



# ASME® 2021 OPTC

## Onshore Petroleum Technology Conference

CONFERENCE  
Sep 27–29, 2021

Virtual, Online

# Program

<https://event.asme.org/OPTC>



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# ASME® 2021 OPTC

## Welcome from the Conference Chair

It is an honor to welcome you all to the inaugural ASME Onshore Petroleum Technology Conference (OPTC), in a worldwide virtual format, from September 27 - 29, 2021.

We are excited to bring you this conference because it fills an obvious void for content in our industry that is not offered at conferences that focus on production facilities, plants and refining, emissions detection, and carbon technology. This conference will feature strategically relevant presentations highlighting new technology from the wellhead to the shipping terminal, including LNG and transportation – two of the fastest expanding segments of the hydrocarbon supply chain.

Here's why we started this conference:

- The world is currently consuming 94,000,000 barrels of crude per day and will continue to play a role in the global economy.
- Natural gas will play a key role in the energy transition for the next several decades or until there is adequate grid-scale battery storage.
- Carbon Capture, Utilization, and Storage (CCUS) is something that can be done right now to combat climate change, and it is being championed by the petroleum industry.
- A technology boom is taking place onshore with data analytics, robotics, and emissions detection, leading to better transparency in an industry that is reinventing itself.

Academia, government, operators, and service companies are all contributing to this conference because they all have a piece to this massive puzzle, and better collaboration among them can be quite impactful.

This inaugural virtual conference lays a nice groundwork for building a future in-person conference in Houston, Texas. Thank you for participating, and we look forward to seeing you next year!



Kyle Richter, PE, PMP  
2021 ASME OPTC Conference Chair  
Reservoir Engineer, Occidental



# ASME® 2021 OPTC

## OPTC 2021 Organizing Committee

### OPTC 2021 Conference Chair



Kyle Richter  
Reservoir Engineer  
Occidental Petroleum Corporation

### OPTC 2021 Technical Program Co-Chair



Phaneendra "Phani" Kondapi  
Affiliate Faculty, Colorado School of Mines  
Founder & CEO, DigiTide.ai

### OPTC 2021 Technical Program Co-Chair



Ray (Zenhua) Rui  
China University of Petroleum-Beijing



# ASME® 2021 OPTC

## OPTC 2021 Organizing Committee Members

**Frank Adamek**

President, Adamek Engineering & Technology Solutions LLC

**Nathan Cheng**

Sr. Commercial Proposals Manager, Baker Hughes

**Pedram Fanailoo**

Head of Department – Oil and Gas Services, DNV GL

**Carl Goudeau**

Quality Engineer, Patterson-UTI Energy

**Saurabh Kajaria**

Surface SME, Frac & Pressure Control, Vault Pressure Control

**Dean Murphy III**

Customer Success Engineer, Inside Petroleum, Inc.

**Drew Pomerantz**

Energy Transition Technology Advisor, Schlumberger

**Mamdouh Salama**

Senior Engineering Fellow, Retired

**Mahesha Udipi**

Chief Consulting Engineer Pressure Control, Baker Hughes

**Brian Webster**

Sr. Operations Readiness Engineer – Maintenance, Reliability, and Turnarounds (MRTA), Shell Global Solutions

