IZC '19

19TH INTERNATIONAL ZEOLITE CONFERENCE

PERTH, AUSTRALIA
7-12 JULY 2019

FINAL REPORT 2019

International Zeolite Conference 2019 | Perth, Western Australia

Managed by encanta event management

HOSTED BY

Curtin University

International Zeolite Association

www.izc19.com

Contents

Summary of the event

The International Zeolite Conference was held in Perth, Western Australia at Crown Convention Centre, Perth from 7th – 12th July 2019. The theme of the conference was 'Zeolites Porous Solids – the Foundation of Advanced Chemical Technology.

Over 509 international delegates descended to Perth to attend preconference workshops, listen to invited international and national plenary speaker and participated in five-day program alongside an interactive social program which catered for accompanying partners and families.

Meeting at a Glance
Total number of Delegates: 509
Abstracts Submitted:674
Oral Presentations: 204
Poster Presentations: 195
Sponsorship Income: $128,381.44
Exhibition Income: $26,350.00

Meeting Hosts

Curtin University

International Zeolite Association

Organising Committee

Prof. Moses Tade (Chair), Curtin University
Prof. Michael Stockenhuber (Co-Chair, International Advisory/Scientific Board), University of Newcastle
Prof. Shaobin Wang (Co-Chair, International Advisory/Scientific Board), Curtin University
Prof. Thomas Maschmeyer (Deputy-Chair, International Advisory/Scientific Board), The University of Sydney
Prof. Jun Huang (Co-Lead, Pre-Conference School), The University of Sydney
Prof. Hongqi Sun (Co-Lead, Pre-Conference School), Edith Cowan University
Prof. Ajayan Vinu (Co-Lead, Pre-Conference School), University of Newcastle
Prof. Shizhang Qiao, The University of Adelaide
Mr. Greg Stephen, Zeolite Australia Pty Ltd
Prof. Huanting Wang, Monash University
Prof. Paul Webley, The University of Melbourne
Prof. George Zhao, The University of Queensland
Ms. Renee Bennett, Encanta Event Management
Ms. Emily Chee, Encanta Event Management

International Advisory/Scientific Board

Co-Chairs: Prof. Michael Stockenhuber, University of Newcastle, and Prof. Shaobin Wang, Curtin University

Deputy Chair: Prof. Thomas Maschmeyer,
The University of Sydney

Members (in alphabetical order):
Prof. Michael Anderson, The University of Manchester, UK
Prof. Teresa J. Bandosz, The City College of New York, USA
Prof. Peter Behrens, Leibniz, Univeritat Hannover, Germany
Prof. Suk Bong Hong, POSTECH, South Korea
Dr. Jiri Cejka, Academy of Sciences of the Czech Republic, Czech Republic
Dr. Con-Yang Chen, Chevron, USA
Prof. Shunai Che, Shanghai Jiao Tong University, China
Prof. Avelino Corma, ITQ-CSIC-Polytechnical University of Valencia, Spain
Prof Jack Fletcher, University of Cape Town, South Africa
Prof. Anne Galarneau, Institut Charles Gerhardt Montpellier, France
Dr. Ashim Ghosh, SABIC Technology Centre, USA
Prof. Girolamo Giodano, University of Calabria, Italy
Prof. Martin Hartmann, FAU Erlangen-Nürnberg, Germany
Prof. Irina Ivanova, Moscow State University of Civil Engineering, Russia
Dr Sai P. Katikaneni, Saudi Aramco, Saudi Arabia
Prof. Majeda Khraisheh, Qatar University, Qatar
Prof. Susumu Kitagawa, Kyoto University, Japan
Assoc. Prof. Jian Liu, University of Surrey, UK
Prof. Zhongmin Liu, Dalian Institute of Chemical Physics, China
Prof. Max Lu, University of Surrey, UK
Prof. Svetlana Mintova, National Graduate School of Engineering and Research, France
Prof. Tatsuya Okubo, The University of Tokyo, Japan
Prof. Shilun Qiu, Jilin University, China
Prof. Ben Slater, University College London, UK
Prof. Jeroen van Bokhoven, ETH Zurich, Switzerland
Prof. Jihong Yu, Jilin University, China
Prof. Dongyuan Zhao, Monash University and Fudan University, China

