



Technology in Petroleum Refining & Petrochemicals

Innovation towards Circular Carbon Economy

Online Symposium (Zoom Webinar): December 13-14, 2021

Day One: Monday, December 13, 2021

OPENING REMARKS SESSION

Chairman: Dr. Hassan Al-Asiri, Director, KFUPM

8:30 Opening Remarks

- [Dr. Muhammad M. Al-Saggaf](#), President, KFUPM
- [Mr. Eiji Hiraoka](#), Senior Executive Director, JCCP
- [Mr. Ahmad O. Al-Khowaiter](#), CTO, Saudi Aramco
- [Mr. Takashi Matsushita](#), President, The Japan Petroleum Institute, JPI

SESSION ONE FUTURE REFINING TRENDS

Chairman: Prof. Keiichi Tomishige, Tohoku University

- 9:00 1. **Keynote: Efficient CO₂ utilization through heterogeneous catalytic processes**, Prof. Jorge Gascon, Director, KAUST Catalysis Center (KCC), KAUST Circular Carbon Initiative
- 9:30 2. **Keynote: Future trends in petroleum industry**, Mr. Takashi Matsushita, President of JPI, Executive Vice President of Idemitsu Kosan Co.,Ltd., Japan

SESSION TWO CARBON RECYCLING: LOW CARBON TECHNOLOGY

Chairman: KFUPM

- 10:00 3. **Technology challenges and opportunities in carbon capture and utilization in process industry**, Dr. Aqil Jamal, Chief Technologist, Saudi Aramco R&DC
- 10:20 4. **Preparation of self-sulfur-doped activated carbon from petroleum coke for electrochemical energy storage**, Dr. Md. Abdul Aziz, KFUPM Interdisciplinary Research Center for Hydrogen & Energy Storage
- 10:40 5. **The joint study on GHG emissions reduction technology from well to wheel perspectives in Japanese automotive fuel value-chain**, Mr. Kenichiro Saito, ENEOS Research Institute Ltd., Japan
- 11:00 6. **Carbon recycling technology perspectives for CO₂ emission reduction**, Prof. Takao Nakagaki, Waseda University, Japan
- 11:20 7. **Recycle processes from waste plastics to chemical feedstock**, Prof. Toshiaki Yoshioka, Tohoku University, Japan

11:40 **Prayer & Lunch Break**

SESSION THREE LOW CARBON TECHNOLOGY: CARBON DIOXIDE UTILIZATION

Chairman: SA

- 13:00 8. **Visible-light driven redox system for CO₂ conversion into valuable organic materials**, Prof. Yutaka Amao, Osaka City University, Japan
- 13:20 9. **CO₂ assisted oxidative dehydrogenation of hydrocarbons to produce olefins**, Dr. M. Mozahar Hossain, KFUPM Chemical Engineering
- 13:40 10. **Bifunctional tandem catalysts for the one-pass synthesis of lower olefins via CO₂ hydrogenation**, Dr. Shohei Tada, Ibaraki University, Japan

14:00 **Day One Ends**

Each presentation includes 5-minutes Q&A

Program as of Nov. 15, 2021



Technology in Petroleum Refining & Petrochemicals

Innovation towards Circular Carbon Economy

Online Symposium (Zoom Webinar): December 13-14, 2021

Day Two: Tuesday, December 14, 2021

SESSION FOUR CATALYST TECHNOLOGIES

Chairman: Prof. Teruoki Tago,
Tokyo Institute of Technology

- 8:30 11. **Catalytic light alkanes conversion: Is it contributable on the way to carbon neutral realization?**, Prof. Wataru Ueda, Kanagawa University, Japan
- 8:50 12. **Development of versatile spheroidal MgCl₂ polyolefin catalyst support and related innovation and spin-off challenges**,
Dr. Muhammad Atiqullah, KFUPM Center for Refining & Advanced Chemicals
- 9:10 13. **Advanced FCC catalyst design for LPG production**,
Dr. Yusuke Takamiya, JGC C&C Ltd., Japan
- 9:30 14. **Dearylation: a new process to enhance BTX yields in an aromatics recovery complex**,
Dr. Robert Hodgkins, Saudi Aramco R&DC
- 9:50 15. **Catalysis by design - Synthesis of well-defined Ti and Zr surface complexes on ultra stable zeolite (Y) for refinery process**, Dr. Manoja Samantaray, KAUST Catalysis Center
- 10:10 *Coffee Break*