**Kali West**

Permian Project Delivery Engineer, Shell Exploration and Production Company

## ASME Staff

**Danielle Rojas**

Coordinator, Conferences and Events

**Jamie Hart**

Senior Manager, TEC Operations

**Stacey Cooper**

Manager, Conference Web-Tool



# ASME® 2021 OPTC

## Schedule at a Glance

Monday, September 27, 2021	<b>Central Time</b>	<b>Monday, September 27, 2021</b>
	8:30AM to 8:45AM	Conference Opening & Welcome
	8:45AM to 10:00AM	Plenary: Innovation in Oil & Gas – Embracing New Challenges
	10:00AM to 10:30AM	<i>Meet the Speaker Networking Session</i>
	10:30AM to 12:00PM	TechnipFMC Track: Frac & Facilities
	12:00PM to 1:30PM	<b>Mid-day Break</b>
	1:30PM to 3:00PM	Texas Roundup
	3:00PM to 3:30PM	<i>Topical Networking Break (Topics: Current state of the industry, Facilities)</i>
	3:30PM to 5:00PM	Oil and Gas: Where we've been and where we're going
Tuesday, September 28, 2021	<b>Central Time</b>	<b>Tuesday, September 28, 2021</b>
	8:00AM to 8:45AM	Keynote: Navigating Energy Transition: Our journey toward a lower carbon future
	8:45AM to 10:00AM	Regulatory Session
	10:00AM to 10:30AM	<i>Meet the Petroleum Division Networking Session</i>
	10:30AM to 12:00PM	Technical Session I: Project Management
	12:00PM to 1:30PM	<b>Mid-day Break</b>
	1:30PM to 3:00PM	Technical Session II: Innovation
	3:00PM to 3:30PM	<i>Topical Networking Break (Topics: The Digital Engineer, Digital Twin)</i>
	3:30PM to 4:30PM	Emissions Session I
Wednesday, September 29	<b>Central Time</b>	<b>Wednesday, September 29, 2021</b>
	8:30AM to 10:00AM	Emissions Session II
	10:00AM to 10:30AM	<i>Networking Session (Emissions)</i>
	10:30AM to 12:00PM	Digital Transformation in the Upstream Industry: A Road Map
	12:00PM to 1:30PM	<b>Mid-day Break</b>
	1:30PM to 3:00PM	Education Panel: Training Next Generation of Workforce in the Current Market: A Joint Industry and Academia Perspective



## Plenary Session

**Monday, September 27, 2021**

**8:45AM to 10:00AM CDT**

**Title: Innovation in Oil & Gas – Embracing New Challenges**

While it's true that the Oil & Gas industry is always challenged by some of the toughest physical and political environments, the industry continues to Innovate as it prepares itself to play a major role in the global Energy Transition. Market volatility, demand uncertainty and stringent environmental, social and governance compliance requirements are all driving forces that propel the need for agility, technology, and innovation in this sector.

Shareholder driven capital discipline among Oil & Gas companies is now stronger than ever, and it has made it harder for companies to make high investments in fields like Digitalization, Emerging Technologies, Automation, Subsurface Imaging, IOT, Artificial Intelligence, ESG, and other areas that may be considered high risk. The Onshore sector however has been the quick test bench for the industry to test out technologies prior to implementing something across various levels of an enterprise.

Our panelists are the Oil & Gas industry veterans and experts in all things Operations, Technology and Digitalization across the entire value stream of onshore oil & gas. They are going to share some valuable insights from their organizations on how they have steered Innovation against the challenging headwinds that the industry has faced in the recent years and where they see future opportunities for innovation in our industry. Industry and academic participants will gain valuable insights that will help prioritize their focus- whether commercial or research related.

Moderator:



**Rustom Mody**  
CEO of VinTech Nano Materials

Panelists:



**Richard Lynch**  
VP Technology  
Hess Corp

*Richard Lynch is Senior Vice President, Technology and Services for Hess Corporation, a global independent energy company engaged in the exploration and production of crude oil and natural gas. He is a member of the company's executive leadership team. In this role, Lynch is responsible for the functional delivery teams associated with Wells, Projects, Facilities, Global Supply Chain, IT and Technology & Innovation.*



**Kevin McMahn**  
GM US Shales  
Shell

*Kevin McMahn is currently running Shell's shale operations in the Permian Basin, West Texas. Prior to this, he was Vice President for Health and Safety in Shell's shale business. Kevin is passionate about ensuring efficient, safe and environmentally sustainable operations and developing people, including young talent. During his career in Shell, Kevin has held various roles in engineering, engineering leadership and operations leadership in Shell Pipeline Company and Shell Exploration and Production Company. He spent five years as operations manager in the Mars Field in the Gulf of Mexico (GOM) in Shell's Deepwater Business.*



**Yanni Charalambous**  
Vice President and Chief Information Officer  
Occidental Petroleum

*Yanni Charalambous is Vice President and Chief Information Officer at Occidental Petroleum. He is responsible for the Information Technology (IT) organization and the strategy and deployment of IT across Occidental's worldwide oil and gas, low carbon ventures, midstream, chemicals and corporate operations.*



## Keynote Session

**Tuesday, September 28, 2021**

**8:00AM to 8:30AM CDT**

**Keynote: Navigating Energy Transition: Our journey toward a lower carbon future**

A number of oil and gas companies have already set net-zero-emissions targets. Despite the current economic challenges, many are sustaining efforts to decarbonize their operations and their value chains. Oil field service and upstream chemicals play an important role in this transition. ChampionX is positioned well to play an important role in this transition and beyond.



