NGCS DOHA 2013

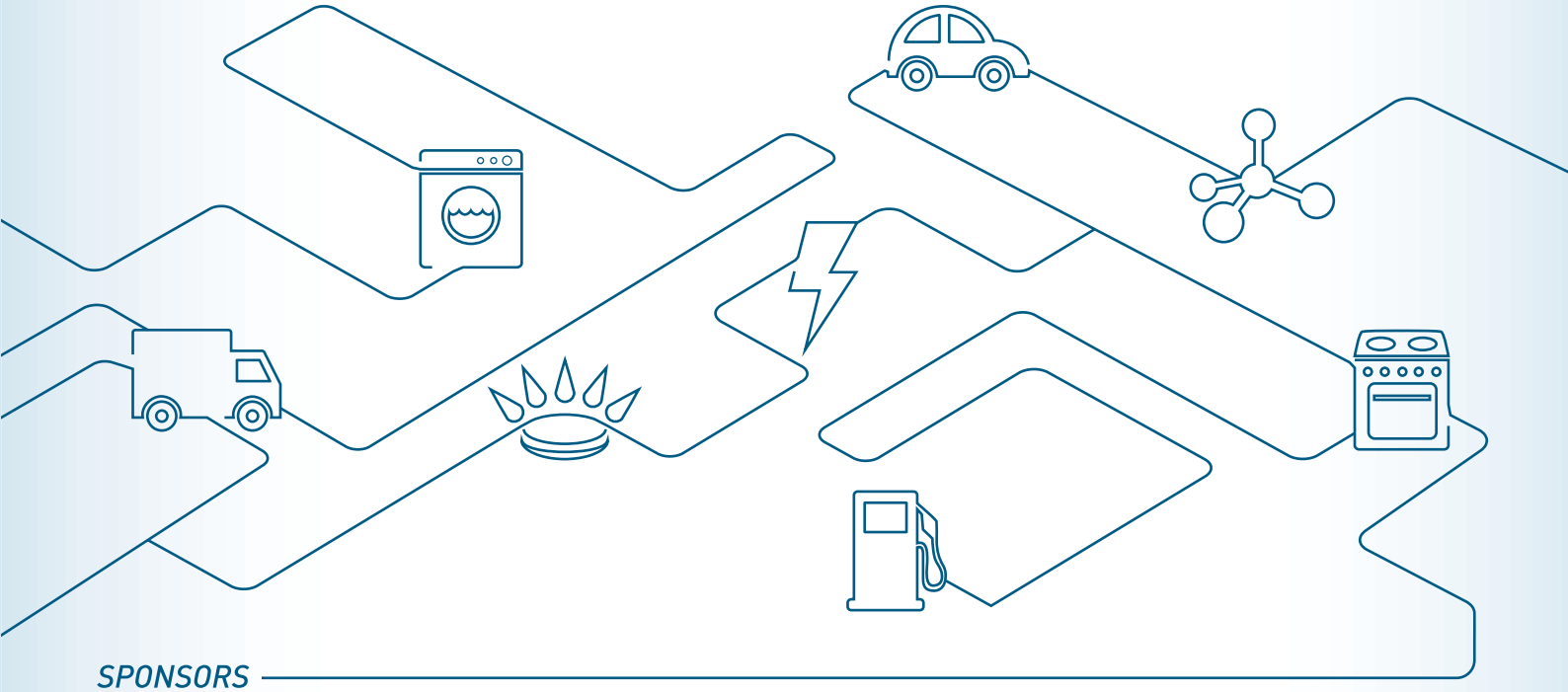
The 10th Natural Gas Conversion Symposium

GAS CONVERSION

THE CLEAN ENERGY OF THE FUTURE

Natural Gas Conversion Board

TEXAS A&M UNIVERSITY at QATAR



SPONSORS

PLATINUM

قطر للبترول Qatar Petroleum

sasol reaching new frontiers

QAPCO شركة قطر للبتروكيماويات QATAR PETROCHEMICAL COMPANY

ORYX GTL QP - SASOL joint venture أوريكس لتحويل الغاز إلى سوائل المحدودة ORYX GTL Limited

WELCOME FROM THE CHAIR

Dear NGCS 10 Participants,

On behalf of the Local Organizing Committee we extend you a warm welcome to Qatar: The GTL Capital of the World and host of the tenth edition of the Natural Gas Conversion Symposium. This international gathering takes place in Doha 2–7 March in the beautiful setting of the Ritz-Carlton hotel. More than 300 researchers, scientists and industry executives from 32 countries will participate in the Symposium, representing the diverse mix from academia and industry that has been a hallmark of this symposia series for almost three decades.

Qatar has the third largest reserves of natural gas in the world and is the leading exporter of LNG. In addition, Qatar is the home of the two largest operating GTL plants in the world: ORYX GTL, a joint venture between Qatar Petroleum and Sasol, and Pearl GTL, a joint project between Shell and Qatar Petroleum, and is experiencing major expansions in the chemical and petrochemical sectors.

His Excellency Dr. Mohammed bin Saleh Al-Sada, Qatar's Minister of Energy and Industry, is the Symposium's patron, and the major industrial stakeholders from Qatar have provided generous financial support for this event and participated in its organization. Thanks to generous support from local and international companies we have been able to provide financial assistance to oral and poster presenters from academic institutions, plenary and keynote speakers, all presenters from Qatar, as well as faculty and students from Qatar University and Texas A&M University at Qatar, enabling their participation in the Symposium. This event will contribute to strengthening Qatar's growing reputation as a regional and international hub for education and scientific research.

We gratefully acknowledge the help of the NGCB, its International Scientific Advisory Board, and all institutions and companies that have supported this event.

We wish all participants a productive and memorable meeting, and invite you to participate in the networking events to take advantage of the opportunities for enhanced discussions and the forging of friendships that will last for many years.

Dragomir B. Bukur
Texas A&M University at Qatar

Youssif A. Saleh
Qatar Shell Research & Technology Center

CO-CHAIRMEN OF THE LOCAL ORGANIZING COMMITTEE

Doha, Saturday, 2 March, 2013

SYMPOSIUM COMMITTEES

LOCAL ORGANIZING COMMITTEE

Dragomir B. Bukur (Texas A&M University at Qatar)
Co-Chair

Youssif A. Saleh (Qatar Shell Research & Technology Center)
Co-Chair

Ahmed Abdel-Wahab (Texas A&M University at Qatar)
Vice-Chair

Fadwa Eljack (Qatar University)
Vice-Chair

Anton Punt (ORYX GTL)
Vice-Chair

Katia Abboud Saba (ORYX GTL)
Nimir Elbashir (Texas A&M University at Qatar)
Abdulaziz Jassim Haji (Qatar Petroleum)
Carol Nader (Texas A&M University at Qatar)
Willem Scholten (Qatar Shell Research and Technology Center)

PROGRAM SUBCOMMITTEE

Alexis T. Bell (University of California, Berkeley)
Krijn de Jong (Utrecht University)
Nimir Elbashir (Texas A&M University at Qatar)
Anton Punt (ORYX GTL)
Willem Scholten (Qatar Shell Research and Technology Center)

FINANCE SUBCOMMITTEE

Theo Fleisch (IGP Energy)
Anton Punt (ORYX GTL)

NGCB INTERNATIONAL SCIENTIFIC ADVISORY BOARD

Alexis T. Bell (University of California, Berkeley – U.S.A.)
Chair

Carlos Apesteguia (INCAPE – Argentina)
Per Bakkerud (Haldor Topsøe – China)
Xinhe Bao (Dalian Institute of Chemical Physics – China)
Fabio Bellot Noronha (National Institute of Technology – Brazil)
Krijn de Jong (Utrecht University – The Netherlands)
Theo Fleisch (IGP Energy – U.S.A.)
Anders Holmen (Norwegian University of Science & Technology – Norway)
Jay Labinger (California Institute of Technology – U.S.A.)
Claude Mirodatos (IRCELYON – France)
Robert Motal (Chevron – U.S.A.)
Ad Punt (Shell – The Netherlands)
Lanny Schmidt (University of Minnesota – U.S.A.)
Wataru Ueda (Hokkaido University – Japan)

NGCB INTERNATIONAL FINANCE COMMITTEE

Gordon Kelly (Johnson Matthey Catalysts – U.K.)
Chair

Per Bakkerud (Haldor Topsøe – China)
Theo Fleisch (IGP Energy – U.S.A.)
Robert Motal (Chevron – U.S.A.)
Sebastian Muschelknautz (Linde – Germany)
Ad Punt (Shell – The Netherlands)
Andre Steynberg (Sasol – South Africa)

SPECIAL THANKS

Jim Abbott
Calvin Bartholomew
Arun Basu
Alessandra Beretta
Peter Broadhurst
Edd Blekkan
Niels Fabricius
Maria Flytzani-Stephanopolous
Anders Holmen
Arjan Jonckers
Alain Kiennemann
Jens Rostrup-Nielsen
Hans Niemantsverdriet
Hubert Schenck
Reinhard Schomaecker
Ronald Sills
Jerry Spivey

THE AWARD FOR EXCELLENCE IN NATURAL GAS CONVERSION

Professor Krijn de Jong

Professor of Inorganic Chemistry and Catalysis, Utrecht University

The Natural Gas Conversion Board and its International Scientific Advisory Committee sponsor and steward the Award for Excellence in Natural Gas Conversion, presented every three years during the Natural Gas Conversion Symposium to recognize significant and enduring contributions to science and technology for the conversion of natural gas to valuable products.

The award has been presented just six times in the past twenty-five years, and recognizes individuals who – in the eyes of their peers – have made noteworthy contributions in the field of natural gas conversion and the development of technologies that are likely to play an important part in meeting the world's chemical and fuel requirements in the years ahead. The previous award recipients are Jack Lunsford (1993), Jens Rostrup-Nielsen (1998), Lanny Schmidt (2001), Enrique Iglesia (2004), David Trimm (2007) and Anders Holmen (2010).

