

The 9th East Asia Joint Symposium on Environmental Catalysis and Eco-materials

Yancheng Guest Hotel, Yancheng, China, November 6-7, 2019

Program

Plenary Lecture: 50 min including discussion

Keynote Lecture: 30 min including discussion

Invited and Oral Presentation: 20 min including discussion

November 6 (Wednesday), 2019

8:30-9:00 Opening Ceremony

Plenary Lecture

(Chairperson: Junhua Li, Tsinghua University)

9:00-9:50 PL1

Design and preparation of highly efficient catalysts for environmental catalysis

Fengshou Xiao (Zhejiang University)

9:50-10:20 Break & Group Photo

(Chairperson: Masaaki Haneda, Nagoya Institute of Technology)

10:20-11:10 PL2

Precious metal free automotive three way catalyst–inhibition of NO reduction by self-poisoning and solution with tandem configuration

Atsushi Satsuma (Nagoya University)

11:10-12:00 PL3

Recent advances in the synthesis and applications of zeolites and related crystalline materials

Suk Bong Hong (Pohang University of Science and Technology)

12:00-13:30 Lunch

November 6 (Wednesday), 2019

Session 1

(Chairpersons: Katsutoshi Nagaoka, Nagoya University; Fan Dong, University of Electronic Science and Technology of China)

13:30-14:00 KL101

Research activities on chemical conversion technologies of CO and CH₄ in C1 gas refinery R&D center

Eun Duck Park (Ajou University)

14:00-14:20 IP101

Photocatalytic synthesis of hydrogen peroxide using MOF material

Hiromi Yamashita (Osaka University)

14:20-14:40 OP101

Photocatalysis for efficient and safe air pollutants purification: catalysts design and reaction mechanism

Fan Dong (University of Electronic Science and Technology of China)

14:40-15:00 IP102

Deterioration of Pd/CeO₂-ZrO₂ three-phase boundary analyzed by in-situ diffuse reflectance spectroscopy

Masato Machida (Kumamoto University)

15:00-15:20 OP102

The design of advanced nanocatalysts for electrochemical reduction of CO₂

Licheng Liu (Qingdao Institute of Bioenergy and Bioprocess Technology)

15:20-15:40 Break

(Chairpersons: Eun Duck Park, Ajou University; Jiguang Deng, Beijing University of Technology)

15:40-16:10 KL102

Catalyst and process design for utilizing ammonia as energy carrier

Katsutoshi Nagaoka (Nagoya University)

16:10-16:30 IP103

Pt/meso-CoO: Superior performance catalysts for benzene combustion

Hongxing Dai (Beijing University of Technology)

16:30-16:50 OP103

Catalytic oxidation behavior of dimethyl phthalate over supported catalyst

Zhi Jiang (Shanghai Jiao Tong University)

16:50-17:10 OP104

Effect of Ce promoter on non-oxidative dehydrogenation of propane over commercial Cr/Al₂O₃ catalyst

Dedong He (Kunming University of Science and Technology)

17:10-17:30 OP105

Bulk vanadium oxide catalyst containing tetravalent vanadium for low-temperature NH₃-SCR (<150°C)

Yusuke Inomata (Tokyo Metropolitan University)

17:30-19:00 Poster Session

19:00-20:30 Banquet

November 6 (Wednesday), 2019

Session 2

(Chairpersons: Fengshou Xiao, Zhejiang University; Kiyotaka Asakura, Hokkaido University)

13:30-14:00 KL201

Design of manganese-based catalysts for oxidation processes

Hisahiro Einaga (Kyushu University)

14:00-14:20 IP201

Operando XAFS studies on supported metal catalysts – Its possibilities to high pressure and high temperature measurements

Kiyotaka Asakura (Hokkaido University)

14:20-14:40 OP201

Engineering amorphous manganese oxides for efficient decomposition of ozone

Haibao Huang (Sun Yat-sen University)

14:40-15:00 OP202

Preparation of Ni-plated catalysts by electroless plating method for partial oxidation and CO₂ reforming of methane

Kyoung-Su Ha (Sogang University)

15:00-15:20 OP203

Synergistic elimination of NO_x and chloroaromatics on a commercial V₂O₅-WO₃/TiO₂ catalyst: Byproducts analyses and the SO₂ effect

Xiaole Weng (Zhejiang University)

15:20-15:40 Break

(Chairpersons: Hisahiro Einaga, Kyushu University; Dengsong Zhang, Shanghai University)

15:40-16:00 IP202

Strategy on design & preparation of high effective deNO_x catalyst

Runduo Zhang (Beijing University of Chemical Technology)

