



Brazil Section



TECHNICAL PROGRAM

November, 2022



SPE Brazil Flow Assurance

Technology Congress 2022



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SPE Brazil Flow Assurance Technology Congress 2022



16th, Nov (Wednesday)		Windsor Florida Hotel
08h00 - 08h30	Registration	
08h30 - 08h45	Welcome Session	
08h45 - 09h15	Opening Plenary	When the Need is Needed - Carlos Mastrangelo and Orlando Ribeiro
09h15 - 09h45	Key Note 1	Flow Assurance in Face of the New Energy and Environmental Challenges - Thierry Palermo (TOTAL)
09h45 - 10h10 Coffee Break		
10h10 - 11h10	Special Session 1	Digital Transformation in Flow Assurance (chair: João Carneiro - ISDB FlowTech)
11h10 - 12h30	Technical Session 1	Pre-Salt Development: High CO₂ Content and Flow Assurance Challenges (chairs: Denise Diniz - Petrobras, Felipe Cardoso - Petrobras)
11h10 - 11h30		#052 - 1D Numerical Simulations of Wax Deposition in a Subsea Passive Cooler Prototype for the Evaluation of Minimum Experimental Test Times Marcelo Pasqualette, Mariana Palacios, Charlie van der Geest, Fábio Passarelli, Marcelo Spelta, Guilherme Lima, Lucila Hayashi, Roberto Fonseca, João Carneiro, Antônio Bidart, Felipe Oliveira
11h30 - 11h50		#060 - The Barotropicity in Recombined Systems of Brazilian Oil and CO₂ Maria Luiza P. Silva, Denisson Santos, Larissa G. Nunes, Ingrid Fonseca, Monique S. Amaral, Heloisa Althoff, Marcela Ferreira Mathias, Gustavo R. Borges, Elton Franceschi, Cláudio Dariva
11h50 - 12h10		#020 - Experimental Study of Dense-gas/Liquid Flow Pattern Transition in Horizontal Pipes André M. Quintino, Roberto Fonseca Junior, Oscar M. H. Rodriguez
12h10 - 12h30		#069 - Influence of Gas Density on Two-Phase Flow in a Rocking-Flow Cell Bruna P. Naidek, Vitor Machado, Roberto da Fonseca Junior, Moisés A. Marcelino Neto, Rigoberto E. M. Morales
12h30 - 13h30 Lunch Break		
13h30 - 14h30	Special Session 2	Oil fields feasibility using long tiebacks, the flow assurance challenge (chair: Elida Gurgel Pinto - PRIO)
14h30 - 15h00	Key Note 2	Molecular Thermodynamics in Different Scales Applied to Flow Assurance - Frederico Tavares (UFRJ)
15h00 - 15h30 Coffee Break		
15h30 - 17h10	Technical Session 2	Fluid Characterization and Phase Behavior (chairs: Elizabete Lucas - UFRJ, Rafael Charin - UFRJ)
15h30 - 15h50		#009 - Experimental thermophysical properties of n-alkanes from C17 to C50 and validation of available correlations Maria Rosa RT Goes, Aziz Alhejaili, Jayden Howerton, Nagu Daraboina
15h50 - 16h10		#017 - Water content of water-oil mixtures by the speed of sound measurement Alcir F. Orlando, Bruno N. Santos, Flaviomar S. Souza
16h10 - 16h30		#068 - Usefulness of Interfacial Rheology for Crude Oil Production Paulo R. de Souza Mendes, Angela C. P. Duncke, Aurora Pérez-Gramatges, Lina M. Daza-Barranco
16h30 - 16h50		#089 - Structural characterization of asphaltenes enriched in island and archipelago motifs by LDI (+) FT-ICR MS Lidya C. Silva, Jeferson V. Dávila, Felipe P. Fleming, Marianny Y. C. Montanez, Boniek G. Vaz
16h50 - 17h10		#101 - New method of estimating the continuous solubility curve of asphaltenes in crude oils under various pressure and temperature conditions Mohamed Saidoun, Thierry Palermo, Jean-Luc Daridon, Scott H. Fogler
17h10 - 19h00	Poster Reception	Poster Session 1