Conference Venue

Crown Perth

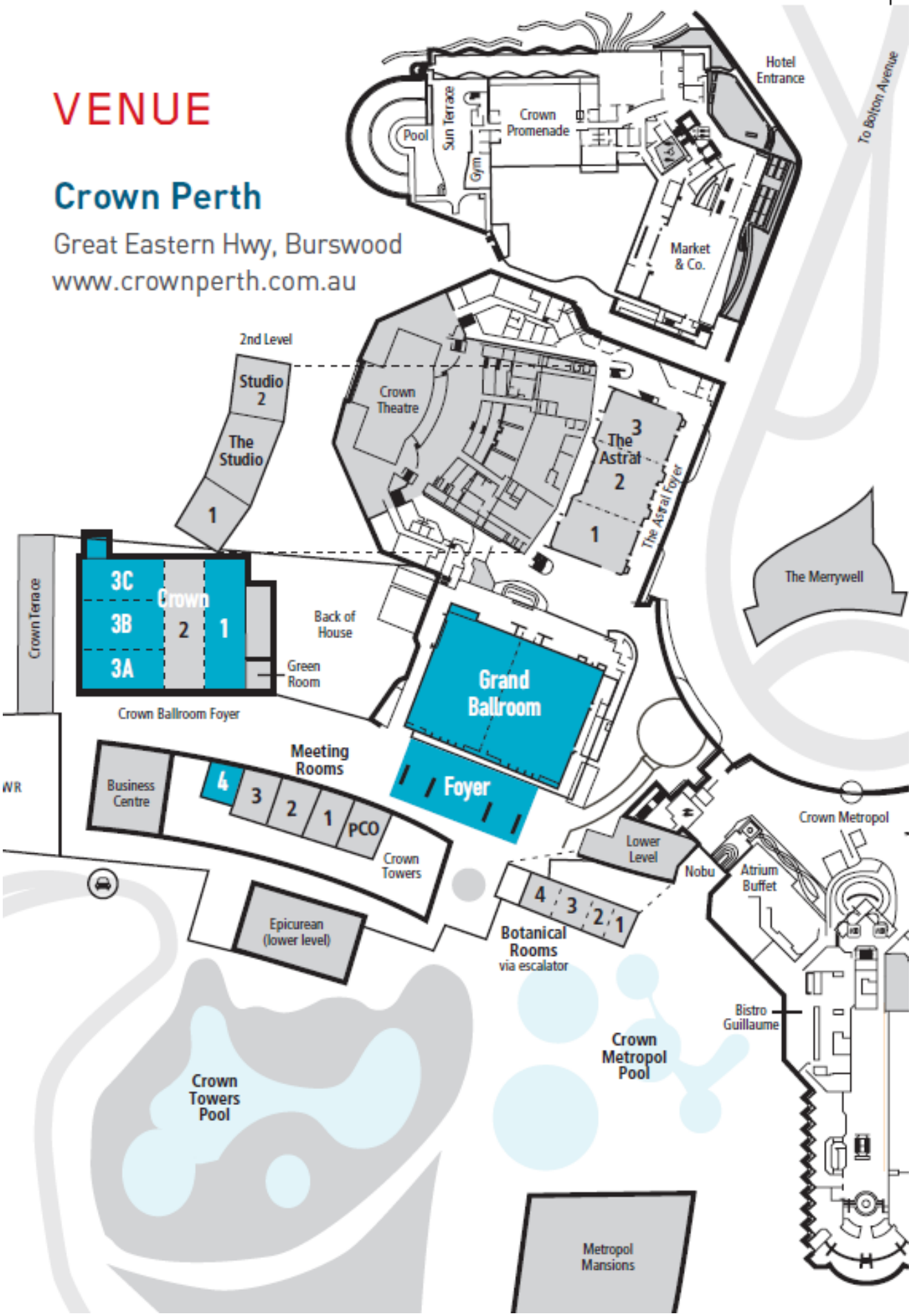
Crown Perth was the host for the IZC'19 Conference in July. The complex boasts the 6-star Crown Towers, Crown Metropol and Crown Promenade all within a short walking distance to the conference facilities. The venue has an array of restaurants, bars and a variety of entertainment options all providing you with ample networking opportunities.