16:00-16:20 OP204

A superior H₂O resistance Mn-based NH₃-SCR catalyst: study of catalytic activity and competitive adsorption between reactants and H₂O

Ningqiang Zhang (Beijing University of Technology)

16:20-16:40 OP205

Alkaline earth containing yttrium oxide based catalysts for high-temperature NO decomposition reaction

Keita Takenaka (Nagoya Institute of Technology)

16:40-17:00 OP206

Nanodispersed Mn₃O₄/γ-Al₂O₃ for NO₂ elimination at room temperature

Lian Wang (RCEES, Chinese Academy of Sciences)

17:00-17:20 OP207

Different NO_x storage behaviors in Pd/SSZ-13 and Pd/CeO₂ as passive NO_x adsorbers

Sungha Hwang (Seoul National University)

17:30-19:00 Poster Session

19:00-20:30 Banquet

November 7 (Thursday), 2019

Session 1

(Chairpersons: Zhaoliang Zhang, Jinan University; Xiaole Weng, Zhejiang University)

8:30-9:00 KL103

Supported Ru catalysts for fast hydrogen charge into liquid organic hydrogen carriers

Young Woong Suh (Hanyang University)

9:00-9:20 IP104

Selective catalytic reduction of NO_x by NH₃ over Fe₂O₃-based catalysts

Xingfu Tang (Fudan University)

9:20-9:40 OP106

Significant enhancement of gaseous elemental mercury recovery from coal-fired flue gas by phosphomolybdic acid grafting on sulfated γ -Fe₂O₃: Performance and mechanism

Shijian Yang (Jiangnan University)

9:40-10:00 OP107

Defective Mn_xZr_{1-x}O₂ solid solution for the catalytic oxidation of toluene: Insights into the oxygen vacancy contribution

Xiaolin Yu (Institute of Chemistry, Chinese Academy of Sciences)

10:00-10:20 Break

(Chairpersons: Suk Bong Hong, Pohang University of Science and Technology; Sihui Zhan, Nankai University)

10:20-10:40 OP108

Three-dimensionally ordered macroporous MnSmO_x composite oxides for propane combustion: Modification effect of Sm dopant

Chuanhui Zhang (Qingdao University)

10:40-11:00 OP109

Synthesis of disperse Al-NPs /TiO₂ and its performances in wastewater treatment

Mingze Xu (Changchun University of Science and Technology)

11:00-11:20 OP110

Tuning reactivity and stability of supported nanometals by engineering the interface with oxide support

Song Li (Northeastern University)

11:20-11:40 OP111

Catalytic upgrading of low quality lignin pyrolysis oil

Yoonsoo Kim (Korea Institute of Science and Technology)

11:40-12:00 OP112

Electronic and adsorption properties of two-dimensional quantum dots for gas sensing and wastewater treatment

Qinfang Zhang (Yancheng Institute of Technology)

11:40-13:30 Lunch

(Chairpersons: Runduo Zhang, Beijing University of Chemical Technology; Young Woong Suh, Hanyang University)

13:30-13:50 IP105

Soot oxidation catalysts and mechanism

Zhaoliang Zhang (Jinan University)

13:50-14:10 OP113

Study on wax-free liquid hydrocarbons synthesis from H₂-deficient syngas over Co-Mn/meso-ZSM-5 catalyst

Hong Du (Dalian Institute of Chemical Physics, Chinese Academy of Sciences)

14:10-14:30 OP114

Strategies for the design of active H₂-SCR catalysts

Zhiming Liu (Beijing University of Chemical Technology)

14:30-14:50 OP115

In situ generation of perovskite oxides and carbon composites: A facile, effective and generalized route to prepare catalysts with improved performance

Junjiang Zhu (Wuhan Textile University)

14:50-15:10 Break

**(Chairpersons: Zhiming Liu, East China University of Science & Technology;
Jianjun Chen, Tsinghua University;)**

15:10-15:40 KL104

Study on environmental cleaning by nanostructured photocatalysts

Hexing Li (Shanghai University of Electric Power)

15:40-16:00 OP116

An insight into the roles of oxygen-related parameters for catalytic oxidation of soot and VOCs

Mingli Fu (South China University of Technology)

16:00-16:20 OP117

Iron-based composites for efficient oxygen evolution electrocatalysis

Chizhong Wang (Tsinghua University)

16:20-16:40 OP118

Tuning the initiation of Cu redox for boosting the low-temperature NH₃-SCR efficiency of Cu-CHA zeolite catalysts

