



Gulf Coast Section

**RESERVOIR STUDY GROUP
PRESENTS**

Reservoir Technology Symposium 2021

Virtual Event

**OCTOBER 14, 2021
8:00 AM - 5:00 PM CST**



2021 RESERVOIR TECHNOLOGY SYMPOSIUM

The Reservoir Study Group (RSG) Technology Symposium has been held annually for more than 10 years, attracting significant numbers of petroleum professionals with recent attendance exceeding 120. The event has served as an effective forum for the discussion of topics relevant to the challenges faced by our industry covering Deepwater, Unconventionals, Technology and Innovation, and EOR among other topics.

The theme of the event this year is Reservoir Engineering Technologies for Current and Next Frontiers. With the global push for Energy Transition, Digitalization, and the rise of ESG Investing, the energy industry faces numerous challenges to survive. These challenges are influencing the state of the industry and the very nature of Reservoir Engineering. As we embrace the change and diversification into new energies, technological advancements remain crucial to the understanding of the subsurface. Join us to learn of next-level technologies and tools turning these “challenges” into enormous opportunities for Subsurface professionals.



AGENDA



Welcome

Raul Esquivel , 2021-2022 Chair, Reservoir Study Group, SPE GCS
8:00 AM



KEYNOTE SPEAKER

Nathan Meehan, President , Cmg Petroleum Consulting
2016 SPE President
8:05 AM - 8:35 AM

S e s s i o n 1

Game-Changing Subsurface Engineering Technologies



Learning from HFTS-2 (Hydraulic Fracturing Test Site -2): How to integrate complex datasets
Sriram Pudugramam, Occidental
8:40 AM - 9:15 AM



First Successful Controlled Dumpflood in Deepwater GOM
Bilal Hakim, Talos Energy
9:20 AM - 9:55 AM



Performance Evaluation of a Deepshore Offshore Producer Using Real-Time Surveillance Diagnostics and Detailed Coupled Numeric Models
Ashwin, Resermine
10:00 AM - 10:25 AM

B r e a k (2 h o u r)

AGENDA

Keynote Panel

The Future of Petroleum Engineering & the Energy Transition



Cameron Rempel
VP, Subsurface
Engineering
Occidental



Christine Economides
Professor, UH



Moji Karimi
Cofounder, CEO
Cemvita Factory Inc.



Liz Sturman,
VP Subsurface Excellence
Shell

Moderator

Jody Mahoney
Subsurface Manager BHP

Session - 2



Journey of Oxy Low Carbon Ventures

Chia-Fu Hsu, Occidental
1:40 PM - 2:15 PM



CO₂ Enhanced Oil Recovery Experience and its Messages for CO₂ Storage

Larry Lake, UT Austin
2:20 PM - 2:55 PM



Subsurface Modelling of Geothermal Systems

Bud Johnston, NREL
3:00 PM - 3:35 PM



CCS in Shell, Moving fast but respecting the complexities of storing CO₂, underground for future generation

Roy Marden, Shell
3:40 PM

Happy Hour

Venue - Kirby Ice House, 3333 Eastside St, Houston, TX 77098
Time - 5 PM

KEYNOTE SPEAKER



Nathan Meehan
President , Cmg Petroleum Consulting
2016 SPE President

Dr. Nathan Meehan has 40 years of global experience in reservoir engineering, reserve estimation, hydraulic fracturing and horizontal well expertise. He serves as President at CMG Petroleum Consulting Ltd. Previously he was Senior Executive Advisor to Baker Hughes, Vice President of Engineering for Occidental Oil & Gas and General Manager E&P Services for Union Pacific Resources. Meehan is 2016 President of the Society of Petroleum (SPE) Engineers.

Dr. Meehan earned his BSc in Physics from the Georgia Institute of Technology, his MSc in Petroleum Engineering from the University of Oklahoma, and his PhD in Petroleum Engineering from Stanford University. Dr. Meehan previously served as Chairman of the Board of the CMG Reservoir Simulation Foundation and as a Director of the Computer Modelling Group, Ltd., Vanyoganefit Oil Company, Pinnacle Technologies, Inc., the Society of Petroleum Engineers and JOA Oil & Gas BV. He is an SPE Distinguished Member of and the recipient of SPE's Lester C. Uren Award for Distinguished Achievement in Petroleum Engineering, the DeGolyer Distinguished Service Medal and the SPE Public Service Award. He serves on the Board of the Georgia Institute of Technology's Strategic Energy Institute and the petroleum engineering advisory boards of the University of Texas, Penn State University and the University of Houston. He is an appointed member of the Interstate Oil & Gas Compact Commission and widely published author. Dr. Meehan is a licensed professional engineer in four states.