**SIVASANKARAN "SOMA"  
SOMASUNDARAM**  
President & Chief Executive  
Officer  
CHAMPIONX

Sivasankaran "Soma" Somasundaram is president and Chief Executive Officer of ChampionX. He also sits on the Company's Board of Directors. Prior to Apergy's merger with ChampionX, he was Apergy's president and CEO as well as a member of the Board of Directors. Prior to his role at Apergy, which was created in a spin-off from Dover Corporation in 2018, Soma was vice president of Dover Corporation and president and CEO of Dover Energy. He held a number of other senior executive leadership roles at Dover, including executive vice president of Dover Energy, executive vice president of Dover Fluid Management, president of Dover's Fluid Solutions Platform, president of Dover's Gas Equipment Group and president of Dover's RPA Process Technologies business.





## Panel Sessions

**Wednesday, September 29, 2021**

**10:30AM – 12:00 PM CDT**

### Digitalization Panel Session

Digitalization is proving to be beneficial for all industries. With regards to onshore technology and in light of the global pandemic, digitalization technologies are proving imperative to continue production. This session will discuss the technologies that are being used and the return on investment.

Moderator:



**Syed ("Ali") Raza**  
Senior Vice President and Chief Digital Officer  
CHAMPIONX

Panelists:



**Dr. Ashwani Dev**  
Chief Digital Officer | Vice President  
Digital Business  
Halliburton

*Dr. Ashwani Dev is a technology focused, growth oriented with entrepreneurial attitude leader with a focus on economics-driven digital business solution strategies. Ashwani Dev has very high "service ethics" towards helping others. He believes that customer-centric solution and service strategies successfully steers companies through rough economic times and puts them on a sustained growth trajectory. Ashwani Dev actively contributes in the areas of cloud, data governance, machine learning and IIoT solution space. He actively scouts startups that are innovative and disruptive. Develop solution strategies and rebranding products with a focus on revenue growth. In summary, Ashwani Dev possesses an*

*entrepreneurial mindset with "high" service ethics. He is a global communicator on the issues of business transformation, skill transformation, frontier technologies and human health. He provides pro bono consulting for startups and small to mid-scale companies in industrial space, healthcare and IoT space.*



**Dr. Hani Elshawavi**  
Managing Director  
NoviDigiTech

*Hani Elshahawi is a thought leader, entrepreneur, and game changer. He is currently Managing Director at NoviDigiTech LLC which partner with innovators, academics, startups, entrepreneurs, investors, and customers to create impact and drive growth through integration, collaboration, digitalization, and education. Hani previously spent 18 years at Shell where he was most recently Deepwater Digitalization Lead, GameChanger, and Formation Testing and Sampling principal technical expert and had previously served as Deepwater technology advisor and capabilities manager and led FEAST-Shell's Fluid Evaluation and Sampling Technologies center of excellence. Prior to Shell, Hani spent 15 years with Schlumberger during which he has held various positions in interpretation, consulting, operations, marketing, and technology development. Hani holds several patents and has authored over 150 technical publications. He was the 2009-2010 President of the SPWLA, recipient multiple SPE and SPWLA awards and a distinguished lecturer for both societies.*



**Ramesh Prabhala**  
Founder & CEO  
IntelliTide

*Ramesh Prabhala is the Founder and CEO of IntelliTide – a Data Science and Data Management solutions and services company. Ramesh in over 25 years has architected large scale enterprise data centric applications for global enterprises. Now he and his team help companies leverage "data as an asset" to grow revenue and increase operational efficiencies.*



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**Wednesday, September 29, 2021**

**1:30PM – 3:00 PM CDT**

**Education Panel: Training Next Generation of Workforce in the Current Market: A Joint Industry and Academia Perspective**

The need of the hour is to bring industry and academia together for a well-balanced practical education system. Due the current market scenario, the dearth of quality real-world skill set is a drawback. A collaboration of academia and industry must be stimulated to advance the efforts to fill gaps between industry requirements and the present workforce and student skill set. Educational institutes need to be top-of-the line and professional education must be in line with industry in order to prepare the needed skilled workforce in the coming years.



