

The 28th Annual Saudi-Japan Symposium

The 28th Annual Saudi-Japan Symposium was held at KFUPM Dhahran Techno Valley on November 12 and 13, 2018, jointly hosted by 4 entities: Saudi Aramco, King Fahd University of Petroleum & Minerals (KFUPM), The Japan Petroleum Institute (JPI) and JCCP.

In the opening, honorable guests presented their remarks. Notably, H.E. Dr. Sahel Abuduljawwad, Rector of KFUPM, Mr. Ahmed Al-Khowaiter, CTO of Saudi Aramco, Mr. Eiji Hiraoka, Senior Executive Director of JCCP and Dr. Koichi Eguchi, President of JPI and Professor, Kyoto University Graduate School of Engineering.

The symposium attracted unusual large audience of more than 130 researchers, students and Japanese companies' representatives in the region. The symposium theme of this year was "Technology in Petroleum Refining & Petrochemicals" and there were 24 presentations (of which 8 were made by Japanese presenters sent for this symposium, 2 were by JCCP dispatched visiting researchers). The symposium covers new fields ranging from clean fuels, hydrogen technology, IMO regulations, and Petroleomics etc. Among the lecturers, the first-ever female researcher made a lecture, a noteworthy event in the symposium's long history. Between presenters and audience, many bustling questions and answers were exchanged.

【Opening】



【Scene from the symposium】





Technology in Petroleum Refining & Petrochemicals

▲▲▲ Venue: KFUPM Dhahran Techno Valley, Innovation Cluster Bldg., Auditorium 1111▲▲▲

Day One: Monday, November 12, 2018

OPENING REMARKS SESSION

Chairman: *Dr. Hassan Al-Asiri*

8:15 *Registration & Coffee Break*

8:30 *Opening Remarks*

- *H.E. Dr. Sahel Abduljawwad, Rector, KFUPM*
- *Mr. Ahmed Al-Khuwaiter, CTO, Saudi Aramco*
- *Mr. Eiji Hiraoka, Senior Executive Director, JCCP*
- *Dr. Koichi Eguchi, President, JPI*

SESSION ONE CLEAN FUELS AND HYDROGEN

Chairman: *Dr. Takeshi Shiono*

- 9:00 1. **Keynote:** Hydrogen energy based society, *Dr. Koichi Eguchi, JPI*
- 9:30 2. Hydrogen production through thermo-neutral reforming of liquid fuels using structured catalysts, *Dr. Shakeel Ahmed, KFUPM/CRP*
- 9:50 3. Catalytic steam reforming of biomass-derivatives for hydrogen production, *Dr. Yasushi Sekine, Waseda University, Japan*
- 10:10 4. Design of scalable and stable catalysts for CO₂ reforming of methane, *Dr. Oki Muraza, KFUPM/CENT*
- 10:30 *Coffee Break*

SESSION TWO NEW CHALLENGES: FUELS/CHEMICALS

Chairman: *Dr. Ali Al-Shareef*

- 10:50 5. **Keynote:** Future fuels & petrochemicals: new technologies in the face of new challenges
Dr. James Johnson, Honeywell UOP, USA
- 11:20 6. Clean energy generation by artificial photosynthesis based on semiconductor technology
Dr. Kazuhiro Ohkawa, KAUST
- 11:40 7. The effect of lanthanum exchange on USY-zeolites for the alkylation of 2-butene with isobutane, *Dr. Mohammed Al-Dossary, Saudi Aramco R&DC*
- 12:00 *Prayer & Lunch Break*

SESSION THREE IMO REGULATIONS/HEAVY OIL

Chairman: *Dr. Khalid Al-Hooshani*

- 13:00 8. Responding to 2020 IMO SO_x regulation, *Mr. Atsunori Sato, JGC Corporation, Japan*
- 13:20 9. Effect of zeolite Y modification on reaction performance of heavy crude oil hydrocracking, *Dr. Lianhui Ding, Saudi Aramco R&DC*
- 13:40 10. Oil soluble dispersed catalysts for slurry phase hydrocracking of heavy VGO, *Mr. Tareq Al-Attas, KFUPM/ChE*
- 14:00 11. Development of *Petroleomics* from fundamentals to applications, *Dr. Kazuhiro Inamura, Japan Petroleum Energy Center (JPEC), Japan*
- 14:20 *Day One Ends*



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Day Two: Tuesday, November 13, 2018

SESSION FOUR CATALYST TECHNOLOGY/AROMATICS

Chairman: Dr. Yasushi Sekine

8:00 Registration & Coffee Break

- 8:30 12. Effect of alumina binder on deactivation behavior of Pt-Beta catalyst for transalkylation of toluene with 1,2,4-trimethylbenzene, *Dr. Faisal Al-Mulla, Saudi Aramco R&DC*
- 8:50 13. Driving catalysis innovation in petrochemicals through designing of unneglectable support materials, *Dr. Muhammad Haider, SABIC Riyadh*
- 9:10 14. Study the nano-structured zeolites for hydrocarbon reforming: kinetic and reaction pathways, *Dr. Ali N. Al-Jishi, Saudi Aramco R&DC*
- 9:30 15. Advance characterization of heterogeneous catalyst of core-shell Pt@SiO₂ nanoparticles, *Dr. Noor Al-Mana, Saudi Aramco R&DC*
- 9:50 Coffee Break

SESSION FIVE PETROCHEMICAL APPLICATIONS

Chairman: Mr. Alhussain Bakhurji

- 10:20 16. Numerical modeling for selected chemical processes, *Dr. Tarek Jamaledine, SABIC Riyadh*
- 10:40 17. Oxidative reforming of n-butane to ethylene, propylene and syngas on acid/base nano-hybrid catalyst, *Dr. Sachio Asaoka, KFUPM-RI/CRP and JCCP*
- 11:00 18. Light naphtha upgrading to aromatics using metal modified MFI zeolite catalysts, *Dr. Yaming Jin, Saudi Aramco R&DC*
- 11:20 19. Upgrading of unused heavy fuel oil over iron oxide based catalysts under sub and supercritical water conditions, *Dr. Takuya Yoshikawa, Hokkaido University, Japan*
- 11:40 20. Zeolite catalyst development for enhancing p-xylene selectivity, *Dr. Mohammed Al-Bahar, Saudi Aramco R&DC*
- 12:00 Prayer & Lunch Break

SESSION SIX COMPOSITES AND POLYMERIS

Chairman: Dr. Mohammed Ba-Shammakh

- 13:00 21. MgO-blended polyethylene glycol composites as a shape-stabilized phase change material for solar thermal energy storage, *Dr. Md. Hasan Zahir, KFUPM-CoRERE*
- 13:20 22. Nuclear Magnetic Resonance (NMR) Spectroscopy at Saudi Aramco's R&D Center: Where Synergy is Opportunity, *Dr. Qasim Saleem, Saudi Aramco R&DC*
- 13:40 23. Catalytic conversion of Saudi alpha-olefins to energy-saving value-added polymeric flow aids, *Dr. Muhammad Atiqullah, KFUPM/CRP*
- 14:00 24. Novel cycloolefin copolymers synthesized by ansa-dimethylsilylene fluorenyl(amido) titanium-based catalysts, *Dr. Takeshi Shiono, Hiroshima University, Japan*
- 14:20 Closing Remarks, Symposium Ends

Each presentation includes 5-minutes Q&A

Program as of Oct. 22, 2018

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

Center for Refining & Petrochemicals: Phone 013 860-2029