Professor Krijn de Jong (Utrecht University, the Netherlands) has been chosen as the recipient of the 2013 Award for Excellence in Natural Gas Conversion. Professor de Jong is recognized for consistently making noteworthy contributions to the field of natural gas conversion and the development of technologies that are likely to play an important role in meeting the world's chemical and fuel requirements in the years ahead. These contributions are based on a powerful combination of scientific excellence, originality and societal relevance. In particular he has made eminent contributions to the synthesis, structural characterization, fundamental understanding and utilization of solid catalysts for the conversion of natural gas to fuels and chemicals.

Specific highlights include his research on cobalt particle size effects for Fischer-Tropsch synthesis, and supported iron nanoparticles for the direct conversion of synthesis gas to lower olefins. In addition, Professor de Jong has served as a leading figure both nationally and internationally in his field of catalysis and chemistry, via chair and board membership roles in conferences, program committees, advisory councils, professional associations, and editorial board roles for leading international scientific journals and book series.

Last but not least, de Jong is also recognized for being an inspirational and driven teacher, using his didactic talent to equip a younger generation with the skills necessary to make contributions themselves to technology development in natural gas conversion and other areas.

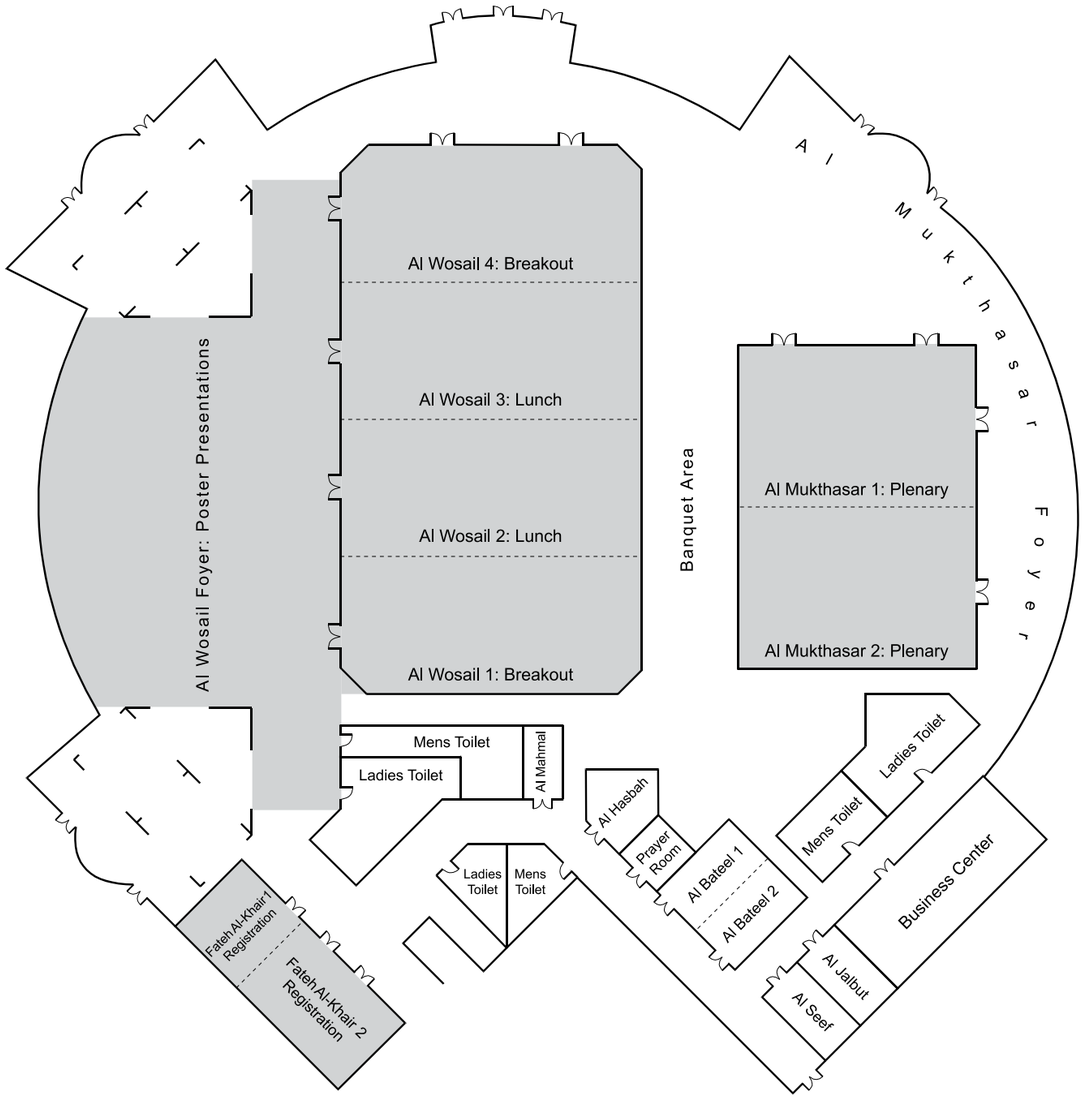
Professor de Jong will deliver the Award Plenary Lecture on Tuesday, March 5th.

SYMPOSIUM SCHEDULE

- Topic 1: Production and Purification
- Topic 2: Synfuels
- Topic 3: Conversion
- Topic 4: Energy
- Topic 5: Commercial

NGCS 10	ROOM NAME	Al Mukthasar	Al Wosail 1	Al Wosail 4	Al Mukthasar	Al Wosail 1	Al Wosail 4		Al Mukthasar	Al Wosail 1	Al Wosail 4	Al Mukthasar	Al Wosail 1	Al Wosail 4	
	SATURDAY, 2 MARCH 2013	SUNDAY, 3 MARCH 2013			MONDAY, 4 MARCH 2013				TUESDAY, 5 MARCH 2013			WEDNESDAY, 6 MARCH 2013			THURSDAY, 7 MARCH 2013
		Registration 7.30 – 16.00			Registration 8.00 – 16.00				Registration 8.00 – 16.00			Registration 8.00 – 11.00			
8.00 – 8.30		Opening Ceremony 8.00 - 9.00													
8.30 – 8.50					Maria Flytzany-Stephanopoulos (Plenary)				Krijn de Jong (Plenary)			Yong-Wang Li (Plenary)			Optional Visits ORYX GTL Pearl GTL QAPCO
8.50 – 9.10															
9.10 – 9.30		Rob Overtoom (Plenary) 9.10 – 10.10													
9.30 – 9.50					OP2.10	KN5.2	OP1.09		OP2.19		KN1.2	OP2.26	OP5.09	KN4.2	
9.50 – 10.10					OP2.11		OP1.10		OP2.20			OP2.27	OP5.10		
10.10 – 10.40		Coffee Break			Coffee Break				Coffee Break			Coffee Break			
10.40 – 11.00		OP2.01	KN3.1	OP1.01	KN2.2	OP5.05	OP1.11		OP2.21	OP3.09	OP1.20	OP2.28	KN5.3	OP4.05	
11.00 – 11.20		OP2.02		OP1.02		OP5.06	OP1.12		OP2.22	OP3.10	OP1.21	OP2.29		OP4.06	
11.20 – 11.40		OP2.03	OP3.01	OP1.03	OP2.12	OP5.07	OP1.13		OP2.23	OP3.11	OP1.22	OP2.30	OP5.11	OP4.07	
11.40 – 12.00		OP2.04	OP3.02	OP1.04	OP2.13	OP5.08	OP1.14		OP2.24	OP3.12	OP1.23	KN2.4	OP5.12		
12.00 – 12.20		OP2.05	OP3.03	QNRF									OP5.13		
12.20 – 14.00		Lunch			Lunch				Lunch			Closing Session 12.20 – 12.40			
14.00 – 14.20		KN2.1	OP5.01	OP1.05	KN2.3	OP3.04	OP1.15		OP4.01	KN3.2	OP1.24	Lunch 12.40 – 14.30			
14.20 – 14.40			OP5.02	OP1.06		OP3.05	OP1.16		OP4.02		OP1.25				
14.40 – 15.00		OP2.06	OP5.03	KN1.1	OP2.15	OP3.06	OP1.17		KN4.1	OP3.13	OP1.26				
15.00 – 15.20	Registration	OP2.07	OP5.04		OP2.16	OP3.07	OP1.18			OP3.14	OP1.27				
15.20 – 15.40		OP2.08	KN5.1	OP1.07	OP2.17	OP3.08	OP1.19		OP4.03	OP3.15					
15.40 – 16.00		OP2.09		OP1.08	OP2.18	OP3.09			OP4.04	OP3.16					
16.00 – 16.30		Coffee Break 16.00 – 16.30			Coffee Break 16.00 – 16.30				Coffee Break 16.00 – 16.30						
16.30 – 16.50		Poster Session 16.30 – 18.00			Poster Session 16.30 – 18.00				Poster Session 16.30 – 18.00						
16.50 – 17.10															
17.10 – 17.30															
17.30 – 17.50															
17.50 – 18.10															
18.10 – 18.30															
18.30 – 19.00	Welcome Reception 18.30 – 20.30														
19.00 – 20.00		Dinner 19.00 – 21.30							Gala Dinner 19.00 – 22.00						
20.00 – 21.00															
21.00 – 22.00															

FLOOR PLAN



FATEH AL-KHAIR 1&2: Registration
AL MUKTHASAR 1&2: Plenary
AL WOSAIL 4: Breakout
AL WOSAIL 2&3: Lunch
AL WOSAIL 1: Breakout
AL WOSAIL FOYER: Poster Presentations