**Dr. Robello Samuel**

Chief Technical Advisor and Senior Fellow  
Halliburton

*Thinker, researcher, innovator, thought leader, futurist, author, educator, educationist. He is regarded as one of the world's most influential contributors to advancement of research and practice in drilling engineering. Published more than 210 technical papers, 66 US patents, 94 worldwide patents and 14 books and taught more than 1500 students. Among his recent honors include: featured speaker at several conferences, SPE Distinguished Lecturer, and the recipient of SPE International Drilling Engineering Award.*



**Mohan Kelkar, PhD, JD**

Department Chairperson of Petroleum Engineering  
University of Tulsa

*Professor of Petroleum Engineering at the University of Tulsa with specialization in reservoir characterization and production optimization. Research interests include Integrated Reservoir Modeling and Liquid Loading. Teaching interests are Petroleum Economics and Property Evaluation, Unconventional Resources, Geostatistics, and Integrated Reservoir Modeling. Publications are included in over 3 journals and conference proceedings.*



**Dr. Akhil Datta-Gupta**

Professor and LeSuer Chair  
Texas A&M University

*Dr. Akhil Datta-Gupta's technical interests are in the theory and practice of efficient numerical simulation schemes for modeling and visualization of fluid flow and transport in high resolution geologic models, performance assessment of conventional and unconventional (tight gas and shale gas/oil) hydrocarbon reservoirs and geologic carbon sequestration. His research areas include 3-D streamline simulation and fast marching methods for petroleum reservoir development, optimal placement of wells, reservoir management/ monitoring and maximizing hydrocarbon recovery from matured oil fields.*



## Special Sessions

### Monday, September 27, 2021

TechnipFMC Track: Frac & Facilities

Monday, September 27, 2021

10:30 AM – 12:00 PM CDT

TechnipFMC is transforming the onshore petroleum market with breakthrough technologies that reduce costs and greenhouse gas emissions. Through digital innovations and lean engineering and design principles, TechnipFMC has developed 2 automated ecosystems: iComplete for hydraulic fracturing and iProduction for production facilities. Learn more on how TechnipFMC is implementing automation in these three sessions.



**Laurent Pagnon**

Vice President of Digital &  
New Business Ventures  
TechnipFMC



**Stephen Delancey**

Completions Sales  
Manager  
TechnipFMC



**William Melton**

Operations and Sales  
leader  
TechnipFMC

Texas Roundup

Monday, September 27, 2021

1:30 PM – 3:00PM CDT

This session is jam packed with topics specific to Texas from Government, Regulatory and Industry. You won't want to miss this!



**Jon Rosenthal**

Texas Representative



**Christi Craddick**

Texas Rail Road  
Commissioner



**Sean Strawbridge**

Port of Corpus Christi



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## Regulatory & Safety Session

Tuesday, September 28, 2021

8:45 AM – 10:00 AM

Hear from three regulatory agencies on how they see onshore petroleum technologies evolving as the industry adapts to the new post-pandemic world.



**Thach Nguyen**

Office of Pipeline Safety-  
Engineering and Research  
Division

PHMSA



**LCDR Jason Ryu**

Liquefied Gas Carrier  
National Center of  
Expertise

USCG



**Demetra Collia**

Director  
Office of Safety Data  
Analysis

## Emissions Session I

Tuesday, September 28, 2021

3:00 PM – 3:30 PM

Emissions and ESG Considerations for Pipeline Systems: Hear about case studies where material selection in linepipe can prove to be an aid in reducing emissions over the life of operating an asset Presented by Core Linepipe..



**DJ Mullholland**

Business Development, Product Management  
& Operations  
CORE Linepipe Inc.