Plenary Sessions	Crown Ballroom
Concurrent Session Rooms	Crown Ballroom, Crown 1,2,3
Registration Desk	Grand Ballroom Foyer (outside Exhibition)
Exhibition Area	Grand Ballroom
Catering served in Exhibition area	Amongst the Exhibitors in Grand Ballroom

VENUE

Crown Perth

Great Eastern Hwy, Burswood
www.crownperth.com.au



Pre- Conference School

Pre-Conference school was held on Friday 6 July and Saturday 6 July at Crown Perth, Meeting Room 1. This event was open to all young researched (students, post graduate students, PhD students and early career researchers) in the field of zeolites and porous materials.

Pre-Conference School Program -Friday 5 July

Time	Topic
8:45am – 9:00am	*Welcome*
9:00am – 11:00am	*Synthesis of zeolite crystalline* Prof Michael Anderson
11:00am – 11.30am	Morning tea
11:30am – 1:30pm	*Metal-Organic Frameworks* Prof Cameron Kepert
1.30pm – 2.30pm	*Lunch*
2.30pm – 4.30pm	*Synthesis and catalytic testing of hierarchical zeolites* Prof Martin Hartmann

Pre-Conference School Program - Saturday 6 July

Time	Topic
9:00am – 11:00am	*Synthesis of Functional Mesoporous Materials for Applications* Prof Dongyuan Zhao
11:00am – 11.30am	Morning tea
11:30am – 1:30pm	*Zeolite in environmental applications* Prof Pegie Cool
1.30pm – 2.30pm	*Lunch*
2.30pm – 4.30pm	*Advanced zeolite characterization by thermal analysis* Prof Antonio S. Araujo
4.30pm – 5.00pm	Close

Pre-Conference School Registration
Cost: $245.00 pp

Registration was required to attend the Pre-Conference School which included morning tea and lunch on both days.

Pre-Conference School Speakers

Prof Michael Anderson

Professor of Materials Chemistry

The University of Manchester, United Kingdom

Following his undergraduate studies in Chemical Physics at Edinburgh University he conducted his PhD work in the group of John M. Thomas in Cambridge. Following various post-doctoral appointments in the USA he was appointed to the faculty at the University of Manchester (formerly UMIST) in 1990 where he is now Professor of Materials Chemistry and Director of the Centre for Nanoporous Materials. He is currently an Adjunct Professor at Curtin University.

Prof Antonio S. Araujo

Head of the Laboratory of Catalysis and Petrochemistry (LCP)

Institute of Chemistry, Federal University of Rio Grande do Norte, Brazil

Antonio S. Araujo received his PhD degree in Science in 1992 at the University of Sao Paulo (Brazil). Then, he moved for the Institute of Chemistry at Federal University of Rio Grande do Norte. In 1998, He was postdoctoral fellow at Kent State University, Ohio (USA).

Head of the Laboratory of Adsorption and Catalysis (LADCA)

Department of Chemistry, University of Antwerp, Belgium

Pegie Cool received her PhD degree in Science in 1998 at the University of Antwerp, Belgium. For 6 years she was postdoctoral fellow of the FWO-Flanders. As a postdoctoral researcher she was associated at the Texas A&M University, USA and at the University of Queensland, Australia. In 2004 she became assistant professor and since 2012 she is full professor in the Chemistry Department at the University of Antwerp and head of the Laboratory of Adsorption and Catalysis.

Prof Martin Hartmann

Professor of Catalysis

Erlangen Catalysis Resource Center, Germany

Martin Hartmann studied chemistry at TU Dortmund and obtained his Ph.D. in 1993. He held postdoctoral positions at the University of Houston (1994-1995), University of Stuttgart (1996-1999) finished his Habilitation in Chemical Technology at TU Kaiserslautern in 2002.