ORAL PROGRAM

SATURDAY, 2 MARCH 2013

15.00 – 18.30	REGISTRATION	ROOM: FATEH AL-KHAIR
18.30 – 20.30	WELCOME RECEPTION	ROOM: AL MUKTHASAR

SUNDAY, 3 MARCH 2013 — MORNING SESSIONS

7.30 – 16.00	REGISTRATION	ROOM: FATEH AL-KHAIR
8.00 – 9.00	OPENING CEREMONY	ROOM: AL MUKTHASAR
	Introductions	*Mr. Ad Punt, NGCB Chairman, Shell Global Solutions*
	Welcoming Remarks	*Prof. Dragomir Bukur, Local Organizing Committee Co-Chairman, Texas A&M University at Qatar* *Mr. Youssif A. Saleh, Local Organizing Committee Co-Chairman, Qatar Shell Research & Technology Centre* *Dr. Mohammed bin Saleh Al-Sada, Minister of Energy and Industry, Chairman and Managing Director, Qatar Petroleum* *Mr. Wael Sawan, Executive Vice President and Chairman, Qatar Shell* *Mr. Abdulrahman M. Al-Suwaidi, Chief Executive Officer, ORYX GTL* *Mr. Marjo Louw, President, Sasol Qatar* *Dr. Mark Weichold, Dean and Chief Executive Officer, Texas A&M University at Qatar*
9.10 – 10.10	PL1 – Pearl GTL: Experiences of Commissioning, Start-Up and Ramp Up of the First World Scale GTL Plant in Qatar	
	Rob Overtoom, Qatar Shell GTL, Qatar	
10.10 – 10.40	COFFEE BREAK	ROOM: AL WOSAIL FOYER
	TOPIC 2: SYNFUELS	ROOM: AL MUKTHASAR
10.40 – 11.00	OP2.01	Supported Cobalt FTS Catalysts Studied by Adsorption Microcalorimetry
	Edd Anders Blekkan, Norwegian University of Science and Technology, Norway	
11.00 – 11.20	OP2.02	The Reversibility of the Size Dependant Re-oxidation of a Co/Al2O3 Fischer-Tropsch Catalyst by In-situ Magnetic Measurements
	Michael Claeys, University of Cape Town, South Africa	
11.20 – 11.40	OP2.03	Formation of Different Carbon Species in the Alumina Supported Cobalt Fischer-Tropsch Catalysts in a Slurry Reactor
	Diego Peña, Unité de Catalyse et de Chimie du solide, France	
11.40 – 12.00	OP2.04	Fischer-Tropsch Synthesis: Linking Cobalt Catalyst Promoter Performance Parameters to Catalyst Structure: an EXAFS Investigation
	Gary Jacobs, University of Kentucky, United States of America	
12.00 – 12.20	OP2.05	Citric Acid Assisted Synthesis of Highly Dispersed Metallic Co/SiO2 Without Reduction as Prepared Co/SiO2 Catalysts for Fischer-Tropsch Synthesis
	Noritatsu Tsubaki, University of Toyama, Japan	
	TOPIC 3: CONVERSION	ROOM: AL WOSAIL 1
10.40 – 11.20	KN3.1 – Oxidative Activation and Functionalization of Methane and Ethane	
	Johannes Lercher, TUM, Germany	
11.20 – 11.40	OP3.01	Gas Phase Methane Oxidative Coupling Studied by Spatial Reactor Profiles, Spatially Resolved Spectroscopy and Microkinetic Reactor Simulations
	Raimund Horn, Fritz Haber Institute of the Max Planck Society, Germany	
11.40 – 12.00	OP3.02	Microkinetic Modelling of Methane Oxidative Coupling on a 1%SrLa2O3 catalyst as a Basis for Further Catalyst Design
	Panagiotis Kechagiopoulos, Ghent University, Belgium	
12.00 – 12.20	OP3.03	Effect of Water and Carbon Dioxide on Methane and Ethane Oxidation Over Model Methane Oxidative Coupling Catalysts
	Vladimir Lomonosov, ZAO SCHAG, Russia	
	TOPIC 1: PRODUCTION AND PURIFICATION	ROOM: AL WOSAIL 4
10.40 – 11.00	OP1.01	Hierarchically Structured Ni/CeO2 Nanocatalysts for Methane Reforming
	Dehua Dong, Curtin University Fuels and Energy Technology Institute, Australia	
11.00 – 11.20	OP1.02	Syngas Production by Bireforming of Methane over the Co-Based Bimetallic Alumina Supported Catalyst
	Sholpan Itkulova, D.V. Sokolsky Institute of Organic Catalysis and Electochemistry, Kazakhstan	
11.20 – 11.40	OP1.03	Molecular-level Understanding of the Kinetic Role of CO2 in Reforming Processes on Rh through Hierarchical Multiscale Approach
	Matteo Maestri, Politecnico di Milano, Italy	
11.40 – 12.00	OP1.04	Extraordinary Performance of Novel Ni and Co Bimetallic Catalysts in Methane Dry Reforming Reaction
	Albin Pintar, National Institute of Chemistry, Slovenia	
12.00 – 12.20	QNRF: A Driving Force for Scientific Research in Qatar	
	Abdul Sattar Al-Taie, Qatar National Research Fund, Qatar	
12.20 – 14.00	LUNCH	ROOM: AL WOSAIL 2 & 3

SUNDAY, 3 MARCH 2013 — AFTERNOON SESSIONS

	TOPIC 2: SYNFUELS	ROOM: AL MUKTHASAR
14.00 – 14.40	KN2.1 – Mechanisms of Activation and Deactivation of Cobalt Catalysts in Fischer-Tropsch Synthesis	
	Andrei Khodakov, University of Lille, France	
14.40 – 15.00	OP2.06	CO-insertion Mechanism Based Comprehensive Kinetic Model of Fischer-Tropsch Synthesis over Re-promoted Co Catalyst
	Branislav Todic, Texas A&M University at Qatar, Qatar	
15.00 – 15.20	OP2.07	First Principles Based Microkinetics Simulations of Fischer-Tropsch Kinetics
	M.M. Ghouri, Eindhoven University of Technology, The Netherlands	
15.20 – 15.40	OP2.08	Fischer-Tropsch Synthesis: Kinetic Effect of Water over a 25%Co/Al2O3 Catalyst
	Wenping Ma, University of Kentucky, United States of America	
15.40 – 16.00	OP2.09	New Approach for Kinetic Modeling of Fisher-Tropsch on Cobalt Based Catalyst
	Anders Holmen, Norwegian University of Science and Technology, Norway	
	TOPIC 5: COMMERCIAL	ROOM: AL WOSAIL 1
14.00 – 14.20	OP5.01	Strategy to Monetize Natural Gas Reserves
	Zameer Patel, ORYX GTL, Qatar	
14.20 – 14.40	OP5.02	Sasol's GTL Catalyst Strategy: the Importance of Fundamental Insight for Accelerating the Development of a Cobalt Fischer-Tropsch Catalyst Regeneration Process
	Philip Gibson, Sasol Technology, South Africa	
14.40 – 15.00	OP5.03	Intensification of the Sasol SPD Reactor-Realizing Potential
	Alex Vogel, Sasol Technology, South Africa	
15.00 – 15.20	OP5.04	Higher One-Pass Conversion and Productivity in a Scaled-up Pilot GTL Unit
	Vladimir Mordkovich, Technological Institute for Superhard and Novel Carbon Materials, Russia	
15.20 – 16.00	KN5.1 – Unlocking GTL Value at Scale: Stability and Efficiency	
	Marjo Louw, Sasol Qatar, Qatar	
	TOPIC 1: PRODUCTION AND PURIFICATION	ROOM: AL WOSAIL 4
14.00 – 14.20	OP1.05	PGM Catalysts for Tar Reforming of Biomass-derived Syngas
	Martin Fowles, Johnson Matthey, United Kingdom	
14.20 – 14.40	OP1.06	Synthesis Gas Production from Bio-oil: Steam Reforming of Ethanol as a Model Compound
	Svetlana Pavlova, Boreskov Institute of Catalysis, Russia	
14.40 – 15.20	KN1.1 – A Review of Kinetics, Reaction Mechanism and Catalyst Deactivation for Syngas Production from Ethanol	
	Fabio Bellot Noronha, INT, Brazil	
15.20 – 15.40	OP1.07	Hydrogen Production by Steam Reforming of Biomass-derived Glycerol over Ni-based Catalysts
	Seung-hoon Kim, Korea Institute of Science and Technology, South Korea	
15.40 – 16.00	OP1.08	Hydrogen Production by Dimethyl Ether Steam Reforming over Copper Catalyst Prepared Using the Sol-gel Method
	Kaoru Takeishi, Shizuoka University, Japan	
16.00 – 16.30	COFFEE BREAK	AL WOSAIL FOYER
16.30 – 18.00	POSTER SESSION TOPIC 1: PRODUCTION AND PURIFICATION	AL WOSAIL FOYER
18.15	BUS DEPARTURE TO AL-MOURJAN RESTAURANT (FROM RITZ – CARLTON FRONT ENTRANCE)	
19.00 – 21.30	DINNER	AL-MOURJAN RESTAURANT – DOHA CORNICHE

