the University of Houston. One of the most reputable academics in the field of applied geophysics, Zheng's research focuses on geothermal energy exploration, global seismology and how seismic waves can trigger earthquakes.