Prof Cameron Kepert

Professor in the School of Chemistry

The University of Sydney

Cameron Kepert is a Professor in the School of Chemistry at the University of Sydney. He received his B.Sc.(Hons) from the University of Western Australia, PhD from the Royal Institution of Great Britain/University of London, and was a Junior Research Fellow at the University of Oxford from 1995-1998.

Prof Dongyuan Zhao

Senior Editor of ACS Central Science, Department of Chemistry

Fudan University

Professor Dongyuan Zhao was born in Northeastern of China, he received B.S. (1984), M.S. (1987) and PhD (1990) from Jilin University. He was a post-doctoral fellow in University of Houston (1995–96), University of California at Santa Barbara (1996–98). Now he is a Professor (Cheung Kong and Hao-Qing Professorship) in the Department of Chemistry at Fudan University.

International Zeolite Conference Program: *Scientific Program & Keynote Speakers*

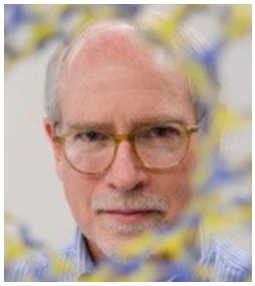
The 19th IZC Conference gathered "zeolite people" from around the world ranging from young students, early mid-career researchers, industry practitioners and colleagues to Perth to showcase the most recent scientific and technological advances in zeolites field of research. The program particularly focused on recent developments in synthesis, characterisation, computational and theoretical aspects and related investigations. The program was a similar formula to previous zeolite conferences.

Keynote Speakers

Prof Jie-Sheng Chen

Professor at Shanghai Jiao Tong University.

Jie-Sheng Chen is currently a professor at Shanghai Jiao Tong University. He received his BSc (1983) and MSc (1986) degrees from Sun Yat-sen University and PhD degree (1989) from Jilin University.



Prof Mark E Davis

Warren and Katharine Schlinger Professor of Chemical Engineering

California Institute of Technology

Mark E. Davis is the Warren and Katharine Schlinger Professor of Chemical Engineering at the California Institute of Technology, Pasadena, CA USA. He has over 450 scientific publications, two textbooks and over 90 US patents.

Prof Tina Düren

Centre for Advanced Separations Engineering, Department of Chemical Engineering, University of Bath, UK

Tina Düren received her PhD in 2002 from the Technical University Hamburg-Harburg, before spending two years as a postdoctoral researcher with Prof Randy Snurr's group at Northwestern University, USA.

Prof Jean-Pierre Gilson

Université de Caen – CNRS

Jean-Pierre Gilson graduated cum-laude from the University of Namur (Belgium) under the guidance of Prof. Eric G. Derouane and Zélimir Gabelica.

During his industrial (UOP, Grace & Shell) and academic (Distinguished Professor, ENSICAEN, France) career he combined fundamental studies in catalysis with their applications in oil refining, petrochemistry and renewables.

Prof Christopher W. Jones

Love Family Professor of Chemical & Biomolecular Engineering and the Associate Vice President for Research, Georgia Tech

Professor Jones is the Love Family Professor of Chemical & Biomolecular Engineering and the Associate Vice President for Research at Georgia Tech.

Dr Omer Koseoglu

Principal Professional, Refining Development Team, Saudi Aramco R&D Center

Dr. Omer Refa Koseoglu is a Principal Professional at the Saudi Aramco Research and Development Center, leading the Refining Development Team. He has a Ph.D. degree in Chemical Engineering from the University of Toronto, Canada.

Prof Johannes A. Lercher

Director of the Institute for Integrated Catalysis

Pacific Northwest National Laboratory

Department of Chemistry

TU München

Johannes A. Lercher, studied Chemistry at TU Wien, receiving his PhD in 1981 at the same institution. After a year at Yale University, he joined TU Wien as Lecturer, later Associate Professor.

Dr Hong-Xin Li

R&D Director

Zeolyst International

Dr Hong-Xin Li is the R&D Director at Zeolyst International, a joint venture of PQ Corporation and Shell.

Prof. Bao-Lian Su

University of Namur

Dr. Sc of the University Pierre and Marie Curie, France in 1992, Member of the European Academy of Sciences, Member of the Royal Academy of Belgium, Fellow of the Royal Society of Chemistry and Clare Hall Life Member, University of Cambridge, Prof. Su held “Belgian Francqui Chaire”.