MONDAY, 4 MARCH 2013 — MORNING SESSIONS

8.00 – 16.00	REGISTRATION	ROOM: FATEH AL-KHAIR
8.30 – 9.30	PL2 – "Doing More with Less": Atomically Dispersed Supported Metal Catalysts for Energy and Hydrogen Production	ROOM: AL MUKTHASAR
	Maria Flytzani-Stephanopoulos, Tufts University, United States of America	
	TOPIC 2: SYNFUELS	ROOM: AL MUKTHASAR
9.30 – 9.50	OP2.10	Interplay Between Pore Size and Metal Particle Nanospatial Distribution for the Stability of CuZn/SiO2 Methanol Synthesis Catalysts
	Gonzalo Prieto, Utrecht University, The Netherlands	
9.50 – 10.10	OP2.11	Correlation of Copper Surface Area and Acidic Site Density with Intrinsic Activity for Direct Dimethyl ether Synthesis from Syngas on the Bifunctional Catalysts
	Jong Wook Bae, Sungkyunkwan University, South Korea	
10.10 – 10.40	COFFEE BREAK	ROOM: AL WOSAIL FOYER
10.40 – 11.20	KN2.2 – Utilization of Synthesis Gas for the Production of Fuels and Chemicals	
	Alexis T. Bell, University of California, Berkeley, United States of America	
11.20 – 11.40	OP2.12	Kinetic Investigation of Carbon Monoxide Hydrogenation under Realistic Conditions of Methanation of Biomass Derived Syngas
	Nouria Fatah, Ecole Centrale de Lille, France	
11.40 – 12.00	OP2.13	Molecular Simulation and Experimental Measurements of the Diffusion Coefficients of Gases in Heavy Hydrocarbons for the Design of Gas-to-Liquid Process
	Ioannis Economou, The Petroleum Institute, United Arab Emirates	
	TOPIC 5: COMMERCIAL	ROOM: AL WOSAIL 1
9.30 – 10.10	KN5.2 – ORYX GTL: A Success Story with a Bright Future	
	Anton Punt, ORYX GTL, Qatar	
10.10 – 10.40	COFFEE BREAK	ROOM: AL WOSAIL FOYER
10.40 – 11.00	OP5.05	Advances in FT Multi-tubular Fixed Bed Technology
	Arend Hoek, Shell, The Netherlands	
11.00 – 11.20	OP5.06	Expanding the Technology Limits in Synfuels Production
	Esben Sørensen, Haldor Topsøe, Denmark	
11.20 – 11.40	OP5.07	Fischer-Tropsch Technology Demonstration: Key Points for Scale-up Strategy from Pilot Reactors to Industrial Unit
	Jeremy Gazarian, IFP Energies nouvelles, France	
11.40 – 12.00	OP5.08	Autothermal Reforming - A Preferred Technology for Conversion of Natural Gas to Synthesis Gas in Industrial GTL Applications
	Thomas Christensen, Haldor Topsøe, Denmark	
	TOPIC 1: PRODUCTION AND PURIFICATION	ROOM: AL WOSAIL 4
9.30 – 9.50	OP1.09	Microchannel Methane-to-Syngas Conversion over Alternative Catalyst Configurations
	Ahmet Avci, Bogazici University, Turkey	
9.50 – 10.10	OP1.10	P-modification for improved S-tolerance of Supported Rh Catalysts During the Partial Oxidation of Methane
	Stefano Cimino, CNR, Italy	
10.10 – 10.40	COFFEE BREAK	ROOM: AL WOSAIL FOYER
10.40 – 11.00	OP1.11	Kinetic Analysis and Raman Surface Characterization in the CPO of Hydrocarbon Fuels
	Gianpiero Groppi, Politecnico di Milano, Italy	
11.00 – 11.20	OP1.12	Catalytic Partial Oxidation of Methane on Platinum Foam Catalysts Studied by Spatially Resolved Methods
	Raimund Horn, Fritz Haber Institute of the Max Planck Society, Germany	
11.20 – 11.40	OP1.13	In situ Raman and Isotopic Studies of Methane Partial Oxidation to Syngas over SiO2 Supported Rhodium and Iridium Catalysts
	Weizheng Weng , Xiamen University, China	
11.40 – 12.00	OP1.14	Mechanistic and Kinetic Insights into the Effect of Size of Tailored Rh Nanoparticles Supported on g-Al2O3 on Partial Oxidation of Methane to Syngas
	Evgenii Kondratenko, Leibniz Institut für Katalyse, Germany	
12.20 – 14.00	LUNCH	ROOM: AL WOSAIL 2 & 3

MONDAY, 4 MARCH 2013 — AFTERNOON SESSIONS

	TOPIC 2: SYNFUELS	ROOM: AL MUKTHASAR
14.00 – 14.40	KN2.3 – Fundamental Issues on Practical Fischer-Tropsch Catalysts: How Surface Science Can Help	
	Hans Niemantsverdriet, Eindhoven University of Technology, The Netherlands	
14.40 – 15.00	OP2.15	Development and Validation of an Integrated Model for the Description the Products Yield and their Vapour/Liquid Repartition in the Fischer-Tropsch Synthesis
	Carlo Giorgio Visconti, Politecnico di Milano, Italy	
15.00 – 15.20	OP2.16	Modelling of Heat and Mass Transfer Limitations in a Fischer-Tropsch Fixed Bed Reactor: Comparisons between Supercritical Phase and Gas Phase
	Jan Hendrik Blank, Texas A&M University at Qatar, Qatar	
15.20 – 15.40	OP2.17	Kinetic Modelling of Fischer-Tropsch Synthesis on an Industrial Co-Ru Catalyst with Carbon Dependent Olefin Re-adsorption Approaches
	Tejas Bhatelia, CSIRO, Australia	
15.40 – 16.00	OP2.18	Synergistic Effects of Water and CO During Deactivation by Sintering of Cobalt Fischer-Tropsch Catalysts
	Leendert Bezemer, Shell, The Netherlands	
	TOPIC 3: CONVERSION	ROOM: AL WOSAIL 1
14.00 – 14.20	OP3.04	NO2-promoted Oxidation of Methane to Formaldehyde at Very Short Residence Time
	Valérie Burkle-Vitzthum, CNRS LRGP, France	
14.20 – 14.40	OP3.05	The Use of H2O and N2O as Selective Oxidising Agents for the Oxidative Coupling of Methane Over a High Surface Area Mn-Na2WO4/SiO2 Catalyst
	Michael Stockenhuber, University of Newcastle, Australia	
14.40 – 15.00	OP3.06	Selective Oxidation of Methane to Value-added Products
	Naseer Ahmed Khan, University of Newcastle, Australia	
15.00 – 15.20	OP3.07	Rational Routes of Methane Conversion into Valuable Products over Systematically Studied Highly Effective-Catalysts
	Zinfer Ismagilov, Boreskov Institute of Catalysis, Russia	
15.20 – 15.40	OP3.08	Selective Direct Methane Oxidation over Platinum Based Solid Catalysts in Sulfuric Acid
	Tobias Zimmermann, Max Planck Institut für Kohlenforschung, Germany	
15.40 – 16.00	OP3.09	Combining Oxidative Coupling of Methane with COx Hydrogenation for Increasing the Yield of Higher Alkanes
	Uwe Rodemerck, Leibniz Institut für Katalyse, Germany	
	TOPIC 1: PRODUCTION AND PURIFICATION	ROOM: AL WOSAIL 4
14.00 – 14.20	OP1.15	Thermodynamic Modeling and Optimization of Tri-Reforming Reactors for Syngas Generation
	Mohamed Noureldin, Texas A&M University, United States of America	
14.20 – 14.40	OP1.16	Catalytic Oxy-reforming for H2 and Syngas Production in Multistep Process
	Francesco Basile, University of Bologna, Italy	
14.40 – 15.00	OP1.17	Partial Oxidation of Methane at Low Temperature over Various Supported Ni Catalysts and Addition of Second Metal as a Promoter
	Daiki Mukai, Waseda University, Japan	
15.00 – 15.20	OP1.18	Dry Reforming of CH4 on Supported Co and on Rh Doped Co/Al2O3 Catalysts
	Andras Erdohelyi, Institute of Physical Chemistry and Materials Sciences University of Szeged, Hungary	
15.20 – 15.40	OP1.19	Volumetric Matrix Burners - New Way to Low-scale Syngas
	Vladimir Arutyunov, Semenov Institute of Chemical Physics, Russia	
16.00 – 16.30	COFFEE BREAK	AL WOSAIL FOYER
16.30 – 18.00	POSTER SESSION TOPIC 2: SYNFUELS TOPIC 5: COMMERCIAL	AL WOSAIL FOYER

TUESDAY, 5 MARCH 2013 — MORNING SESSIONS

8.00 – 16.00	REGISTRATION		ROOM: FATEH AL-KHAIR
8.30 – 9.30	PL3 – Control and Size Distribution of Supported Metal Nanoparticles for Synthesis Gas Conversion Catalysis		ROOM: AL MUKTHASAR
	Krijn de Jong, Utrecht University, The Netherlands		
	TOPIC 2: SYNFUELS		ROOM: AL MUKTHASAR
9.30 – 9.50	OP2.19	Impact of Crystallographic Structure on Cobalt Fischer-Tropsch Catalyst Performances	
	Laure Braconnier, CSIRO, Australia		
9.50 – 10.10	OP2.20	Preparation, Characterization, Activity and Stability of Titania-supported Cobalt Fischer-Tropsch catalysts using Deposition-Precipitation	
	Thomas Eschemann, Utrecht University, The Netherlands		
10.10 – 10.40	COFFEE BREAK		ROOM: AL WOSAIL FOYER
10.40 – 11.00	OP2.21	The State of Promotors in Co Fischer-Tropsch Catalyst	
	Georg Voss, Norwegian University of Science and Technology, Norway		
11.00 – 11.20	OP2.22	Titania Doped Silicon Carbide (SiC) Containing Cobalt Catalyst for Fischer-Tropsch Synthesis	
	Francis Luck, Total, France		
11.20 – 11.40	OP2.23	In Situ and Ex Situ Investigations on the Deactivation of Co-based Fischer-Tropsch Synthesis Catalysts	
	Nikolaos Tsakoumis, Norwegian University of Science and Technology, Norway		
11.40 – 12.00	OP2.24	Optimisation of Reduction Promoters on Cobalt Fischer-Tropsch Catalysts	
	Gordon Kelly, Johnson Matthey, United Kingdom		
	TOPIC 3: CONVERSION		ROOM: AL WOSAIL 1
10.40 – 11.00	OP3.09	Oxidative Coupling of Methane – A complex Surface/Gas Phase Mechanism with Strong Impact on the Reaction Engineering	
	Reinhard Schomaecker, TU Berlin, Germany		
11.00 – 11.20	OP3.10	Optimal Reactor Design for Ethylene Production from Methane	
	Thomas Serres, IRCELYON, France		
11.20 – 11.40	OP3.11	Exhaust-Gas Reforming of Methane in a Catalytic Microchannel Reactor	
	Irem Sen, Bogazici University, Turkey		
11.40 – 12.00	OP3.12	Rational Design of Platinum Nanoparticles for Propane Dehydrogenation	
	De Chen, Norwegian University of Science and Technology, Norway		
	TOPIC 1: PRODUCTION AND PURIFICATION		ROOM: AL WOSAIL 4
09.30 – 10.10	KN1.2	The Scientific Basis for Synthetic Gas Production	
	Jens Sehested, Haldor Topsøe, Denmark		
10.10 – 10.40	COFFEE BREAK		ROOM: AL WOSAIL FOYER
10.40 – 11.00	OP1.20	Recent Advances in Sour Water Gas Shift Technology	
	Jim Abbott, Johnson Matthey, United Kingdom		
11.00 – 11.20	OP1.21	Advances in ITM Technology for Syngas Production	
	Edward Foster, Air Products and Chemicals, United States of America		
11.20 – 11.40	OP1.22	The Challenge of Purification in Syngas Technologies	
	Martin Fowles, Johnson Matthey, United Kingdom		
11.40 – 12.00	OP1.23	Study of Metal Dusting Corrosion Initiation in Conversion of Natural Gas to Syngas	
	Hilde Venvik, Norwegian University of Science and Technology, Norway		
12.20 – 14.00	LUNCH		ROOM: AL WOSAIL 2 & 3