POSTER SESSION

Moderator: KFUPM

- 10:30 10 poster presentations (seven min each - Program on Page 3)
- 11:40 *Prayer & Lunch Break*

SESSION FIVE CATALYTIC PROCESSES

Chairman: SA

- 12:20 16. **Enhanced light olefins production using modified MFI catalyst in n-pentane cracking**,
Dr. Ziyauddin Qureshi, KFUPM Center for Refining & Advanced Chemicals
- 12:40 17. **Novel route for on-purpose production of butadiene**,
Dr. Gazali Tanimu, KFUPM Center for Refining & Advanced Chemicals
- 13:00 18. **Controlled autoxidation of hydrocarbon to produce value-added chemicals**,
Dr. Muhammad N. Siddiquee, KFUPM Department of Chemical Engineering
- 13:20 19. **A study of the impact of hydrogen transfer reactions on production of olefins**,
Ms. Shatha A. Alabbad, Saudi Aramco R&DC
- 13:40 20. **Maximizing olefins from crude - UOP integrated olefins suite**,
Mr. Priyesh Jani, Honeywell UOP
- 14:00 *Closing Remarks, Symposium Ends*

Each presentation includes 5-minutes Q&A

Program as of Nov. 15, 2021



Technology in Petroleum Refining & Petrochemicals

Innovation towards Circular Carbon Economy

ONLINE POSTERS

Day Two: Tuesday, December 14, 2021 10:30–11:30

POSTER SESSION

Chairman:

- 10:30 1. **Rapid synthesis of Hf-Beta zeolite for upgrading bio-based furan derivatives,**
Dr. Ryoichi Otomo, Hokkaido University, Japan
- 10:37 2. **Cracking of botryococcene as chemical utilization of algae oil,**
Mr. Ryota Miyazaki, Tsukuba University, Japan
- 10:44 3. **Stable heterogenized Pd-NHC catalysts for carbonylation reactions,**
Waseem Mansour, Bassam El Ali, Mohammed Fettouhi, Wissam Iali, KFUPM Chemistry, IRC Refining & Advanced Chemicals
- 10:51 4. **Ultra-sensitive-fast NMR characterization of sulfur-heterocyclic compounds found in petroleum,**
Wissam Iali, Bassam El Ali, Mohammed Fettouhi, Waseem Mansour, KFUPM Chemistry, IRC Refining & Advanced Chemicals
- 10:58 5. **Highly efficient NHC-iridium(I) catalyst for green oxidative coupling reaction of thiols,**
Wissam Iali, Rami Suleiman, Bassam El Ali, Mohammed Fettouhi, KFUPM Chemistry; IRC Refining & Advanced Chemicals; IRC Advanced Materials
- 11:05 6. **Development of a shape-stabilized phase change material utilizing natural and industrial byproducts for thermal energy storage in buildings,**
Mr. Khaled Mohaisen, Dr. Md Hasan Zahir, KFUPM IRC in Renewable Energy & Power Systems
- 11:12 7. **Fuel design using genetic algorithm and artificial neural network,**
Mr. Faisal Albaqami, Dr. Abdul Gani Abdul Jameel, KFUPM Chemical Engineering
- 11:19 8. **Soot prediction of oxygenated fuels,**
Mr. Mohammed Qasem, Dr. Abdul Gani Abdul Jameel, KFUPM Chemical Engineering
- 11:26 9. **Hydrogen sulfide and carbon dioxide removal from natural gas by a robust porous organic polymer,**
Dr. Othman Charles Al-Hamouz, KFUPM Chemistry
- 11:33 10. **Synthesis of mesoporous Y-Zeolite using surfactant templating for cracking catalyst applications,**
Mr. Adeel Ahmad, Dr. Shakeel Ahmed, KFUPM Chemical Eng., IRC Refining & Advanced Chemicals

11:40 *Poster Session Ends*

Each poster is 7 minutes

Program as of Nov. 15, 2021