Prof M Lakshmi Kantam

ICT Mumbai

Prof. Lakshmi Kantam is Dr.B.P. Godrej Distinguished Professor at Institute of Chemical Technology, Mumbai, India. Earlier, she served as Director at CSIR-IICT, Hyderabad. She is an Adjunct Professor at RMIT University, Melbourne, Australia.

Dr Lynne McCusker

Department of Materials, ETH Zurich

Lynne McCusker has been studying the crystal structures of zeolites for over 40 years, the last 30 of these at ETH Zurich.

Prof Xiao-Ming

Professor, Sun Yat-Sen University

Xiao-Ming Chen obtained his BSc (1983) and MSc (1986) degrees from Sun Yat-Sen University (SYSU), Guangzhou, China, and PhD degree (1992) from The Chinese University of Hong Kong, Hong Kong. He joined the chemistry faculty at SYSU since 1992, and became a professor since 1995.

Dr. Nikolaï Nesterenko

Total Research & Technology Feluy, Seneffe, Belgium

Dr. N. Nesterenko (b. 1977) started his career in heterogeneous catalysis in 1996 with a specific focus on zeolite-based materials.

Prof Javier Pérez-Ramírez

Professor of Catalysis Engineering

Swiss Federal Institute of Technology

Javier Pérez-Ramírez studied Chemical Engineering at the University of Alicante and received his PhD degree at Delft University of Technology in 2002.

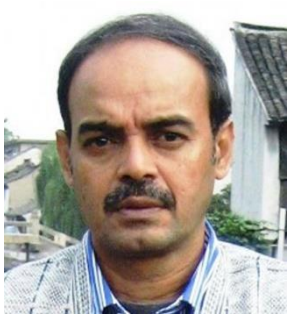
Invited Speakers

Prof Pegie Cool

Head of the Laboratory of Adsorption and Catalysis (LADCA)

Department of Chemistry, University of Antwerp, Belgium

Pegie Cool received her PhD degree in Science in 1998 at the University of Antwerp, Belgium. For 6 years she was postdoctoral fellow of the FWO-Flanders.



Dr Parasuraman Selvam

Head, National Centre for Catalysis Research, and Professor in the Department of Chemistry, Indian Institute of Technology-Madras (IIT-Madras), Chennai, India; Adjunct Faculty, School of Chemical Engineering and Analytical Science, The University of Manchester, Manchester, and Department of Chemical and Process Engineering, University of Surrey, Guildford, UK

Prof Feng-Shou Xiao

Distinguished Professor, Department of Chemistry, Zhejiang University

Prof. Feng-Shou Xiao received his B.S. and M.S. degrees in the Department of Chemistry, Jilin University, China. From there he moved to Dalian Institute of Chemical Physics, China for Ph. D. research, then to the Catalysis Research Center, Hokkaido University, Japan, where he was involved in collaborative research between Dalian Institute of Chemical Physics & Jilin University, China with Hokkaido University, Japan

Dr Teng Xu

ExxonMobil Chemical

Prof Ganapati Yadav

ICT Mumbai

Plenary Speakers

Dr Jeffery C Bricker

Senior Director of Research and Development

UOP-Honeywell

Dr Jeffery Bricker is the Senior Director of Research at UOP, which provides expertise and conducts research in the areas of New Materials, Catalysis, Advanced Characterization & Analytical, Membranes, Bio-Renewables, and Exploratory Platforms.

Prof Johan A Martens

Centre for Surface Chemistry and Catalysis

University of Leuven

Johan A. Martens was born in Brussels, Belgium, on January 22, 1958. He is professor of Physical Chemistry at the University of Leuven in Belgium. He is head of Catalysis Division and affiliated with the Centre for Surface Chemistry and Catalysis.

Prof Xiulian Pan
Professor of the State Key Laboratory of Catalysis,
Dalian Institute of Chemical Physics,
Chinese Academy of Sciences

Prof Pan has been a Professor of the State Key Laboratory of Catalysis as the Dalian Institute of Chemical Physics, Chinese Academy of Sciences since 2009.