TUESDAY, 5 MARCH 2013 — AFTERNOON SESSIONS

	TOPIC 4: ENERGY		ROOM: AL MUKTHASAR
14.00 – 14.20	OP4.01	Determination of the Active Phase of the ZnO/CuO-based Catalysts for H2 Production via Steam Reforming of Methanol	
	Edmond Abi-Aad, ULCO, France		
14.20 – 14.40	OP4.02	Steam Reforming of Ethane and Ethanol over Rh/Alumina: a Comparative Study	
	S. David Jackson, University of Glasgow, United Kingdom		
14.40 - 15.20	KN4.1 – Tri-Generation of Syngas, Hydrogen, and Carbon Black with Zero Emissions: Challenges and Solutions Towards Commercialization		
	Nesrin Ozalp, Texas A&M University at Qatar, Qatar		
15.20 – 15.40	OP4.03	Fe-based Perovskite-type Catalysts for the Water Gas Shift Reaction at Medium Temperature	
	Francesco Basile, University of Bologna, Italy		
15.40 – 16.00	OP4.04	Production of CO-free H2; Photodecomposition of Formic Acid on N-doped and Au-promoted TiO2	
	Frigyes Solymosi, University of Szeged, Hungary		
	TOPIC 3: CONVERSION		ROOM: AL WOSAIL 1
14.00 – 14.40	KN3.2 – Methane Chemistry: Back and Forth Studies Between Catalytic Process Design and Reaction Fundamentals		
	Claude Mirodatos, IRCELYON, France		
14.40 – 15.00	OP3.13	Investigation of the Ethane ODH Mechanism over NiO-based Catalysts via Transient Isotopic Studies	
	Eleni Heracleous, CPERI/CERTH, Greece		
15.00 – 15.20	OP3.14	Metal Oxides Modified NiO Catalysts for Oxidative Dehydrogentaion of Ethane to Ethylene	
	Haibo Zhu, King Abdullah Univ. of Science and Technology, Saudi Arabia		
15.20 – 15.40	OP3.15	Conversion of Methane to Propylene via Methyl Halides: Effects of Morphology and Promoter on CeO2-Catalyzed Oxidative Chlorination of Methane	
	Ye Wang, Xiamen University, China		
15.40 – 16.00	OP3.16	Concurrent Engineering in Mini-plant Scale; Comprehensive UniCat Approach for Oxidative Coupling of Methane (OCM)	
	Reinhard Schomaecker, Berlin Institute of Technology, Germany		
16.00 – 16.30	COFFEE BREAK		ROOM: AL WOSAIL FOYER
	TOPIC 1: PRODUCTION AND PURIFICATION		ROOM: AL WOSAIL 4
14.00 – 14.20	OP1.24	Hydrogen Production Through CO2 Reforming of Methane over Ni/CeZrO2 Catalysts	
	Fabio Bellot Noronha, National Institute of Technology, Brazil		
14.20 – 14.40	OP1.25	Natural Gas to Syngas: Novel and Thermally Stable Rh Substituted Pyrochlore (La2Zr2O7) Catalysts	
	Jerry Spivey, Louisiana State University, United States of America		
14.40 – 15.00	OP1.26	Understanding the Effect of Support Chemical Composition on the Mechanism of WGS Reaction over Supported Pt via Transient Isotopic Techniques	
	Angelos Efstathiou, University of Cyprus, Cyprus		
15.00 – 15.20	OP1.27	The Influence of Promoter on Ni/γ-Al2O3 Catalyst in CO2-Steam Reforming of Methane to Syngas at High Pressure	
	Young Chul Kim, Chonnam National University, South Korea		
16.00 – 16.30	COFFEE BREAK		AL WOSAIL FOYER
16.30 – 18.00	POSTER SESSION TOPIC 3: CONVERSION TOPIC 4: ENERGY		AL WOSAIL FOYER
19.00 – 22.00	GALA DINNER		RITZ-CARLTON DOHA

08.00 – 11.00	REGISTRATION	ROOM: FATEH AL-KHAIR
8.30 – 9.30	PL4 – A Holistic Approach Based on Theoretical and Experimental Work to Industrial Development of Fischer Tropsch Synthesis Catalysist	ROOM: AL MUKTHASAR
	Yong-Wang Li, Synfuels China, China	
	TOPIC 2: SYNFUELS	ROOM: AL MUKTHASAR
9.30 – 09.50	OP2.26	Characterization of Synthetic Gas-to-Liquid Jet Fuel Blends: Hydrocarbon Chain Length Effect on Fuel Properties
	Elfatih Elmalik, Texas A&M University at Qatar, Qatar	
9.50 – 10.10	OP2.27	Selective Synthesis of Gasoline from Syngas in Near-critical Phase
	Xiaohong Li, University of Kitakyushu, Japan	
10.10 – 10.40	COFFEE BREAK	ROOM: AL WOSAIL FOYER
10.40 – 11.00	OP2.28	Oxidation of Hägg Carbide at High Temperature Fischer-Tropsch Synthesis Captured In-situ
	Michael Claeys, University of Cape Town, South Africa	
11.00 – 11.20	OP2.29	Intensification of Fischer-Tropsch Catalyst Tests: An Optimized Methodology to Study the Catalysts Stability
	Vincent Lecocq, IFP Energies nouvelles, France	
11.20 – 11.40	OP2.30	Self-organization in Fischer-Tropsch Synthesis
	Hans Schulz, Karlsruhe Institute of Technology, Germany	
11.40 – 12.20	KN2.4 – Recent Advances in Fischer-Tropsch Synthesis Technologies	
	Calvin Bartholomew, Brigham Young University, United States of America	
	TOPIC 5: COMMERCIAL	ROOM: AL WOSAIL 1
9.30 – 9.50	OP5.09	Microreactor Approaches for Liquid Fuel Production from Bio-derived Syngas
	Peter Pfeifer, Karlsruhe Institute of Technology, Germany	
9.50 – 10.10	OP5.10	Modular GTL – Economic Solution for Distributed Gas
	Neville Hargreaves, Oxford Catalysts, United Kingdom	
10.10 – 10.40	COFFEE BREAK	ROOM: AL WOSAIL FOYER
10.40 – 11.20	KN5.3 – GTL Solution for Associated Gas - Converting a Liability into Economic Value	
	Iain Baxter, CompactGTL, United Kingdom	
11.20 – 11.40	OP5.11	Chiyoda CO2 Reforming Technology
	Fuyuki Yagi, Chiyoda Corporation, Japan	
11.40 – 12.00	OP5.12	The Process of H2S Selective Catalytic Oxidation for On-site Purification of Hydrocarbon Gaseous Feedstock. Technology Demonstration
	Zinfer Ismagilov, Boreskov Institute of Catalysis, Russia	
12.00 – 12.20	OP5.13	OP5.13 (756) – Short Contact Time Catalytic Partial Oxidation of Light Alkanes for Olefins Production
	Luca Basini, Eni, Italy	
	TOPIC 4: ENERGY	ROOM: AL WOSAIL 4
9.30 – 10.10	KN4.2 – Chemical Looping: To Combustion and Beyond	
	Götz Veser, University of Pittsburgh, United States of America	
10.10 – 10.40	COFFEE BREAK	ROOM: AL WOSAIL FOYER
10.40 – 11.00	OP4.05	High Temperature Methanation: Catalyst Considerations
	Thoa Nguyen, Haldor Topsøe, Denmark	
11.00 – 11.20	OP4.06	Transient Behaviour of Structured LaMnO3 Catalyst During Methane Combustion at High Pressure
	Gianluca Landi, Research Institute on Combustion, Italy	
11.20 – 11.40	OP4.07	Effect of Lanthanum on the Properties of Copper, Cerium and Zirconium Catalysts for Preferential Oxidation of Carbon Monoxide
	Maria do Carmo Rangel, Universidade Federal da Bahia, Brazil	
12.20 – 12.40	CLOSING SESSION	
12.40 – 14.30	LUNCH	ROOM: AL WOSAIL 2 & 3

SITE VISIT PROGRAM

8.30	DEPART BY BUS FROM RITZ-CARLTON DOHA LOBBY ENTRANCE
13.00	RETURN TO RITZ-CARLTON DOHA

The NGCS 10 program includes optional site visits to two of the largest and most innovative gas conversion projects on earth - ORYX GTL and Pearl GTL, and to one of the world's leading petrochemical manufacturers, QAPCO. Located just outside Doha in Ras Laffan Industrial City, the GTL facilities will produce more than 3 billion barrels of oil equivalent over their lifetime from the world's largest single gas field, the North Field in the Arabian Gulf. The petrochemical plant tour will take place at QAPCO's facility located in nearby Mesaieed Industrial City.

The site visits, each of which includes a briefing at the facility by company representatives, will provide symposium participants with a firsthand look at the vanguard of commercial-scale gas conversion.

