PetroPhase 2018

The 19th Annual Conference on Petroleum Phase Behavior and Fouling

The Chateaux, Deer Valley, UT, USA
July 8-12, 2018

Sunday, July 8th

12:00		*Registration Opens*
17:00		*Opening Remarks*
17:10		*Poster Session I (Odd numbered)*

Monday, July 9th

Petroleum Properties I (Chairs: Ryuzo Tanaka, Lamia Goual)

8:20	PP-K	Insights on the Bulk and Confined Phase Behavior of Crudes from Coarse-Grained Molecular Dynamics Simulations Erich A. Müller, *Imperial College London*
9:00	PP-O1	Selection of Effective Asphaltene Solvent using Molecular Dynamics Simulations Yuki Hidaka, *Kyoto University*
9:22	PP-O2	Application of Digital Oil to Solvent-Based Enhanced Oil Recovery for Heavy Crude Oil Motoaki Iwase, *University of Tokyo*
9:44	PP-O3	Liquid-Phase Neutron Diffraction Study of The Structure of Solvated Asphaltenes: From Molecular to the Cluster Length Scales Michael P. Hoepfner, *University of Utah*
10:06		*Break*

Petroleum Properties II (Chairs: Michael Hoepfner, Harvey Yarranton)

10:30	PP-O4	Fast Flow Curve Determination at High Shear Rates by FluidicamRHEO Microfluidic Rheometer Matt Vanden Eynden, *Formulaction*
10:52	PP-O5	Enhanced Solvent-Based Organic Deposit Remediation Kamran Akbarzadeh, *Shell International Exploration & Production*
11:14	PP-O6	Nano-scale Investigation of Asphaltene Aggregation and Interaction with Surfaces Gina Javanbakht, *University of Wyoming*
11:36	PP-O7	Progress of Molecular Simulation Efficiency for the Prediction of Petroleum Fraction Thermophysical Properties M. Yiannourakou, *Materials Design*
12:00		*Lunch*

Shale Oil & Gas (Chairs: Milind Deo, Paco Vargas)

13:15	S-K	The Chemical and Microstructural Composition of Kerogen Andrew E. Pomerantz, *Schlumberger-Doll Research*
13:55	S-O1	A Study for Using CO_2 to Enhance Natural Gas Recovery from Tight Reservoirs Jinsheng Wang, *CanmetENERGY*
14:17	S-O2	Microprobe XANES Studies of Sulfur Chemistry of Different Shales Sudipa Mitra-Kirtley, *Rose-Hulman Institute of Technology*
14:39		*Break*

Petroleum Chemistry I (Chairs: Yunlong Zhang, Jeramie Adams)

15:10	PC-O1	Deposit Behavior of Asphaltenes Fractions under Microfluidic System Andrew Yen, *Nalco Champion*
15:32	PC-O2	Inhibition of Asphaltene Deposition by a Surfactant on Carbon Steel: In Situ Monitoring by QCMD Tim Kahs, *New York University Abu Dhabi*
15:54	PC-O3	Asphaltene Adsorption on Graphene Estrella Rogel, *Chevron Energy Technology Company*

16:16	PC-O4	Molecular Dynamics Investigations of the Pyrolysis and Combustion of Organic Ring Molecules Cuiying Jian, *Massachusetts Institute of Technology*
16:38	PC-O5	Comprehensive Mass Spectrometric Evolved Gas Analysis (EGA) in the Context of Petroleomics Ralf Zimmermann, *University of Rostock*

Tuesday, July 10th

Petroleum Chemistry II (Chairs: Ryan Rodgers, Simon Andersen)

8:20	PC-K	A Brief History of Asphaltenes Michael Moir, *Chevron Energy Technology Company*
9:00	PC-O6	Advances in Asphaltene Petroleomics: Overcoming Limitations in Selective Ionization to Reveal the Structural Continuum of Island and Archipelago Motifs Steven M. Rowland, *National High Magnetic Field Laboratory*
9:22	PC-O7	Revealing the Molecular Structure of Petroleum Asphaltenes with Non-contact AFM at the Atomic Level Yunlong Zhang, *ExxonMobil Research and Engineering Co.*
9:44	PC-O8	Investigation of the Mechanisms of Asphaltene Precipitation and Inhibition Using Ultra Small-Angle Scattering (USAXS) Yuan Yang, *University of Utah*
10:06		*Break*

Petroleum Chemistry III (Chairs: Estrella Rogel, Andrew Yen)

10:30	PC-O9	Oil/Water Partitioning of Two Naphthenic Acid Mixtures Are Bertheussen, *Norwegian University of Science and Technology (NTNU)*
10:52	PC-O10	Interfacial Activity of Characterized Middle Eastern Asphaltenes Bastian Sauerer, *Schlumberger Dhahran Carbonate Research Center*
11:14	PC-O11	Anaerobic Precipitation and Flocculation of Asphaltenes from n-Heptane Diluted Heavy Oils, Jairo Duran, *University of Calgary*
11:36	PC-O12	Comprehensive Gas Chromatography and Thermoanalytical techniques coupled to High Resolution Mass Spectrometry for in-depth Analysis of Crude Oils and Bitumen Ralf Zimmermann, *University of Rostock*

12:00		*Lunch and Poster Session II (Even numbered)*

Wednesday, July 11th

Emulsions I (Chairs: David Jennings, Jaye Magda)