Prof Dr Ferdi Schüth

Max-Planck-Institut für Kohlenforschung

He studied Chemistry and Law at the Westfälische Wilhelms-Universität (Münster). He received his doctorate in Chemistry in 1988 and passed the First State Exam in Law in 1989. After 5 years as scientific assistant at the Johannes-Gutenberg-Universität (Mainz) he became Professor in Chemistry in 1995

Prof Wataru Ueda
Department of Material and Life Chemistry, Faculty of Engineering,
Kanagawa University

Wataru Ueda is currently a Professor at Kanagawa University. He is also an emeritus professor of Hokkaido University.

Program at a glance

- Commences Sunday evening 6.00pm with the Welcome Reception amongst the exhibition and will include a visit from some Australian animals
- Official Opening to be held Monday 8 July commencing 8.30am in Crown 1
- Each day commences with one of the 5 invited plenary speakers
- Poster sessions are held on Monday and Tuesday and provide an opportunity to meet with the authors and enjoy some light hospitality
- Wednesday half day program followed by a Cultural tour to the Swan Valley
- Thursday – IZA General Assembly followed by the Conference Dinner at Kings Park
- Friday concludes with thank you

PROGRAM: MONDAY 8 JULY 2019

07:30 – 17:30	**Registration desk open**	Grand Ballroom Foyer
07:30 – 08:30	**Arrival tea and coffee**	Exhibition, Grand Ballroom
07:30 – 18:30	**Exhibition open**	Exhibition, Grand Ballroom
08:30 – 10:00	**OFFICIAL OPENING & PLENARY SESSION 1**	**Crown 1**
08:30 – 09:00	**Welcome to Country** **Official Opening: Prof Deborah Terry AO**, Vice Chancellor, Curtin University **IZA President's Address: Valentin Valtchev**	
09:00 – 09:50	**PLENARY PRESENTATION:** **Zeolite-type crystal structuring in complex metal oxide catalysts of group V and VI elements by unit-assembling which can be classified into (1) Materials synthesis, (2) New porous crystal structures, (3) Oxidation catalysts** **Wataru Ueda,** Kanagawa University, Japan	
09:50 - 10:00	Movement to Concurrent Sessions	

PROGRAM: Sunday 7 July 2019

1400 - 1900	**REGISTRATION DESK OPEN**	*Grand Ballroom Foyer*
1400 – 1700	**EXHIBITOR MOVE IN**	*Exhibition, Grand Ballroom*
1800 - 1930	**WELCOME RECEPTION** *Sponsored by* CHINA CATALYST GROUP	*Exhibition, Grand Ballroom*

PROGRAM: Tuesday 9 July 2019

0730 – 1730	**REGISTRATION DESK OPEN**	*Grand Ballroom Foyer*
0730 – 0830	**ARRIVAL TEA AND COFFEE**	*Exhibition, Grand Ballroom*
0730 – 1830	**EXHIBITION OPEN**	*Exhibition, Grand Ballroom*
0830 – 1000	**OFFICIAL OPENING & PLENARY SESSION 1** *Chair: Michael Stockenhuber and Thomas Maschmeyer*	*Crown 1*
	Welcome to Country Welcome to the 19th International Zeolite Conference, Prof Moses Tade, IZC'19 Chair Official Opening: Prof Deborah Terry AO, Vice Chancellor, Curtin University IZA President's Address: Valentin Valtchev	
0900 – 0950	**PLENARY PRESENTATION: Zeolite-type crystal structuring in complex metal oxide catalysts of group V and VI elements by unit-assembling" which can be classified into (1) Materials synthesis, (2) New porous crystal structures, (3) Oxidation catalysts** **Wataru Ueda,** Kanagawa University, *Japan*	
0950 - 1000	*Movement to Concurrent Sessions*	

