## 19th Annual Saudi-Japan Symposium on Catalysts in Petroleum Refining and Petrochemicals 2009

Dhahran, Saudi Arabia 8 – 9 November 2009

ISBN: 978-1-61567-876-1

## Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by the King Fahd University of Petroleum & Minerals All rights reserved.

Printed by Curran Associates, Inc. (2010)

For permission requests, please contact the King Fahd University of Petroleum & Minerals at the address below.

King Fahd University of Petroleum & Minerals Dharan 31261, Saudi Arabia

Phone: 966 3 860 0000

www.kfupm.edu.sa

## Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2634

Email: curran@proceedings.com Web: www.proceedings.com

## Contents

	Paper/ Abstract Title and Speaker	Page
Pre	face	O
Ор	ening Remarks	
•	H.E. Dr. Khaled S. Al-Sultan, Rector of KFUPM	
•	<b>Dr. Yasuaki Okamoto,</b> Head Japanese Delegation, The Japan Petroleum Institute, JPI	
•	<b>Mr. Kazuhisa Okumura</b> , Deputy General Manager, Technical Cooperation DeptJCCP	
1.	<u>Keynote Paper:</u> Oxidative Desulfurization of Hydrocarbon Fractions, <u>Farhan</u> <u>Al-Shahrani</u> , Saudi Aramco	1
2.	<u>Keynote Paper</u> : Preparation of Highly Active Co-Mo HDS Catalysts by the Addition of Citric Acid as a Chelating Agent, <u>Yasuaki Okamoto</u> , Shimane University, Japan	2
3.	Invited Paper: Application of Solid Acid Catalysis for Refining and Petrochemical Production, <u>Suheil Abdo</u> , UOP, USA	12
4.	Hydrothermal Technology to Upgrade Hydrocarbons, <u>Mohammad Aljishi</u> , Saudi Aramco	13
5.	Production of BHD (Bio Hydrofined Diesel) with Improved Cold Flow Properties, <u>Hideki Ono</u> , Nippon Oil Corporation	14
6.	Synthesis, Characteristics and Performance of Nanostructured Catalyst, <u>Ki-Hyouk Choi</u> , Saudi Aramco	23
7.	ProtAgon Catalyst System: Maximizing Propylene Yields in the FCC Unit, Kenneth Hindle, Grace, Germany	24
8.	Study on Pseudo-Equilibration of FCC Catalysts, Rei Hamada, JGC C&C, Japan	25
9.	Accelerated Testing of Catalysts for Refinery Applications Using High- Throughput Experimentation Methods, <u>Sascha Vukojevic</u> , HTE Germany	38
10.	Versatile Catalyst Testing Using High Throughput Technology, <u>Michael</u> <u>Krusche</u> , AMTEC, Germany	39
11.	Novel High-Throughput Testing Tools for Kinetic-Studies of Heterogeneously Catalyzed Reactions & Selective Zeolite Adsorptions, <u>Anton Nagy</u> , ILS-Integrated Lab Solutions, Germany	40

12.	<u>Keynote Paper</u> : Relating Zeolites Activity to their Structure and Acidity, <u>Jiri</u> <u>Čejka,</u> Academy of Science of the Czech Republic	46
13.	Clean Hydrogen Production Using Low Temperature Water Gas Shift Catalysis, <i>Chris Hardacre</i> , <i>Queen's University, Belfast</i>	50
14.	<u>Keynote Paper</u> : New Complex Metal Oxide Catalysts for Chemical and Energy Conversion, <u>Wataru Ueda</u> , Hokkaido University	52
15.	<u>Keynote Paper</u> : Manufacturing Sustainable Hydrogen for Refinery Processes by Catalytic Conversion of Pyrolysis Oil from Biomass, <u>Robbie Burch</u> , Queen's University, Belfast	62
16.	Metal-Loaded Mesoporus Materials for Production of Dimethyl Carbonate, <u>Ahmed Arafat</u> , King Abdulaziz University, Jeddah	63
17.	A Newly Developed & Introduced Process to Remove Bad Smell from Petrochemical Naphtha, <i>Nobuyuki Nishii</i> , <i>Idemitsu Kosan Company</i>	74
18.	Phase Reforming of Xylose into Furfural, <u>Mohammad Ahmad</u> , Queen's University, Belfast	85
19.	<u>Keynote Paper</u> : Ethylene to Propylene on Single Site Catalysts, <u>Jean-Marie</u> <u>Basset</u> , <u>KAUST</u>	86
20.	Catalytic Propylene Production from Ethylene Using Zeolite Catalysts, <u>Toshihide Baba,</u> Tokyo Institute of Technology	87
21.	Study of Oxidative Dehydrogenation of Ethane over $Dy_2O_3/MgO$ Supported LiCl Containing Eutectic Chloride Catalysts, <u>Balkrishna Tope</u> , KFUPM-RI	98
22.	Partial Oxidehydrogenation of Cyclohexane to Cyclohexene over Ni-Supported Catalysts Modified by RE-Metal Oxides, <u>Hany AbdelDayem</u> , KFU, Al-Hofuf	99
23.	<u>Keynote Paper</u> : Innovations in Polyolefin Catalysis, <u>Atieh Aburagabah</u> , SABIC Riyadh	107
24.	New Transition Metal Complex Catalysts for Synthesis of New Polymers by Precise Olefin Polymerization, <u>Kotohiro Nomura</u> , Nara Institute of Science & Technology, Japan	108
	Symposium Program	