PANEL

The Future of Petroleum Engineering & the Energy Transition



CAMERON REMPEL
VP, SUBSURFACE ENGINEERING,
OCCIDENTAL



CHRISTINE ECONOMIDES
PROFESSOR, UH



MOJI KARIMI
COFOUNDER, CEO
CEMVITA FACTORY INC.



LIZ STURMAN,
VP SUBSURFACE
EXCELLENCE , SHELL



MODERATOR
JODY MAHONEY,
SUBSURFACE MANAGER, BHP

PANEL SPEAKERS

Cameron Rempel **VP, Subsurface Engineering,** **Occidental**



Cameron Rempel is VP of Subsurface Engineering at Occidental, where he leads teams of experts that drive innovation and provide simulation and optimization support for Oxy's assets around the world. After graduating from Colorado School of Mines with a BS in Petroleum Engineering, he began his career at Anadarko (now Oxy), where he was the engineering manager on one of the company's first shale operations in the Maverick Basin. In his 25 years at the company, he has worked in nearly every aspect of upstream operations, from conventional to unconventional, exploration to production to EOR, automation and safety to budgeting. He has managed projects in North Africa, Europe, the US, and South America and has become a champion for the training and development of engineers.

Christine Economides **Professor, UH**



Dr. Christine Ehlig-Economides is Professor and Hugh Roy and Lillie Cranz Cullen Distinguished University Chair at the University of Houston. Prior to her current position, Ehlig-Economides taught at Texas A&M University for ten years and worked twenty years for Schlumberger. While at A&M, she managed research in production and reservoir engineering in conventional and shale reservoirs and helped the petroleum engineering department to grow and evolve to a broader energy scope. Ehlig-Economides was elected to the U.S. National Academy of Engineering in 2003 and was a member of the National Academy of Science Committee on America's Energy Future and the NRC Board on Energy and Environmental Systems (BEES). She chaired The Academies of Medicine, Engineering, and Science in Texas (TAMEST) shale task force in 2017. She currently is a Board member for QRI. She became an Honorary Member of the Society of Petroleum Engineers in 2018. Ehlig-Economides earned a Bachelor of Arts in Math-Science from Rice University, a Master of Science in chemical engineering from the University of Kansas, and a Ph.D. in petroleum engineering from Stanford University

PANEL SPEAKERS

Liz Sturman

**VP Subsurface Excellence and Chief
Petroleum Engineer, Shell**



Liz graduated from Imperial College London in 1995 with a degree in Maths, and completed an MBA course in 2002. She joined Shell in 1995 as a reservoir engineer and undertook assignments in the Netherlands, Angola, Nigeria and Brunei in hydrocarbon development, business, functional and leadership roles before assuming her current position of VP Innovation and Digital for Deepwater in 2019. Through all these roles Liz maintained her passion for efficiency - creativity, competitiveness and commitment are the order of the day – and for staff development.

Moji Karimi

**Cofounder and CEO
Cemvita Factory Inc.**



Moji is a multidisciplinary entrepreneur and engineer fluent in ideating, developing, and commercializing breakthrough technology. With a proven track record of taking ideas to market, both at big companies and startups, his experiences range from developing advanced deepwater drilling methods to novel biotechnologies with applications in the energy and space industries. In his previous endeavor, Moji joined Biota Technology, a 3-person company at the time, to start the Houston office and commercialize DNA Sequencing in the energy industry. In two short years, he grew Biota's business to millions of dollars in revenue. Moji holds BS and MS degrees in drilling and petroleum engineering, respectively.

SESSION SPEAKERS

CO₂ Enhanced Oil Recovery Experience and its Messages for CO₂



Larry Lake
UT Austin

Larry W. Lake is a professor in the Department of Petroleum and Geosystems Engineering at The University of Texas at Austin where he holds the Shahid and Sharon Ullah Chair. He holds BSE and PhD degrees in Chemical Engineering from Arizona State University and Rice University, respectively. He is the author or co-author of more than 100 technical papers, four textbooks and the editor of three bound volumes. Dr. Lake has served on the Board of Directors for the Society of Petroleum Engineers (SPE), won the 1996 Anthony F. Lucas Gold Medal of the AIME, the Degoyer Distinguished Service Award in 2002, and has been a member of the US National Academy of Engineers since 1997. He won the SPE/DOE IOR Pioneer Award in 2000.

First Successful Controlled Dumpflood in Deepwater GOM



Bilal Hakim
Talos Energy

Bilal Hakim currently serves as a Senior Reservoir Engineer with Talos Energy focusing on deepwater projects. Prior to joining Talos Energy, Bilal worked as a global reservoir engineering consultant working with various U.S and international asset teams to enhance reservoir knowledge and maximize asset value. Bilal's educational background includes a masters degree in Petroleum Engineering with Emphasis in Smart Oilfield Technology. He's passionate about reservoir characterization and believes in the value of data in understanding the physics of the reservoir through first principles to maximize value.