Chair	Poster Session 1	
Rafael Charin - A1 Wax Management	17h10	#019 - Visualization of Wax Deposit Formation and Growth by Using MRI on a Laboratory Wax Flow Loop
	17h20	#073 - Evaluation of Wax Deposition in Unconventional Wells According to Tubing and Annulus Operational Strategies
	17h30	#078 - Evaluating the Performance of Wax Deposition Inhibitors Under Flowing Conditions
	17h40	#083 - The Role of Volume Shrinkage in the Startup Flow of Gelled Waxy Crude Oils in Pipelines
	17h50	#107 - Flow Rate Calculations Based on Rheometric Measurements of Model Waxy Oils at Different Surface Roughness
	18h00	#010 - Production of EVA:MMT Nanocomposites and Their Evaluation as Flow Improver Using Model Systems and Doped Crude Oil
	18h10	#036 - Experimental Evaluation of Flow Start-up of a Model Waxy Oil in a Pipeline
	18h20	#076 - Numerical Approach to Assess Wax Removal by Heating
	18h30	#079 - Wax Deposition: A Major Flow Assurance Problem in Western Onshore Crude Oil Assets, Cambay Basin, India
	18h40	#047 - Examination of Non-traditional Wax Management Techniques for Flow Assurance in Petroleum Production
João Carneiro - B1 Multiphase flow	17h10	#044 - Virtual Flow Metering as a Digital Solution to Production Management
	17h20	#106 - The Evolution of Slug Capturing
	17h30	#004 - GPU Accelerated Always Hyperbolic Slug Capturing Method
	17h40	#090 - Experimental Characterization of the Dispersed Bubbles in the Slug of an Air-water Slug Flow in a Vertical Pipe
	17h50	#057 - Detailed Analysis of The Diameter Influence on Air-Water Slug Characteristics in Upward Vertical Flow
	18h00	#042 - A Drift Flux Closure Relationship to Estimate the Holdups of Three-Phase Flow in Horizontal and Slightly Inclined Pipes
	18h10	#041 - Comparison Between Experimental Data and the Dukler Model for Pressure Loss in Horizontal Pipelines
	18h20	#066 - Features of the Liquid Film in Vertical Downward Annular Flow
	18h30	#075 - Numerical Simulation of the Flow of Supercritical CO ₂ in a Multistage Centrifugal Pump
	18h40	#003 - Numerical Heat Transfer Study of Axisymmetric Two-Phase Flow in different Flowline Inclinations Using OpenFOAM
Marcia Khalil - C1 Emulsions	17h10	#035 - Predicting Emulsion's Viscosity Using Artificial Intelligence
	17h20	#049 - Influence of Salt and HPAM on the Emulsion Stability and TOG
	17h30	#056 - Evaluation of w/o Emulsion Stability in Function of Oil Polarity: a Study Using Asphaltenes C31 in Kerosene
	17h40	#103 - Into the Importance of Emulsion Properties Characterization for the Optimization of Gas Lifted Deep Water Oilfield Production
	17h50	#091 - System for Online Monitoring of Water Content and Droplet Size Distribution of Oil Emulsion Under Pressurized and High-Temperature Conditions, Using NIR Spectroscopy
	18h00	#072 - Isolation of Interfacially Active Molecules from Brazilian Oils and Characterization by High Resolution Analytical Techniques
	18h10	#086 - LDI(+)-FT-ICR MS Analysis for the Characterization of Asphaltenes and its Subfractions of Brazilian Oil
	18h20	#087 - ESI-FT-ICR MS in the Identification and Characterization of Tetrameric Acids (ARN) in Petroleum and Naphthenates with Minimal Sample Preparation
	18h30	#050 - An Investigative Study of Oil Foamers/De-foamers to Boost Crude Oil Production in Brownfields
	18h40	
Adriana Teixeira - D1 Hidrates	17h10	#059 - Experimental Characterization of the Influence of Particles Similar to Gas Hydrates on the Slug Flow Pattern
	17h20	#093 - Rheological Properties of Hydrate Slurry in a Brine Suspension
	17h30	#098 - Rheological Study of Hydrate Formation in the Presence of Paraffin Molecules
	17h40	#034 - Influence of the Gas-Oil Ratio on Hydrates Formation in a Crude Oil System
	17h50	#032 - Gas Hydrate Formation and Agglomeration in Under-Inhibited Systems Containing Sodium Chloride, Ethanol and Ethylene Glycol
	18h00	#045 - Methane Hydrate: Thermodynamic and Kinetic Inhibitor Evaluation in PVT Apparatus with Image Analysis
	18h10	#104 - Kinetic Hydrate Inhibitor leads to a Reduction of 80% in MEG Usage and 40% in MEG Flowrate
	18h20	#023 - Rapid Evaluation of Thermodynamic Hydrate Inhibitor Requirement and Impact of Pressure/Temperature Uncertainties Using Curve Fitting
	18h30	#092 - Low Dose Hydrate Inhibitors: a Case History of Extended Shut-in and Restart for an Anti-agglomerant Chemistry in the Deep-water Gulf of Mexico and its Benefit Associated to Carbon Footprint
	18h40	#081 - New Readily Biodegradable and Cost-Effective Anti-Agglomerant for O&G Industry



