



# Cutting-Edge Technology for Carbon Capture, Utilization and Storage

24<sup>th</sup>-27<sup>th</sup> September, 2017, Clermont-Ferrand, France

## DAY 1

08:20	Introductions	<i>Welcome to CETCCUS</i>
09:00	Keynote Paper	<i>"Below 2°C World" needs Carbon Capture and Storage (CCS)</i> P. Broutin IFP Energies nouvelles - établissement de Lyon, Solaize, France
09:45	Paper 1	<i>Experimental Measurement of CO<sub>2</sub> Solubility in Aqueous CaCl<sub>2</sub> Solution at Temperature from 333.15 to 423.15 K and Pressure up to 20 MPa</i> M. Poulain, H. Messabeb, F. Contamine, J.P. Serin, P. Cézac, J.C. Dupin, and H. Martinez University of Pau and Pays de l'Adour, Pau, France
10:15	Paper 2	<i>Mutual solubility of different CO<sub>2</sub> content of natural gas fluid and water</i> HM. Tu <sup>1</sup> , P. Guo <sup>1</sup> , J.F. Du <sup>1</sup> , S.F. Wang <sup>2</sup> , YL. Zhang <sup>2</sup> , YK. Jiao <sup>2</sup> , ZH. Wang <sup>1</sup> 1. State Key Lab of Oil and Gas Reservoir Geology and Exploitation, SWPU, Chengdu, China 2. RIPED, Changqing Oilfield Company, National Engineering Laboratory, Xian Shanxi, China
10:45	COFFEE	
11:15	Paper 3	<i>Speed of Sound Measurements for a CO<sub>2</sub> Rich Mixture</i> P. Ahmadi and A. Chapoy Heriot-Watt University, Edinburgh, Scotland, UK
11:45	Paper 4	<i>CO<sub>2</sub> Gas Injection as an EOR Technique – Phase Behavior Considerations</i> H. Sørensen <sup>1</sup> and J. Azeem <sup>2</sup> 1. Calsep A/S, Lyngby, Denmark 2. Calsep FZ LLC, Dubai, UAE
12:15	OFFICIAL PICTURE	
12:15	LUNCH	
13:30	Paper 5	<i>Determination of Dry-Ice formation during the depressurization of a CO<sub>2</sub> re-injection system</i> J.A. Feliu <sup>1</sup> , M. Manzulli <sup>2</sup> , and M.A. Alós <sup>1</sup> 1. Inprocess Technology and Consulting Group; Barcelona, Spain 2. Virtual Materials Group Europe; Barcelona, Spain
14:00	Paper 6	<i>Phase equilibrium aspects of CO<sub>2</sub> and acid gases transportation</i> A. Chapoy <sup>1,2</sup> and C. Coquelet <sup>2</sup> 1. Heriot Watt University, Edinburgh, Scotland, UK 2. Mines ParisTech, Fontainebleau, France
14:30	Paper 7	<i>Molecular Simulation of Phase Equilibria of Aqueous MEA and CO<sub>2</sub> Solutions</i> W. Qi and W.R. Smith University of Guelph, Guelph ON, Canada
15:00	COFFEE	
15:30	Paper 8	<i>Thermodynamic Aspects for Acid Gas Removal from Natural Gas</i> T. Wang, E. El Ahmar, and C. Coquelet Mines Paristech, Fontainebleau, France
16:00	Paper 9	<i>Molecular Simulation of CO<sub>2</sub> Reactive Absorption Equilibrium</i> B. Kelly and W.R. Smith University of Guelph, Guelph ON, Canada
16:30	Paper 15	<i>Molecular simulation study on the diffusion mechanism of fluid in nanopores of illite in shale gas reservoir</i> P. Guo, M.H. Zhang, and H.M. Tu, Southwest Petroleum University, Chengdu, China
17:00	Poster Sessions	Poster Session/ Possible round table