Peirong Chen (South China University of Technology)

16:40-17:00 OP119

Role of acid sites in selective catalytic oxidation of NH₃ with high N₂ selectivity

Mingyue Lin (Tokyo Metropolitan University)

17:00-17:30 Closing Ceremony

17:30-19:00 *Buffet Dinner*

November 7 (Thursday), 2019

Session 2

(Chairpersons: Zhen Zhao, Shenyang Normal University/China University of Petroleum; Masaaki Haneda, Nagoya Institute of Technology)

8:30-8:50 IP203

Oxygen storage property of rare earth-doped CeO₂-ZrO₂ characterized by IR and isotopic transient kinetic analyses

Masaaki Haneda (Nagoya Institute of Technology)

8:50-9:10 OP208

Hydrothermal stability enhancement by ion-exchange of rare earth metals in one-pot synthesized Cu-SSZ-13 for NH₃-SCR of NO_x

Yingjie Wang (RCEES, Chinese Academy of Sciences)

9:10-9:30 IP204

Direct catalytic conversion of CH₄ and CO₂ to acetic acid

Jeong Gil Seo (Myongji University)

9:30-9:50 OP209

Selective catalytic reduction mechanism and kinetic modeling over a monolithic H-CHA catalyst

Naoki Shibayama (Hokkaido University)

9:50-10:10 OP210

Effect of ceria crystal plane on Ag/CeO₂ for soot oxidation reaction

Wei Wang (East China University of Science and Technology)

10:10-10:30 *Break*

(Chairpersons: Suk Bong Hong, Pohang University of Science and Technology; Xingfu Tang, Fudan University)

10:30-10:50 IP205

Engineering surface on Mn-based materials for VOCs combustion

Yue Peng (Tsinghua University)

10:50-11:10 OP211

Develop high efficiency of NH₃-SCR catalysts with wide temperature range by ball-milling method

Boxiong Shen (Hebei University of Technology)

11:10-11:30 OP212

Band structure regulation of a photothermal synergistic catalyst for VOCs removal: From single semiconductor, type II heterojunction to Z-scheme heterojunction

Zebao Rui (Sun Yat-sen University)

11:30-11:50 OP213

Fabrication of hierarchical porous Ce-Zr based catalysts and application for catalytic soot oxidation

Yuechang Wei (China University of Petroleum Beijing)

12:00-13:30 Lunch

(Chairpersons: Hongxing Dai, Beijing University of Technology; Yue Peng, Tsinghua University)

13:30-14:00 KL202

Catalysts design for the catalytic removal and catalysis-plasmon cooperative purification of PM emitted from vehicles

Zhen Zhao (Shenyang Normal University/China University of Petroleum)

14:00-14:20 OP214

Highly efficient Mn₂O₃ catalysts derived from Mn-MOFs for toluene oxidation: The influence of MOFs precursors

Xiaodong Zhang (University of Shanghai for Science and Technology)

14:20-14:40 OP215

The catalytic performance of ethylene oxidation over M/ZSM-5 (M= Co, Fe) materials under ambient temperature

Cheng Chen (RCEES, Chinese Academy of Sciences)

14:40-15:00 OP216

The coefficient effect of electron-deficient Pt and electron-rich Au in selective catalytic oxidation of NH₃ at low temperatures

Haifeng Wang (Tokyo Metropolitan University)

15:00-15:20 Break

(Chairpersons: Hexing Li, Beijing University of Technology; Haibao Huang, Sun Yat-sen University)

15:20-15:40 IP206

Ga-doped and Pt-loaded porous TiO₂-SiO₂ for photocatalytic nonoxidative coupling of methane

Jinlong Zhang (East China University of Science & Technology)

15:40-16:00 OP217

Organic-free synthesis of silicoaluminophosphate molecular sieves

Sung Hwan Park (Pohang University of Science and Technology)

16:00-16:20 OP218

The catalytic reduction of N₂O and NO by CO over metal oxides catalysts

Jie Zeng (Renmin University of China)

16:20-16:40 OP219

Homogeneously alloyed Pt-Pd/SiO₂ catalyst and enhanced low temperature activity for diesel oxidation

Fei Dong (Toyota Central R&D Labs)

16:40-17:00 OP220

The structure, reducibility and acidity study over MeO_x/SAPO-34 (Me: Mn, Ni, Co) catalysts for low-temperature NH₃-SCR

Xuesong Liu (Tsinghua University)

17:00-17:30 *Closing Ceremony*

17:30-19:00 *Buffet Dinner*