**Assaad Sakr, P. Eng.**

Senior Application Engineer  
CORE Linepipe Inc.

## Emissions Session II

Wednesday, September 29, 2021

8:30 AM – 10:00 AM

How are onshore facilities going to reach US targets to reduce emissions by 50-52% below 2005 levels in 2030? What are the best practices and new technologies on the horizon to help these efforts.

**Felipe Saldana**

Exxon Mobile

**Erin E Tullos**

Innovation for affordable energy and deep, economy wide  
decarbonization

**OPTC2021-67334: Quantifying Methane Emissions Through Process Simulations Model and Beyond**

*Presented by Arnida Talip, Petronas (Presentation Only)*



## Technical Sessions

### Oil and Gas: Where we've been and where we're going

Monday, September 27, 2021

3:30 PM – 5:00 PM

We will close out the first day with commentary from two well-known industry spokesmen. Tune in for what should be a lively discussion!



Mark LaCour  
Director  
Modalpoint



Mark Rossano  
Founder and CEO  
C6 Capital Holdings LLC

### Technical Session I: Project Management

Tuesday, September 28, 2021

10:30 AM – 12:00 PM

#### **OPTC2021-66516: Boundaries Definition for Modeling Transients in Oil Terminals**

*Presented by Wilfredo Vargas Senior Engineer, Universal Pegasus International*

#### **OPTC2021-66752: A Different Way to Execute Project Using a Product-Based Approach**

*Presented by Cathy Farina VP, Operations, DyCat Solutions*

#### **OPTC2021-68253: Experimental Study on Axial Bending Capacity of Steel Line Pipe With Kinked Dents**

*Presented by Wang Junqiang Oil-Gas Storage & Transportation Engineering, China Special Equipment Inspection and Research Institute (Presentation Only)*

### Technical Session II: Innovation

Tuesday, September 28, 2021

1:30 PM – 3:00 PM

#### **OPTC2021-66788: Decarbonization Advancements in Pressure Pumping With Gas Turbines**

*Presented by Andrea Mantini Baker Hughes*

#### **OPTC2021-67444: Maximizing Efficiencies and De-Risking a Flare-to-Fuel Technology**

*Presented by Stephen Lagutchik Engineer, DNV GL*

#### **OPTC2021-67533: Investigation on Axial-Lateral-Torsion Nonlinear Coupling Vibration Model of Drilling String in Ultra-HPHT Curved Wells**

*Presented by Xiaoqiang Guo Postdoctor, Southwest Petroleum University*

#### **OPTC2021-68335: The Operationalization of Data Is in 4d: Digest, Demystify, Democratize & Distribute**

*Presented by Earl J. Dodd World Wide Technology (Presentation Only)*



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## Sponsor Listing



TechnipFMC is a leading technology provider to the traditional and new energies industry; delivering fully integrated projects, products, and services.

With our proprietary technologies and comprehensive solutions, we are transforming our clients' project economics, helping them unlock new possibilities to develop energy resources while reducing carbon intensity and supporting their energy transition ambitions.

Organized in two business segments — Subsea and Surface Technologies — we will continue to advance the industry with our pioneering integrated ecosystems (such as iEPCI™, iFEED™ and iComplete™), technology leadership and digital innovation.

Each of our approximately 20,000 employees is driven by a commitment to our clients' success, and a culture of strong execution, purposeful innovation, and challenging industry conventions.

Our vision is to drive real change in the energy industry and our corporate strategy has always been focused on successfully delivering that vision.

Our purpose is to improve our clients' project economics, enhance performance and reduce emissions.

Our core values and foundational beliefs underline our fundamental view that how we do business is as important as why we do business.

All of this together – underscored by our ESG (Environmental, Social and Governance) commitments – is reshaping the industry for a sustainable future.



Stream-Flo is one of the largest, independently owned surface pressure control equipment companies in the world with over 60 years of quality focused engineering, manufacturing, and wellhead installation. Stream-Flo delivers reliable, safe, and responsive operations over the complete life of well.



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*Thank you for attending  
OPTC 2021!*

*Mark your calendar for  
Onshore Petroleum  
Technology Conference  
(OPTC) 2022*

*September 2022  
Houston, Texas*