17th, Nov (Thursday)		Windsor Florida Hotel
08h00 - 08h30	Registration	
08h30 - 09h30	Special Session 3	Fluid Flow in Petroleum Exploitation – risk and challenges (to the Flow Assurance) (chair: Elisio Caetano - PETROBRAS)
09h30 - 10h50	Technical Session 3	Challenges in ESP Operations (chairs: Flavio Vianna - Petrobras, Fernando Guamá - Shell)
09h30 - 09h50		#005 - Experimental Investigation on Velocity Fields, Vorticity, and Turbulence within the Stage of an Electrical Submersible Pump (ESP) Rodolfo M. Perissinotto, William D.P. Fonseca, Rafael F.L. Cerqueira, William Monte Verde, Jorge L. Biazussi, Erick M. Franklin, Antonio C. Bannwart, Marcelo S. Castro
09h50 - 10h10		#006 - Evaluation and Simulation of Gas-Liquid Separation and Performance Degradation of an ESP Pump Under Multiphase Flow Applied to a Production System Equipped with Skid-ESP Rodrigo C. Sales, Valdir Estevam, Marcelo Souza de Castro
10h10 - 10h30		#065 - Fault Diagnosis of Electric Submersible Pumps Using Audio and Vibration Signals Daniel A. Rodrigues, Geniffer S. O. Martins, Eduardo R. David, Felipe L. M. Reis, Luiz E. M. Carneiro, Juliana R. Correia, Larissa M. Lima, Atila P. Silva Freire
10h30 - 10h50		#094 - Evaluation of Flow Improver Injection in ESP Performance Rennan M. S. Damasceno, Rafael M. Charin
10h50 - 11h20		Coffee Break
11h20 - 11h50	Key Note 3	The Flow Assurance of Gas Hydrates: Creating Plugs to Prevent Plugging - Amadeu Sum (Colorado School of Mines)
11h50 - 13h10	Technical Session 4	Hydrates Formation and Management (chairs: Adriana Teixeira - Petrobras, Annie Fidel Dufour - Total Energies)
11h50 - 12h10		#026 - Gas Hydrate Formation and Accumulation in Non-Emulsified Oil/Water Systems under Pseudo-Flow Conditions Daniela C. Marques, Carlos L. Bassani, Celina Kakitani, Moisés. A. Marcelino Neto, Amadeu Sum, Rigoberto E.M. Morales
12h10 - 12h30		#025 - Evaluation of Water/Mineral Oil Separation After Methane Hydrates Dissociation Using an AA Formulation Anne Sinquin, Brigitte Betro, Laurence Podesta-Foley, Emilie Abadie, Jean-Philippe Gingras
12h30 - 12h50		#011 - Wellhead Hydrate Deposition and Hydrate Management in Gas Wells Yohan Lee, Amadeu K. Sum, Taras Y. Makogon
12h50 - 13h10		#053 - Hydrate Plug Removal Through One-sided Depressurization in Gas-Condensate Pipelines Rodrigo L. F. Castello Branco, Claudio V. Barreto, Pedro Serrano, Adriana Teixeira, Leandro S. Valim, Angela O. Nieckele
13h10 - 14h00		Lunch Break
14h00 - 14h30	Key Note 4	Recent developments in wax deposition modeling - Luis Fernando Azevedo (PUC-RIO)
14h30 - 15h30	Special Session 4	The Deepwater Subsea Layout and the Flow Assurance Challenges - Marcelino Guedes (Pipeline Brazil)
15h30 - 16h00		Coffee Break
16h00 - 17h20	Technical Session 5	Wax formation and deposition evaluation (chairs: Aline Melchuna - Equinor, Guilherme Lima - Petrobras)
16h00 - 16h20		#097 - Evaluation of the effect of wax concentration in crude oils on the dimensionless temperature plateau Letícia Bizarre, Ivanei F. Pinheiro, Charlie van der Geest, Vanessa C. B. Guersoni, Aline Melchuna
16h20 - 16h40		#022 - Rheological Properties Determination of Wax Oil Using Fractal Scaling Theory André S. Guimarães, Thiago O. Marinho, Príamo A. Melo, Márcia C. K. Oliveira, Marcio Nele
16h40 - 17h00		#030 - Start-up Flow Visualization of Thixotropic Material in the Horizontal Pipes Geometries Using Particle Image Velocimetry Angel De J. Rivera, Yamid J. Garcia-Blanco, Eduardo Germer, Admilson T. Franco, Cezar Negrão
17h00 - 17h20		#001 - Dynamic Microscopic Visualization of Thermal Wax Removal in Turbulent Flow Gabriel Santos, Elijah Bell, Nagu Daraboina, and Cem Sarica
17h20 - 19h00	Poster / Exposition	Poster Session 2
20h00	Conference Dinner	