ORYX GTL

Owned jointly by Qatar Petroleum and Sasol, ORYX GTL is the world's largest slurry bubble column reactor GTL plant. The facility has a capacity of 34,000 barrels per day, and when commissioned in 2006 it was the world's first commercial-scale GTL plant.

At the heart of the facility is the Sasol Slurry Phase Distillate (SSPD) process, comprising of natural gas reforming, F-T conversion, and product upgrading. GTL diesel and naphtha produced at the facility are marketed internationally by Sasol Synfuels International.

PEARL GTL

Pearl GTL is the world's largest GTL facility with a design capacity of 140,000 barrels a day of high quality GTL products used in the production of diesel, jet fuel, finished lubricants and chemical feedstock in addition to 120,000 barrels a day of ethane for petrochemical processes, liquefied petroleum gas (LPG) for domestic heating and cooking, and condensates as a feedstock for refineries.

While under construction Pearl GTL was the world's largest oil and gas construction site, with more than 50,000 workers from 60 nations onsite at its peak. A joint development by Qatar Petroleum and Shell, the project shipped its first product in 2011 and is expected to reach full production this year. The products will reach customers in every major energy market through Shell's global retail network.

QAPCO

Established in 1974, Qatar Petrochemical Company (QAPCO) is one of the leading petrochemical producers and suppliers in the world, and began full commercial production in 1981. The company's main products are Ethylene, Low Density Polyethylene, and Sulphur, which is an additional sellable commodity generated as a by-product in the production process.

Located in the Mesaieed Industrial City, QAPCO's manufacturing facilities consist of an Ethylene plant with a designed annual capacity of 720 KTA, two Low Density Polyethylene (LDPE) plants with a global capacity of 400 KTA, a Sulphur plant of 70 KTA, a Hydrogenated Propane/Butane mix unit of 55 KTA, and a Hydrogenated Pygasoline unit of 45 KTA, besides the self-sufficient utilities plants and other offsite and auxiliary facilities.

QAPCO recently completed an expansion of LDPE capacity by establishing a third LDPE plant with a capacity of 250 KTA, expandable to 300 KTA.

POSTER PROGRAM

16.30 – 18.00 *Refer to abstracts for complete list of authors and affiliation*

	TOPIC 1: PRODUCTION AND PURIFICATION	AL WOSAIL FOYER
PO1.01	The Catalytic Activity of Calcined Hydrotalcites for Methane Dry Reforming Reaction	
	Zoulikha Abdelssadek, Laboratoire de Chimie du Gaz Naturel, Algeria	
PO1.02	CO2 Reforming Methane over Ni-alkaline-earth Metal/Al2O3 Catalysts	
	Luis J. Alemany Arrebola, University of Málaga, Spain	
PO1.03	Syngas Production by the Partial Oxidation of Methane over NiO/Y2O3/ZrO2	
	Elisabete Assaf, University of São Paulo, Brazil	
PO1.04	High Capacity CO2 Capture By Porous Polymers at Pre- and Post- Combustion Conditions	
	Mert Atilhan, Qatar University, Qatar	
PO1.06	Syngas Production by Dry Reforming of Methane over LaNi1-xCoxO3 Catalysts Supported on Silica	
	Soraia Brandão, UFBA, Brazil	
PO1.07	Suppression of Carbon Deposition over Ni/MgO/Al2O3 Catalysts with Metal Oxides for Steam and Carbon Dioxide Reforming of Methane	
	Bongkwan Choi, Chonnam National University, South Korea	
PO1.08	Ordered Mesoporous MgO-Al2O3 Composite Oxides Supported Ni-based Catalysts for CO2 Reforming of CH4	
	Lingjun Chou, Lanzhou Institute of Chemical Physics, China	
PO1.09	Catalytic Partial Oxidation of Ethane over Rh and Pt Honeycomb Catalysts with Sulphur Addition	
	Stefano Cimino, CNR, Italy	
PO1.10	Effects of the Nature of Colloidal CoNPs on the Aqueous Fischer-Tropsch Synthesis	
	Jorge Delgado, URV, Spain	
PO1.11	Solutions to Catalyst Migration in Autothermal Reformers	
	Martin Fowles, Johnson Matthey, United Kingdom	
PO1.12	Synthesis and Characterization of Alumina Supported Nickel Nanoparticle Catalyst by Polyol Method: Effect of NaOH	
	Tuba Gurkaynak Altincekic, Istanbul University, Turkey	
PO1.13	The Effect of Preparation on the Structure of Au-modified Ni/MgAl2O4 Catalysts and its Methane Dry Reforming Activity	
	Anita Horvath, Centre for Energy Research, Hungary	
PO1.14	The Effect of Impurities on the Steam Reforming of Ethanol over Ruthenium/Alumina	
	S. David Jackson, University of Glasgow, United Kingdom	
PO1.15	Effect of Fe on Perovskite Type Catalysts over Steam CO2 Reforming of Methane	
	Dong Ju Moon, Korea Institute of Science and Technology, South Korea	
PO1.16	Studies on the Steam CO2 Reforming of Methane over Modified LaNiO3 Perovskite Catalysts for Applications in GTL-FPSO Process	
	Jin Hee Lee, Korea Institute of Science and Technology, South Korea	
PO1.17	Comparison of Hydrogen Production by SR and APR of Glycerol	
	Dong Ju Moon, Korea Institute of Science and Technology, South Korea	
PO1.18	The Production of Synthesis Gas by the SCR of Natural Gas over Ni-based Hydrotalcite Catalyst	
	Dong Ju Moon, Korea Institute of Science and Technology, South Korea	
PO1.19	Catalytic Partial Oxidation for Syngas Production at Elevated Pressure Using Monolith Catalyst	
	Shigeru Kado, Chiyoda Corporation, Japan	

PO1.20	Low Temperature Methane Reforming over Ni and Rh Catalysts Supported on Lanthana Modified Ceria-zirconia
	Angeliki Lemonidou, Aristotle University Thessaloniki, Greece
PO1.21	Production of Bio-syngas by Steam Reforming of Biomass Tar over Highly Active and Reusable Ni-Fe/Mg/Al Catalysts
	Dalin Li, Tohoku University, Japan
PO1.22	Promoted Ni/CNTs Catalyst for Methane Reforming of Carbon Dioxide
	Qingxiang Ma, University of Toyama, Japan
PO1.23	Conversion of Methane and CO2 to Synthesis Gas
	Zulkhair Mansurov, Institute of Combustion Problems, Kazakhstan
PO1.24	Effect of the Preparation Method on the Properties of Ni-Co/La2O3 Catalysts in the Oxidative Reforming of Methane
	André Martins, Universidade Federal da Bahia, Brazil
PO1.25	Performance of Ir/MgO.Al2O3 Catalysts in Oxidative Steam Reforming of Methane
	André Martins, Universidade Federal da Bahia, Brazil
PO1.26	Thermodynamic Equilibrium Analysis of Carbon Dioxide Reforming of Methane to Produce Syngas
	Adair Pacifico dos Santos, Federal University of Sergipe, Brazil
PO1.27	Preparation, Characterization and Performance Evaluation of Metallic Foam Catalyst for Steam-CO2 Reforming of Methane
	Daeil Park, Chosun University, South Korea
PO1.28	Effect of Calcination Temperature on Coke Formation and Mechanical Strength of Ni–CeOx/MgAl2O4 Catalysts for Carbon Dioxide Reforming of Methane
	HaeGu Park, Korea Research Institute of Chemical Technology, South Korea
PO1.29	Dry Reforming and Pyrolysis of Methane in a Pulsed Compression Reactor
	Sander Roosjen, Twente University, The Netherlands
PO1.30	Tar Gasification to Syngas over a Novel Rh-based Catalyst
	Gennaro Russo, Istituto di Ricerche sulla Combustione, Italy
PO1.31	Relationship Between Surface Basicity of Cu Catalysts and Catalytic Activity for Water-gas-shift Reaction
	Kunimasa Sagata, Ehime University, Japan
PO1.32	Computational Studies On Several CO2 Removal Processes in GTL Process
	Jae Sun Shin, Dongguk University, South Korea
PO1.33	Catalytic Study of CuO/CeO2-Al2O3 System for Water Gas-shift Reaction
	Tatiana Silva,UFSCar, Brazil
PO1.34	Evaluation of Micro-Structured Systems for Dry Reforming Of Methane
	Aleksandros Souza, UFPE, Brazil
PO1.35	Thermodynamic Isotope Effects in Methane Steam Reforming
	Christoph Sprung, Utrecht University, The Netherlands
PO1.36	Oxidation of Methane to Synthesis Gas on Nano-sized Catalysts
	Svetlana Tungatarova, Sokolsky Institute of Organic Catalysis and Electrochemistry, Kazakhstan
PO1.37	Method Used to Evaluate Solid Materials for CO2 Removal in Natural Gas
	Valeria Vicentini, Clariant, Brazil
PO1.38	An Investigation upon Improvement on Stability of Ni/SiO2 Catalysts in Partial Oxidation of Methane into Synthesis Gas
	Wensheng Xia, Xiamen University, China
PO1.39	Production of Methane and Hydrogen from Lignin by Supercritical Water Gasification with Supported Metal Catalysts
	Aritomo Yamaguchi, National Institute of Advanced Industrial Science and Technology, Japan
PO1.40	High-temperature Stable Ni-CaO-ZrO2 Nanocomposite Catalyst for CO2 Reforming of CH4
	Tiejun Zhao, Shanghai Advanced Research Institute, China