8:20	E-K	Interaction Mechanisms of Water-in-Oil and Oil-in-Water Emulsions in Oil Production Hongbo Zeng, *University of Alberta*
9:00	E-O1	The Correlation Between Interfacial Elasticity and Droplet Coalescence by the Addition of Demulsifiers to Water-in-Crude Oil Emulsions Craig Davies, *Energy Technologies, Croda*
9:22	E-O2	The Effects of Petroporphyrin Structure and Identity on Interfacial Tension and Elasticity of Asphaltene Stabilized interfaces Peter K. Kilpatrick, *University of Notre Dame*
9:44	E-O3	The Interfacial Tension of the Water-Bitumen Interface at Short Time Scales Sachin Goel, *University of Toronto*
10:06		*Break*

Emulsions II (Chairs: Brendan Graham, Hongbo Zeng)

10:30	E-O4	Dynamics of interfacial tension in acidic oil model systems: Pendant drops of oil-in-water versus water-in-oil Simon Ivar Andersen, *Danish Hydrocarbon Research Centre*
10:52	E-O5	Interactions and Identification of Surface Active Material at the Asphaltene/Oil Interface and their Influence on both Asphaltene Solubility and Emulsion Stability Shane Morrissy, *University of Western Australia*
11:14	E-O6	Spontaneous emulsification in the presence of asphaltenes Gerald Fuller, *Stanford University*
11:36	E-O7	Foams at Elevated Pressures In EOR – An Innovative Method to Analyze Foam Stability and Foam Structure P. Jaeger, *Eurotechnica GmbH*
12:00		*Lunch*

Flow Assurance I (Chairs: Kamran Akbarzadeh, Tabish Maqbool)

13:15	FA-O1	Investigation of Potential Asphaltene Deposition in a Gas Injection Project in Deepwater Gulf of Mexico Francisco "Paco" Vargas, *Rice University*
13:37	FA-O2	Enhanced Evaluation of Asphaltene-related Oil Properties to Facilitate Production in Complex Offshore Environment Karsten Karl Krueckert, *Wintershall Noordzee*
13:59	FA-O3	Prediction of Asphaltene Deposition Conditions: A Revisit of ASIST Methodology by Using Fully Immersed Quartz Crystal Sensor Mohamed Saidoun, *L'Université de Pau*
14:21	FA-O4	Effect of Carbon Steel Corrosion on Asphaltene Deposition Mohammad Tavakkoli, *ENNOVA LLC*
14:43		*Break*

Upgrading & Fouling (Chairs: Frans van den Berg, Murray Gray)

15:10	UF-O1	Dual Column On-line Liquid Chromatography Coupled to Ultrahigh Resolution 21 T FT-ICR Mass Spectrometry for the Determination of Molecular-Level Changes in Bitumen Upgrading. Ryan P. Rodgers, *National High Magnetic Field Laboratory*
15:32	UF-O2	Deep Conversion of Vacuum Residue While Limiting Sediment Formation: A Comprehensive Experimental Study M. Dreillard, *IFP Energies nouvelles*
15:54	UF-O3	Effect of Blending on the Fouling Characteristics of Bakken Tight Oil Amaka Waturuocha, *University of Tulsa*
16:16	UF-O4	Destabilized Asphaltenes in Contaminated Crudes Impact Crude Unit Fouling David A. Henning, *Phillips 66*
16:38	UF-O5	Asphaltene Behavior During Partial Upgrading of Bitumen Murray R. Gray, *Alberta Innovates*
17:00		*Break*
18:15		*Depart for Gala Dinner (by bus)*
19:00		*Gala Dinner, Red Pine Lodge* *(Note: Venue is mid-mountain and requires travel by Gondola with potentially uneven/natural surfaces)*

Thursday, July 12th

Flow Assurance II (Chairs: Scott Fogler, Irv Weihe)

8:20	FA-K	Wax Issues in the Production Environment: A Review of Methods, Management, and Models Scott R. Hickman, *ExxonMobil Upstream Research*
9:00	FA-O5	Experimental and Modeling Study of Gas-Oil Stratified Flow Wax Deposition Nagu Daraboina, *University of Tulsa*
9:22	FA-O6	A New Modeling Approach for Investigating Wax Deposition in a Pilot Scale Flow Loop Sheng Zheng, *SUEZ Water Technologies and Solutions*
9:44	FA-O7	Hydrate Blockage Risk in Under-Inhibited Systems Temiloluwa O. Kuteyi, *University of Western Australia*
10:06		*PetroPhase 2019 Announcement*
10:15		*Break*

Flow Assurance III (Chairs: Rama Venkatesan, Jianxing Wang)

10:30	FA-O8	Oilfield Paraffin Management: Novel Test Method Developments for the Design of Continuous and Remediation Chemical Treatments Christopher Russell, *Nalco Champion*
10:52	FA-O9	Use of a Thixotropic Rheology Model to Predict the Transient Pipe Flow Behavior of Model Waxy Crude Oil Suspensions Yichen Wang, *University of Utah*
11:14	FA-O10	Mechanisms of Wax Deposition on Cold Surfaces Luqman Hakim Ahmad Mahir, *University of Michigan*
11:36	FA-O11	An Interconnected Flow Assurance Challenge: Effect of Waxes and Respective Chemistries on Asphaltene Aggregation and Deposition Phenomena Edris Joonaki, *Heriot-Watt University*
12:00		*Lunch & Departure*