SESSION SPEAKERS

Learning from HFTS-2 (Hydraulic Fracturing Test Site -2): How to integrate complex datasets

Sriram Pudugramam
Occidental



Sriram Pudugramam is a Simulation Design Manager at Occidental in Houston. His team supports the Texas Delaware Basin and Midland Basin Business Units on development planning decisions using geological and simulation modeling. His team also leads the effort for the conception and execution of EOR in Unconventional Reservoirs. His previous role at Oxy was a Reservoir Engineer in the conventional asset where he managed the operations of the most mature CO₂ flooded oil field in the Permian Basin. Previously, he also worked at Shell supporting assets in South East Asia and North Africa. Sriram has a Masters in Petroleum Engineering from The University of Texas at Austin and an MBA from The University of Chicago Booth School of Business. Sriram is also a licensed Professional Engineer in the State of Texas.

Subsurface Modelling of Geothermal Systems

Bud Johnston
NREL



Henry (Bud) Johnston joined NREL in late 2015. Previously, Bud worked with Shell for 31 years, most recently as the reservoir engineering discipline lead within international unconventional at Shell headquarters in the Netherlands. In that role, he was responsible for reservoir engineering technical assurance for international unconventional resource projects.

SESSION SPEAKERS

CCS in Shell, Moving fast but respecting the complexities of storing CO₂, underground for future generation

Roy Marden
Shell



Roy is from the UK. He joined Shell in 2005 as a geologist in the reservoir modelling team in the Netherlands, after completing a BSc degree at Leeds University and a Masters at Cambridge University. He spent 6 years in HQ working NBD Russia, Kazakhstan and North Sea projects. He then completed overseas postings in Salym Russia, Beijing China and BSP Brunei. Roy came to the GoM in 2018 and since joined CCS in 2021 as Senior Front End Development Manager. Roy is recognized as a Production Geology and Front End well delivery technical authority and has experience in WRFM (including water flood), field development planning (conventional, unconventional and deep water), well delivery appraisal/development/abandonment (>50 wells) and skills in integrated reservoir modelling. Roy used to compete in triathlons, before children and enjoys tinkering with old British motorbikes with the little free time he has now. He has 2 girls, Agatha (5) and Eleanor (3) who keep him very busy.

Hybrid Models for Automating Reservoir Surveillance and Management

Dr. Ashwin Venkatraman
Resermine



Dr. Ashwin Venkatraman is the Founder and CEO of Resermine with a unique mix of domain experts who have worked in academia and industry. Ashwin has worked in Shell for over 12 years (India, Netherlands and Houston) in various roles in project management, reservoir engineering and technology deployment. Dr Venkatraman served as Associate Professor in the Department of Petroleum and Geological Engineering at University of Oklahoma in 2019-2020. He has also held post-doctoral appointments (3 years) in Princeton as well as at Institute of Computational Sciences at UT Austin where he led next generation modeling for reservoir characterization.

SESSION SPEAKERS

Journey of Oxy Low Carbon Ventures

Chia-Fu Hsu

**Oxy Fellow, Director of LCV Subsurface
Evaluation Team**



Chia-Fu holds a PhD in mechanical engineering from University of Minnesota and has over 39 years of oil industry experience. Throughout his technical career, he has championed research projects in numerical simulator development, thermal and miscible enhanced recovery methods, novel recovery techniques for tar sands, and proposed innovative strategies for miscible and thermal EOR developments. Chia-Fu has worked on projects around the world, including deepwater Gulf of Mexico. He holds multiple patents on thermal recovery processes and has been published in industry journals on topics ranging from reservoir characterization, field development, and forecasting CO₂ flood and steamflood performance to non-Newtonian flow in curved tubes.

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Happy Hour



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BEST PRACTICES

1. Network/Bandwidth Best Practices

- **Open Microsoft Teams invite with “join link”**
- **Disconnect from VPN prior to joining the Microsoft Teams meeting**
- **Close all other apps (e.g. Outlook, browsers) not required for the event**
- **Minimize other devices or apps using your home network (e.g. Internet-based games, Netflix, etc.)**

2. Audio Best Practices

- **Connect computer audio or have Microsoft Teams call a mobile or landline**
- **Make sure the microphone is as close to you as possible, while speaking**
- **Keep yourself on mute when you are not talking**

3. When asking a question on video, watch your surroundings and make sure it is distraction and noise-free

COMMITTEE

Raul Esquivel
OXY

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