POSTER PROGRAM

16.30 – 18.00 *Refer to abstracts for complete list of authors and affiliation*

	TOPIC 2: SYNFUELS	AL WOSAIL FOYER
PO2.01	Dimethyl Ether Production: Effect of Solvent in the Co-precipitation of Al2O3 Catalysts Modified by SiO2	
	Elisabete Assaf, University of São Paulo, Brazil	
PO2.02	Fischer-Tropsch Synthesis Performances of the Cobalt Supported on Carbon-coated Ni/SiO2 Catalysts	
	Jong Wook Bae, Sungkyunkwan University, South Korea	
PO2.03	Carbon Monoxide Conversion over Modified Algerian Clay Material	
	Ahmed Belhakem, University of Mostaganem, Algeria	
PO2.04	Selective Syngas Conversion to Ethanol over a Nanosized NiMoS2 Catalyst	
	Jorge Beltramini, ARCCFN, Australia	
PO2.05	Gas-to-Liquids Conversion over 15%Co/Al2O3 Catalyst - Effects of Activation Procedures	
	Dragomir Bukur, Texas A&M University at Qatar, Qatar	
PO2.06	Nanoscale Distribution in Co/SiO2 Fischer-Tropsch Catalysts Controlled by Drying	
	Krijn de Jong, Utrecht University, The Netherlands	
PO2.07	Effect of La on the Co2C Formation for the Synthesis of Alcohols from Syngas	
	Yunjie Ding, Dalian Institute of Chemical Physics, China	
PO2.08	Butane Synthesis from Methane and/or Carbon Dioxide	
	Kaoru Fujimoto, University of Kitakyushu, Japan	
PO2.09	Enhancement in the Catalytic Activity and Stability of Co/Al2O3 Catalysts for Fischer-Tropsch Synthesis: Alumina Support Modification Effects	
	Kyoung-Su Ha, Korea Research Institute of Chemical Technology , South Korea	
PO2.10	Efficient Catalyst Preparation Method Regulating Size and Shape with Saccharide and Phosphorus	
	Kyoung-Su Ha, Korea Research Institute of Chemical Technology , South Korea	
PO2.11	Spectroscopy Study of Rh/MnOx/SiO2 Catalysts for the Conversion of Syngas to Alcohols	
	Yi-Fan Han, East China University of Science & Technology, China	
PO2.12	The Catalytic Hydrogenation of CO and CO2	
	Smain Hocine, University M. Mammeri de tizi Ouzou, Algeria	
PO2.13	Effect of Catalyst Properties on the C5+ Selectivity During Co-based Fischer-Tropsch Synthesis	
	Anders Holmen, Norwegian University of Science and Technology, Norway	
PO2.14	Fischer-Tropsch Synthesis and Thermodynamics	
	Anders Holmen, Norwegian University of Science and Technology, Norway	
PO2.15	Mono-Bi- and Hexanuclear Rhenium Compounds/Mordenite as the Catalysts for Conversion of Ethanol to Hydrocarbons	
	Etibar Ismailov, Institute of Petrochemical Processes, Azerbaijan	
PO2.16	The Effect of Rhodium Precursor on the Activity and Selectivity of CO Hydrogenation Catalysts	
	S. David Jackson, University of Glasgow, United Kingdom	
PO2.17	Low-temperature and Low-pressure Methanol Synthesis in Liquid-phase Catalyzed by Copper-alkoxide Systems	
	Klaus-Joachim Jens, Telemark University College, Norway	
PO2.18	Activated Carbon Modified Fe-Mn-K Catalyst for Light Olefins Synthesis from CO Hydrogenation	
	Yuzhou Jin, University of Toyama, Japan	
PO2.19	TIGAS - a Versatile Technology for the Conversion of Synthesis Gas to Gasoline	
	Finn Joensen, Haldor Topsøe, Denmark	
PO2.20	Hybrid Catalysts for the Conversion of Syngas to Hydrocarbons	
	Kandaswamy Jothimurugesan, Chevron, United States of America	
PO2.21	Characterization of Spherical γ-alumina Supported Cobalt Catalysts for Fischer Tropsch Synthesis	
	Dong Ju Moon, Korea Institute of Science and Technology, South Korea	
PO2.22	New Activation and Regeneration Method of Cobalt Catalysts for Fisher-Tropsch Synthesis	
	Geunjae Kwak, Korea Research Institute of Chemical Technology , South Korea	

PO2.23	Selective Synthesis of Gasoline from Syngas in Near-critical Phase	
	Xiaohong Li, University of Kitakyushu, Japan	
PO2.24	Modelling and Optimization of a Pilot-scale Fischer-Tropsch Synthesis Reactor for the Production of Light Olefins	
	Nonam Park, Ajou University, South Korea	
PO2.25	Hydrocracking of n-paraffin Wax over Pt Catalysts Supported on H-Y Zeolites	
	Eun Duck Park, Ajou University, South Korea	
PO2.26	Effect of a Support on Fischer-Tropsch Synthesis over Co/SiO2	
	Eun Duck Park, Ajou University, South Korea	
PO2.27	Comparative Study of Cobalt Fischer-Tropsch Catalyst Sintering in Fixed-bed and Slurry Reactors	
	Andrei Khodakov, Unité de Catalyse et de Chimie du Solide, France	
PO2.28	Fischer-Tropsch Catalyst Pre-treatment for Enhanced Liquid Synfuel Production	
	Valerie Sage, CSIRO, Australia	
PO2.29	Different Types of Active Cobalt in Pelletized Composite Catalysts for Fischer–Tropsch Synthesis	
	Liliya Sineva, Technological Institute for Superhard and Novel Carbon Materials, Russia	
PO2.30	Evolution of Fischer-Tropsch Catalysts During Activation, Start-up and Regular Operation	
	Igor Solomonik, Technological Institute for Superhard and Novel Carbon Materials, Russia	
PO2.31	Carriers Functionality in the Performance of Cu-ZnO Catalyst in the CO2 Hydrogenation	
	Lorenzo Spadaro, CNR-ITAE, Italy	
PO2.32	Stable, Selective and Active Iron Catalysts for the Production of Lower Olefins from Synthesis Gas	
	Krijn de Jong, Utrecht University, The Netherlands	
PO2.33	Controllable Encapsulation of Cobalt Clusters in Carbon Nanotubes as Catalysts for Fischer-Tropsch Synthesis	
	Noritatsu Tsubaki, University of Toyama, Japan	
PO2.34	Formic Acid Assisted Solid-state Synthesis of Metallic Catalysts Without Reduction: Cu/ZnO Catalysts for Low-temperature Methanol Synthesis	
	Noritatsu Tsubaki, University of Toyama, Japan	
PO2.35	Carbidization and Reduction Pretreatment of Co/Al2O3 Catalyst for Fischer-Tropsch Synthesis	
	Fernando Vallejos-Burgos, Texas A&M University at Qatar, Qatar	
PO2.36	Fischer-Tropsch Synthesis on a Fe2O3-Zn-K-Cu Catalyst with CO2 Containing Syngas	
	Carlo Giorgio Visconti, Politecnico di Milano, Italy	
PO2.37	Enhancing the Performance of Supported Co Catalysts in Fischer-Tropsch Synthesis by Addition of Cyclodextrins	
	Andrei Khodakov, Unité de Catalyse et de Chimie du Solide, France	
	TOPIC 5: COMMERCIAL	AL WOSAIL FOYER
PO5.01	Methane Production from Anaerobic Digestion of Labaneh Whey	
	Ibrahim Abu-Reesh, Qatar University, Qatar	
PO5.02	Synergy Between GTL and EOR Through Simultaneous Production of O2 and N2	
	Gerhard Beysel, Linde, Germany	
PO5.03	Horses for Courses: Methanol Plant Flowsheet Options	
	Martin Fowles, Johnson Matthey, United Kingdom	
PO5.04	Compact Heat Exchange Reactors for Gas to Liquid Applications	
	Zhijun Jia, Chart Energy & Chemicals, United States of America	
PO5.05	Performance Comparison of CO2 Removal Process in GTL Process	
	Sahoon Kim, Dongguk University, South Korea	
PO5.06	Syntheses, Characterisations of Rh, Pd and Ni Supported over Fe-PILC. Activity in Toluene Oxidation	
	Ourida Mohammedi, University of Blida, Algeria	
PO5.07	Small-scale Methanol Synthesis Reactors Enabled by Conductive Structured Catalysts	
	Andrea Montebelli, Politecnico di Milano, Italy	
PO5.08	Characteristics of Integrated Micro Packed Bed Reactor-Heat Exchanger Configurations in the Direct Synthesis of Dimethyl Ether	
	Hilde Venvik, Norwegian University of Science and Technology, Norway	
PO5.09	Modular Reactors for the Fischer-Tropsch Synthesis Based on Highly Conductive Honeycomb Monoliths	
	Carlo Giorgio Visconti, Politecnico di Milano, Italy	