Chair	Poster Session 2	
Cláudio Dariva - A2 Asphaltenes	17h20	#055 - Solubility of Asphaltenes Fractions in Maltenes: a Model System Study
	17h30	#061 - Evaluation of Asphaltenes Stability by Titration with Propane Under Different Pressures: a Study Using Model Systems
	17h40	#070 - Effects of Different Solvents on the Physicochemical Properties of Asphaltenic Fraction
	17h50	#088 - Correlating Asphaltene Fractions Instability with the Predominance of Archipelago-type Molecules
	18h00	#054 - Monitoring Heavy Fractions Production in Pre-Salt Wells from Fields with Gas Reinjection
	18h10	#102 - Asphaltene Deposition Inhibitors – a Case Study from Laboratory Chemical Selection to Field Downhole Injection Trial in ESP Lifted Wells
	18h20	#085 - Evaluation of Interfacial Properties for Brine/Oil Systems
	18h30	#014 - Interfacial Properties of Asphaltene–Brine Systems and Analysis of Adsorption Kinetics: Effects of ion and Water injection for EOR
	18h40	#038 - Assessing the Effects of CO ₂ /Methane Mixtures on Gas-Oil Interfacial Tension and Fluid Flow Using Compositional Simulation
	18h50	#002 - Characterization of Asphaltenes Deposits using Raman and X-ray Spectroscopies
Juliana Lessa - B2 Scales	17h20	#031 - Obstruction in the Riser Due to a By-product of H ₂ S Scavenger Reaction
	17h30	#063 - Aspects of Calcium Carbonate Formation in the Presence of Hydrate Inhibitors
	17h40	#064 - The Combined Effect of Hydrates and Scale Formation Inhibitors on the Formation of Scale
	17h50	#021 - Transmission Electron Microscope as a Tool to Study the Growth and Agglomeration Processes of Calcium Carbonate Nanoparticles
	18h00	#048 - Monitoring Scale Deposits by Using a Sensor-based on Electrical Measurements
	18h10	#037 - Effects of Laboratory Test Sensitivities on the Efficiency of Scale Inhibitors for Brazilian Applications
	18h20	#071 - Enhancing the Efficiency of Scale Inhibitor Squeeze for Mature Fields of the Campos Basin – RJ Using Ca ²⁺ Bridging Ion
	18h30	#105 - Evaluation of Different Polymeric Scale Inhibitors for Oilfield Application
	18h40	#040 - Use of Design of Experiments (DoE) on Assessment of Commercial Inhibitors of Calcium Carbonate Scale in O&G Production: How Good Could it be?
	18h50	#015 - Evaluation of Carbohydrates Occurring in Food Industry Waste as Potential Green Inhibitors of Calcium Carbonate Scale in Oil and Gas Production
Rafael Charin - C2 Phase Equilibria	17h20	#051 - Experimental Phase Equilibria of Carbon Dioxide and Methane Hydrates in the Presence of 2-Propanol and Sodium Chloride
	17h30	#077 - Prediction of the Solubility in Asymmetric Mixtures using Peng Robinson and RKPR Equations of State
	17h40	#100 - Preparation and Characterization of a High CO ₂ Content Synthetic Fluid
	17h50	#067 - Compositional Characterization of the Crude Oil from the Recôncavo Baiano using SAR Methodology
	18h00	#062 - Waxes Precipitation in a Recombined oil with CO ₂ by using a High-pressure Solid Detection System
	18h10	#024 - Correction of Bubble Point Pressure Calculation for Porous Medium to Estimate Oil Swelling Factor
	18h20	#016 - Effect of Fluid Properties on Pressure Characteristics of Slug Flow in Horizontal Pipes
	18h30	
	18h40	
	18h50	
Mariana Palacios - D2 Operational Challenges	17h20	#013 - Using AI to Optimize the use of Gas Lift in Oil Wells
	17h30	#043 - Application of Artificial Intelligence in Flow Assurance
	17h40	#095 - Development of Industrial Process DTPA (diethylenetriaminepentaacetic acid) Recovery for Reusing in Barite Removal Treatment
	17h50	#028 - Application of Flow Modelling to Optimize Operational Cleaning of a Crude Oil Pipeline