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## DAY 2

08:30		<i>Activities of Club CO<sub>2</sub> and of the working group dedicated to CO<sub>2</sub> Valorization</i> D. Savary, ClubCO <sub>2</sub> , France
09:00	Paper 11	<i>CO<sub>2</sub> capture using Deep Eutectic Solvent and amine solution</i> M-R Mahi <sup>1,2</sup> , I. Mokbel <sup>1</sup> , L. Négadi <sup>2</sup> , and J. Jose <sup>1</sup> 1. Université de Lyon, France 2. Abou Bakr Belkaid University of Tlemcen, Algeria
09:30	Paper 12	<i>The impact of thermodynamic model accuracy on sizing and operating CCS purification and compression units</i> S. Lasala <sup>1,2</sup> , P. Chiesa <sup>2</sup> , R. Privat <sup>1</sup> , and J.-N. Jaubert <sup>1</sup> 1 Université de Lorraine, Nancy, France 2 Politecnico di Milano, Milan, Italy
10:00	COFFEE	
10:30	Paper 13	<i>Study on Storage mechanisms in CO<sub>2</sub> flooding for water-flooded abandoned reservoirs</i> R. Wang, C. Lv, Z. Lun, M. Cui, and Y Tang SINOPEC Exploration & Production Research Institute, Beijing, China
11:00	Paper 14	<i>Feasibility of ex-situ dissolution for carbon dioxide sequestration</i> Y. Leonenko University of Waterloo, Waterloo, ON, Canada
11:45		LUNCH
13:30		Departure for TOUR in CLERMONT-FERRAND CITY 13 :30 : Departure from Hotel Novotel 14 :00-16 :00 Visit 17 : 30 : Back to Hotel
20:00		Gala DINNER, La hutte Gauloise, Plateau de Gergovie (best student award ceremony) 19:30 Departure from Hotel Novotel

## DAY 3

08:30	Paper 16	<i>Pore-Scale Mechanisms of Enhanced Oil Recovery by CO<sub>2</sub> Injection in low-permeability heterogeneous reservoir</i> Z. Ji <sup>1,2</sup> , S. Li <sup>1,2</sup> , and X. Chen <sup>1,2</sup> 1. State Key Laboratory of Enhanced Oil Recovery, Beijing, China 2. PetroChina Research Institute of Petroleum Exploration & Development, Beijing, China
09:00	Paper 17	<i>Mapping CCUS technological trajectories and business models: The case of CO<sub>2</sub>-DISSOLVED</i> N. Béfort <sup>1,2</sup> , A. Laude <sup>1</sup> , and X. Galiègue <sup>2</sup> 1. Université de Reims Champagne-Ardenne, Reims, France 2. Université d'Orléans, Orléans, France
09:30	Paper 18	<i>The investigation on the key hydrocarbons of crude oil swelling via supercritical CO<sub>2</sub></i> H. Han <sup>1,2</sup> , S. Li <sup>1,2</sup> , X. Chen <sup>1,2</sup> , K. Zhang <sup>1,2</sup> , H. Yu <sup>1,2</sup> , and Z. Ji <sup>1,2</sup> 1. Research Institute of Petroleum Exploration & Development, Beijing China; 2. State Key Laboratory of Enhanced Oil Recovery, Beijing, China



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10:00	COFFEE	
10:30	Paper 19	<i>Carbon Capture Storage Monitoring</i> E. D. Rode, L.A. Schaerer, S.A. Marinello, and G. v. Hantelmann Marmot Passive Monitoring Technologies SA, Morges, Switzerland
11:00	Paper 20	<i>China's CO<sub>2</sub>-EOR Status and CO<sub>2</sub> Storage Potential</i> Y. Hu <sup>1</sup> , H. Dou <sup>1</sup> , L. Song <sup>2</sup> , K. Jiang <sup>2</sup> , and D. Zhu <sup>3</sup> 1. Research Institute of Petroleum Exploration and Development (RIPED), Beijing, China, 2. China University of Geosciences in Beijing, China 3. China University of Petroleum, Beijing, China
11:30	Paper 10	<i>Comparison of Low-Temperature Purification Processes and Conventional Amine Scrubbing For CO<sub>2</sub> Capture from Natural Gas in LNG Production</i> L.A. Pellegrini, G. De Guido, G. Lodi, and S. Mokhatab ; Politecnico di Milano, Milano, Italy, and Gas Processing Consultant, Halifax, NS, Canada
12:00		CLOSING CEREMONY
12:15		LUNCH
14:00		VISIT OF ICCF

## **Poster1**

*Carbon Dioxide Sorption on Functionalized Mesoporous Silica as Studied By Combined Calorimetric and Manometric Methods*

R. André, J. François

SETARAM Instrumentation, Caluire, France

## **Poster 2**

*Modelling and Experiments for CO<sub>2</sub> capture processes understanding*

Y. Coulier, W. Ravisy, J-M. Andanson, J-Y. Coxam, and K. Ballerat-Busserolles

Université Clermont Auvergne, Clermont-Ferrand, France

## **Poster 3**

*CCUS as a Pathway for Dealing with Global Climate Change*

H. Dou<sup>1</sup>, Y. Hu<sup>1</sup>, K. Jiang<sup>2</sup>, L. Song<sup>2</sup>, and D. Zhu<sup>3</sup>,

1. Research Institute of Petroleum Exploration and Development (RIPED), Beijing, China

2. China University of Geosciences in Beijing, China

3. China University of Petroleum, Beijing, China

## **Poster 4**

*Key Technologies of Carbon Dioxide Flooding and Storage in China*

M. Hao and Y. Hu

Research Institute of Petroleum Exploration and Development (RIPED), Beijing, China