POSTER PROGRAM

16.30 – 18.00 *Refer to abstracts for complete list of authors and affiliation*

	TOPIC 3: CONVERSION	AL WOSAIL FOYER
PO3.01	Oxidative Dehydrogenation of Ethane over ZrO2 Promoted by Nickel *Hector Armendariz Herrera, Mexican Petroleum Institute, Mexico*	
PO3.02	Oxygen-assisted Catalytic Dehydrogenation of Propane *Edd Anders Blekkan, Norwegian University of Science and Technology, Norway*	
PO3.03	New Feedstock for Acrylonitrile Production *Mihaela Florea, University of Bucharest, Romania*	
PO3.04	Catalytic Behaviour of a Bi-functional System for the One Step Synthesis of DME by CO2 Hydrogenation *Francesco Frusteri, National Council of Research, Italy*	
PO3.05	Partial Oxidation of Methane to Methanol over Substituted Molybdo-silicates of Keggin Types *Smain Hocine, University M. Mammeri de tizi Ouzou, Algeria*	
PO3.06	Oxidative Dehydrogenation of Propane to Propylene over Mesoporous Alumina-supported Nickel Oxide Catalysts *Chuanjing Huang, Xiamen University, China*	
PO3.07	Characterization of a NiSO4/Re2O7/?-Al2O3 Catalyst for Conversion of Ethylene to Propylene *Klaus-Joachim Jens, Telemark University College, Norway*	
PO3.08	Methane Steam Reforming in a Two Zone Fluidized Bed Reactor for Hydrogen Production *Miguel Menéndez, University of Zaragoza, Spain*	
PO3.09	Mo/H-ZSM-5/bentonite as a Catalyst for Methane Aromatization: Optimization of the Preparation Method *Miguel Menéndez, University of Zaragoza, Spain*	
PO3.10	Aluminium Modified Algerian Clay and Grafted Silicates Layers by Rh, Ni, Pd and Ce. New Catalysts (3,10)%Me/Al-PILC Containing Hexagonal Phases Very Active in the Dry Reforming of CH4 *Ourida Mohammedi, University of Blida, Algeria*	
PO3.11	New Perspectives for Process and Catalyst Development in Catalytic Reforming with High Throughput Technologies under Industrially Relevant Conditions *Michael Paul, hte, Germany*	
PO3.12	Enhancing the Natural Gas Value Chain by Catalysis *Erik-Jan Ras, Avantium, The Netherlands*	
PO3.13	Selective Oxidative Dehydrogenation of Ethane over MoVTeNbO Catalysts *Jaime Valente, Mexican Petroleum Institute, Mexico*	
PO3.14	Unit Cell Expansion upon Coke Formation in SAPO-34 Catalyst: A Combined Experimental and Calculation Study *Ole Swang, University of Oslo, Norway*	
PO3.15	Dehydroaromatization of Methane over Sn-Pt Modified Mo/H-ZSM-5 Zeolite Catalysts: Effect of Catalyst Preparation Method *Themba Tshabalala, University of the Witwatersrand, South Africa*	
PO3.16	Oxidative Condensation of Methane of Natural Gas to Ethylene over Polyoxide Catalysts *Svetlana Tungatarova, Sokolsky Institute of Organic Catalysis and Electrochemistry, Kazakhstan*	
PO3.17	Mn-Na2WO4/SiO2 - An Industrial Catalyst for Methane Coupling? *Mahmut Yildiz, Technische Universität Berlin, Germany*	
PO3.18	Effects of Molybdenum Structures on the Catalytic Performance of Mo-based Catalysts in the C4 Olefin Metathesis Reaction *Dazhou Zhang, Dalian Institute of Chemical Physics, China*	
PO3.19	The Mechanism of Deactivation of Nanosized Zeolite-based Mo/HZSM-5 Catalyst in the Methane Dehydroaromatization *Zhanguo Zhang, National Institute of Advanced Industrial Science and Technology, Japan*	
PO3.20	Performance of a Dual Circulating Fluidized Bed Reactor for the Mo/HZSM-5 Catalyzed Non-oxidative Methane Dehydroaromatization *Zhanguo Zhang, National Institute of Advanced Industrial Science and Technology, Japan*	

	TOPIC 4: ENERGY	AL WOSAIL FOYER
PO4.01	An Energy Integration Approach on Uhde Ammonia Process *Ahmed Al-Nouss, Texas A&M University at Qatar, Qatar*	
PO4.02	An Enegy Integration Approach for GTL Process *Ibrahim Al-Nuaimi, Texas A&M University at Qatar, Qatar*	
PO4.03	Nanomaterials Spinel NiFe2O4 Prepared by Various Methods for CO2-reforming of Methane *Rafik Benrabaa, USTHB, Algeria*	
PO4.04	Conversion of Natural Gas to Electrical Power by Direct Internal Reforming in Solid-Oxide Fuel Cells *Olaf Deutschmann, Karlsruhe Institute of Technology, Germany*	
PO4.05	Porous Ceramic Membrane-catalytic Hydrogen-containing Gas Generators for Compact Power Plants *Alexey Fedotov, A.V.Topchiev Institute of Petrochemical Synthesis, Russia*	
PO4.06	Advanced Pd/ZrO2-SiO2 Catalysts for Methane Combustion: Effect of the Synthesis Process *Shemseddine Fessi, Laboratoire de Chimie des Matériaux et Catalyse, Tunisia*	
PO4.07	Sm0,2-xCaxCe0,8Oy Mixed Oxides as Solid Oxide Fuel Cell Electrolyte Materials *M. Ali Gürkaynak, Istanbul University, Turkey*	
PO4.08	Catalytic Combustion of Methane – Mechanistic Insights into the Effect of Contaminants Present in Ventilation Air Methane *Eric Kennedy, University of Newcastle, Australia*	
PO4.09	Molecular Modeling of Hybrid Membranes for Separation of Carbon Dioxide from Natural Gas *Seda Keskin, Koc University, Turkey*	
PO4.10	Cobalt Based Catalyst for the Production of High Calorific Synthetic Natural Gas (SNG) *Yong Hee Lee, Korea University, South Korea*	
PO4.11	Hydrogen Production by the Catalytic Partial Oxidation of Propane *Paul-Marie Marquaire, CNRS, France*	
PO4.12	High H2 Production from the CH4 Reforming with H2S Using Metal Transition Catalyst *Jose Aaron Melo Banda, Instituto Tecnológico de Ciudad Madero, Mexico*	
PO4.13	An Operando Diffuse Reflectance FT-IR Study of the Poisoning Effect of Ammonia on a Ni/alumina CO Methanation Catalyst *Claude Mirodatos, IRCELYON/ CNRS, France*	
PO4.14	Effect of the Rh Content on Catalysts Ni-Al2O3 for the Dry Reforming *Marco Ocsachoque, CINDECA, Argentina*	
PO4.15	Catalytic Reverse Water Gas Shift Reaction Assisted by an Electric Field at Low External Temperature *Kazumasa Oshima, Waseda University, Japan*	
PO4.16	Natural Gas to Syngas: Novel and Thermally Stable Rh Substituted Pyrochlore (La2Zr2O7) Catalysts *Devendra Pakhare, Louisiana State University, United States of America*	
PO4.17	Propane Combustion over Pt Catalysts Supported on Various Aluminium Oxides with Different Crystalline Phases *Eun Duck Park, Ajou University, South Korea*	
PO4.18	Steam Reforming of Liquefied Petroleum Gas over K-promoted Ni-Mn/Al2O3 *Eun Duck Park, Ajou University, South Korea*	
PO4.19	Effect of Gadolinium on the Catalytic Properties of Iron Oxides in WGSR *Maria do Carmo Rangel, Universidade Federal da Bahia, Brazil*	
PO4.20	Purification of Natural Gas and LPG for Fuel Cell Applications *Chandra Ratnasamy, Clariant, United States of America*	
PO4.21	Advanced Pd/CexZr1-xO2/SiO2 Catalysts for Methane Combustion: Effect of Palladium Addition Step *Kouloud Sadouki, Laboratoire de Chimie des Matériaux et Catalyse, Tunisia*	
PO4.22	Liquid Compression Chemical Reactors *Alexander Kronberg, Encontech, The Netherlands*	
PO4.23	Steam Reforming of Methane at Low Temperature in an Electric Field *Tatsuya Shinagawa, Waseda University, Japan*	
PO4.24	Methane Oxidation over Iron-Ceria-Zirconia Oxide *Doki Yamaguchi, CSIRO, Australia*	
PO4.25	Synthesis of Ion-exchanged SAPO-34 Zeolite Membrane for CO2/CH4 Separation *Yanfeng Zhang, Shanghai Advanced Research Institute, China*	

TRANSPORTATION SCHEDULE

CONFERENCE SHUTTLE SERVICE WILL RUN FROM
Retaj Al Rayan (A)
Movenpick Tower (B)
Renaissance Courtyard Hotel (C)
TO Ritz-Carlton Hotel (Conference Venue) (D), at the designated times *(see Table below)*

Shuttle buses will go to the same pick up and drop areas each day.

SATURDAY, 2 MARCH, 2013											
A, B, C → D	14.30	15.30	16.30	17.30	18.30	D → A, B, C	16.00	17.00	18.00	19.30	20.30
SUNDAY, 3 MARCH, 2013											
A → D	7.15	7.30	9.00	11.30	15.00	16.00	17.30	D → A	10.00	13.30	15.00	16.00	16.30	17.00
B, C → D	7.15	9.00	11.30	15.00	D → B, C	10.00	13.30	16.00						
DINNER AT THE AL-MOURJAN RESTAURANT (E)											
D → A*; B → E	18.15*					E → A*; B → D	22.00				
D → C → E	18.15*					E → C → D	22.00				
*A: Pick up and drop off for Movenpick guests will be in front of Retaj Al Rayan Hotel *18.15: Bus departure from Ritz-Carlton front entrance											
MONDAY, 4 MARCH, 2013											
A → D	7.30	8.00	9.00	11.30	15.00	D → A	10.00	13.30	16.00	18.00	
B, C → D	7.30	9.00	11.30	15.00	D → B, C	10.00	13.30	16.00	18.00		
TUESDAY, 5 MARCH, 2013											
A → D	7.30	8.00	9.00	11.30	15.00	18.15	D → A	10.00	13.30	16.00	22.00
B, C → D	7.30	9.00	11.30	15.00	18.15	D →B, C	10.00	13.30	16.00	22.00	
WEDNESDAY, 6 MARCH, 2013											
A → D	7.30	8.00	9.00	9.30	11.30	D → A	10.00	10.30	13.00	14.30	
B, C → D	7.30	9.00	11.30	D →B, C	10.00	14.30					

TAXI CONTACT NUMBERS *(Anticipate a 20 minute wait for taxi to arrive)*

Fox transport +974.4462.2777
Quick pick +974.5541.0921
Speedy +974.7018.3138

SPONSORS

PLATINUM

قطر للبترول
Qatar Petroleum

QAPCO
شركة قطر للبتروكيماويات
QATAR PETROCHEMICAL COMPANY

SASOL
reaching new frontiers

ORYX GTL
QP - SASOL joint venture
أوريكس لتحويل الغاز إلى سوائل المحدودة
ORYX GTL Limited

GOLD

TEXAS A&M
UNIVERSITY at QATAR

SILVER

TOTAL

HALDOR TOPSØE

SUPPORTER

JM
Johnson Matthey

AIR PRODUCTS

TEXAS A&M
UNIVERSITY at QATAR

10 YEARS of ENGINEERING
a world of DIFFERENCE

www.qatar.tamu.edu