18th, Nov (Friday)		PETROBRAS - CENPES
08h00 - 08h30	Registration - PETROBRAS/CENPES	
08h30 - 08h45	Welcome Session	Petrobras Welcome
08h45 - 09h45	Special Session 5	Flow Assurance: Past, Present and Future (chair: Marcia Khalil - PETROBRAS)
09h45 - 10h15	Special Session 6	DeepStar/Cenpes - Innovative Projects (Joseph Gomes – DeepStar, chair: Thiago Geraldo, Petrobras)
10h15 - 10h40		Coffee Break
10h40 - 11h30	Special Session 7	Inorganic Scale Challenges in Pre-salt Field Operations (chair: Jussara Silva and Luciano Endres - PETROBRAS)
11h30 - 12h50	Technical Session 6	Inorganic Scale Management (chairs: Francisca Rosário - UFF, Rosane Fontes - Petrobras)
	11h30 - 11h50	#008 - Evaluation of the Influence of the Hydrophilic-Lipophilic Balance of the Additive on its Performance in Inhibiting the Formation of Calcium Naphthenates Bianca B. Silva, Carla M. F. Silva, Elizabete F. Lucas
	11h50 - 12h10	#058 - Squeeze Inhibition in Buzios with Optimization of Chemical Treatment Using Phosphonate in Acid Form Fernanda R. Guimarães, Fernando Antonio M. da Silva, Fernando N. Coelho, João Paulo C. de Assis, Mario G. F. da Silva, Rosane A. Fontes, Tatiana M. R. da Costa, Tatiana P. Sampaio, Tiago C. Freitas, Valtair M. Cristante
	12h10 - 12h30	#080 - Scale Inhibitor Qualification: Evaluation for Treatment in Brazilian Pre-salt Fields Juliana Lessa, Eloisa Borges
	12h30 - 12h50	#099 - Qualification Tests for ICV Cycling and Scale Formation Vinicius G. Poletto, Marina E. Mazuroski, Matheus R. Martins, Fernando C. De Lai, Bruno B. Castro, Mateus P. Schwalbert, André L. Martins, Silvio L. M. Junqueira
12h50 – 14h00		Lunch Break
14h00 – 15h20	Technical Session 7	Operational Challenges (chairs: Felipe Francisco - Petrobras, Marcelo Menezes - SLB)
	14h00 - 14h20	#012 - Roadmap for First Deployment – Pseudo Dry Gas Lee Thomas, Terry Wood, Laura Liebana, Graeme Rogerson , Bruce W.E. Norris, Zachary M. Aman
	14h20 - 14h40	#029 - Partidário de Poços (Well Kick-Off Assistant) Luiz Fernando Rambalducci Dalla, Felipe Silveira Camargo, Jorge Lins Ribeiro, Tiago Gollner Perovano
	14h40 - 15h00	#027 - Flow Assurance for Optimization of Pigging Strategy for a Challenging Multiphase Deep-water Pipeline Ashwin Pinto, Charles Ofosu, Paul Westwood
	15h00 - 15h20	#018 - Operational Envelope for Planning Cold Flow Production Milan Stanko, Martin Kvernland, Fredrik Lund, Lars Strømmegjerde
15h20 - 15h50	Key Note 5	Flow Assurance and the Energy Transition - Daniel Merino (Repsol)
15h50 - 16h30	Closing session	