



# Technology in Petroleum Refining & Petrochemicals

Venue: KFUPM Research Institute Bldg. 15; 4<sup>th</sup> Floor Auditorium, Dhahran, Saudi Arabia, November 20-21, 2017

## Day One: Monday, November 20, 2017

### OPENING REMARKS SESSION

Chairman: Dr. Sulaiman Al-Khattaf

8:15 Registration & Coffee Break

8:30 Opening Remarks

- H.E. Dr. Khaled S. Al-Sultan, Rector, KFUPM
- Mr. Eiji Hiraoka, Senior Executive Director, JCCP
- Mr. Jun Mutoh, President, JPI

### SESSION ONE ADVANCES IN REFINING/FCC

Chairman: Dr. Bandar Al-Solami

- 9:00 1. Vision of the Japanese oil industry & importance of the education of human resources  
Mr. Jun Mutoh, JPI (*Keynote*)
- 9:30 2. Commercialization of High-Severity fluid catalytic cracking (HS-FCC) process for light olefins production in refineries, Mr. Iwao Ogasawara, JXTG Energy, Japan
- 9:50 3. A case study of HS-FCC reactor using kinetic modeling, Dr. Qi Xu, Saudi Aramco R&DC
- 10:10 4. Degradation of heavy-duty coating applied to inner bottom plates of oil storage tanks and its evaluation method based on electrical impedance analysis, Dr. Shinji Okazaki, Yokohama National University, Japan
- 10:30 Coffee Break

### SESSION TWO HYDROPROCESSING

Chairman: Dr. Keiichi Tomishige

- 11:00 5. Applications of process and kinetic models to optimize the operation of hydrocracker  
Dr. Rashid Ansari, Saudi Aramco R&DC
- 11:20 6. Effect of acid medium and initial Si/Al ratio on the synthesis of mesoporous materials with enhanced acidity and hydrothermal stability, Dr. Lianhui Ding, Saudi Aramco R&DC
- 11:40 7. Kinetics of simultaneous HDS of DBT and 4-MDBT/4,6-DMDBT over CoMoP/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts, Dr. Syed A. Ali, KFUPM/RI
- 12:00 Prayer & Lunch Break

### SESSION THREE UPGRADING AND REFORMING

Chairman: Dr. Elie Fayad

- 13:00 8. Development of a supercritical water cracking process for pipeline transportation of extra heavy crude oil, Mr. Takayoshi Fujimoto, JGC Corporation, Japan
- 13:20 9. Hydrodynamics and solids mixing in fluidized beds with inclined-hole distributors  
Mr. Alhussain Bakhurji, Saudi Aramco R&DC
- 13:40 10. Zeolite-based catalyst performance for catalytic reforming  
Mr. Mohammad Al-Rebh, Saudi Aramco R&DC
- 14:00 Day One Ends



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### Day Two: Tuesday, November 21, 2017

#### SESSION FOUR PETROCHEMICALS

Chairman: Dr. Yasushi Tsuji

8:45 Registration & Coffee Break

9:00 11. Petrochemicals – technical and economic challenges for this century  
*Mr. Patrick Whitchurch, Honeywell UOP, USA (Keynote)*

9:30 12. Catalytic copolymerization of CO<sub>2</sub> and diols using CeO<sub>2</sub> and 2-cyanopyridine  
*Dr. Keiichi Tomishige, Tohoku University, Japan*

9:50 13. Toluene methylation to produce para-Xylene using ZSM-5 catalysts  
*Dr. Arudra Palani, KFUPM-RI; Dr. Ali Jahel, Honeywell UOP*

10:10 14. Metathesis of 2-pentene over Mo and W supported mesoporous molecular sieves  
*Dr. M. Naseem Akhtar, KFUPM-RI*

10:30 Coffee Break

#### SESSION FIVE CO<sub>2</sub> UTILIZATION

Chairman: Dr. Mohammed Ba-Shammakh

11:00 15. CO<sub>2</sub> fixations with homogeneous catalysis, *Dr. Yasushi Tsuji, Kyoto University, Japan*

11:20 16. Catalyst development for hydrogenation of CO<sub>2</sub> for energy storage  
*Mr. Ali Al-Jishi, Saudi Aramco R&DC*

11:40 17. Size-controlled synthesis of gold nanoparticles on fibrous silica nanospheres (KCC-1) and their activity in the oxidation of CO, *Dr. Ziyauddin Qureshi, KFUPM-RI*

12:00 Prayer & Lunch Break

#### SESSION SIX HYDROSILYLATION/PROCESS STUDIES

Chairman: Dr. Ali Al-Shareef

13:00 18. Bifunctional selective hydrosilylation of terminal alkynes by bis(carbene) iridium(III) and rhodium(III) complexes, *Dr. Luis Oro, KFUPM/Zaragoza University, Spain*

13:20 19. Process Intensification, a promising approach in separating a ternary system using distillation to reduce energy consumption, *Mr. Dafer Al-Shahrani, SABIC R&D, Riyadh*

13:40 20. Thermo-neutral reforming of diesel for auxiliary power unit (APU) application  
*Mr. Mohammed Albuali, Saudi Aramco R&DC*

14:00 Closing Remarks, Symposium Ends

Each presentation includes 5-minutes Q&A

Program as of Oct. 30, 2017

For Registration: <http://catsymp.kfupm.edu.sa/register.htm>