1000 - 1100	2.1.1 **Adsorption and catalysis** *Sponsored by* BEL MicrotracBEL Corp.	2.1.2 **Crystalline Porous and Hierarchically structured materials (zeolites, composites, bio-inspired, layered**	2.1.3 **Synthesis methods, New Synthetic and Natural Zeolites**	2.1.4 **Theory (modelling and simulation of frameworks, their surfaces, pores and aggregate properties)**
Chair	Shaobin Wang	Javier Perez-Ramirez	Hong-Xin Li	Robert Bell
Room	Crown 3B	Crown 1	Crown 3A	Crown 3C
1000	**Selective oxidation of methane to methanol over binuclear cationic structures in zeolites** **Jiri Dedecek** J. Heyrovský Institute of Physical Chemistry of the CAS *Czech Republic* *Paper #59*	**Green and Versatile Synthesis Approach for Hierarchical Zeolites by Using Natural Aluminosilicate Minerals as Raw Materials: From Laboratory Studies to Industrial Application** **Xiaojun Bao** Fuzhou University *China* *Paper #41*	**Study on Acidity and Crystal Size of Twinned SAPO-34 templated by 1-Methylpyrrolidine** **Shihang Liang** Research Institute of Petroleum Processing, SINOPEC *China* *Paper #452*	**Beyond Classical Nucleation Theory: Hydrated Silicate Ionic Liquids** **Eric Breynaert** KU Leuven - COK-KAT *Belgium* *Paper #55*
1020	**Hydrophobicity as a key in methane catalytic combustion on modular Pd / zeolite composites** **Pit Losch** Max-Planck-Institut Für Kohlenforschung *Germany* *Paper# 260*	**Allosteric Regulation of Protease Activity via Anchoring on Zeolite Surface** **Lisha Yu** Zhejiang University *China* *Paper# 222*	**Preparation of All-silica RWR-type Zeolite Containing Pt Nanoparticles through Interlayer Condensation of Layered Octosilicate** **Masakazu Koike** Waseda University *Japan*	**Impact of the extra-framework aluminum species on the properties of Brønsted acid sites in Y zeolites by using thiophene probe molecule: A periodic DFT study** **Jian Zheng** Liaoning Shihua University *China*

			Paper# 356	*Paper# 197*
1040	**High-silica potassium-exchanged LTA zeolite as a molecular trapdoor adsorbent for post-combustion CO2 capture** **Jin Shang** City University of Hong Kong *Hong Kong* *Paper# 297*	**An Inspiring Combination: Mesoporous Silica Nanoparticles Embedded in Nanoporous Platinum** **Peter Behrens** Leibniz University Hannover *Germany* *Paper# 247*	**Transient Modes of Zeolite Surface Growth and Methods to Switch between Classical and Nonclassical Pathways of Crystallization** **Jeffrey Rimer** University of Houston *United States* *Paper# 546*	**Tuning of Al organization and cation siting of SSZ-13** **Stepan Sklenak** J. Heyrovsky Institute of Physical Chemistry of The Czech Academy of Sciences *Czech Republic* *Paper# 469*
1100 - 1130	**MORNING TEA**			***Exhibition, Grand Ballroom***
1130 - 1310	**2.2.1** **Adsorption and catalysis** *Sponsored by* BEL MicrotracBEL Corp.	**2.2.2** **Crystalline Porous and Hierarchically structured materials (zeolites, composites, bio-inspired, layered)**	**2.2.3** **Synthesis methods, New Synthetic and Natural Zeolites**	**2.2.4** **Theory (modelling and simulation of frameworks, their surfaces, pores and aggregate properties)**
Chair	Hongqi Sun	Massimo Migliori	Antonio Araujo	Moses Tade
Room	**Crown 3B**	**Crown 1**	**Crown 3A**	**Crown 3C**
1130	**KEYNOTE:** **Understanding and controlling sorption and catalytic chemistry in the crowded environment of zeolite pores** **Johannes Lercher** TU Munchen *Germany*	**Overcoming Irreversible Restacking of Mg-Al Double Hydroxide Nanosheets through Thermal Activation in H2 or N2: Synthesis of Mixed Metal Oxides with High Surface Area and Basic Site Density** **Isao Ogino** Hokkaido University *Japan* *Paper# 220*	**Investigating the role of framework topology on acidity in silicoaluminophosphates** **Matthew Potter** University of Southampton *United Kingdom* *Paper# 236*	**KEYNOTE:** **Fast Room Temperature Lability of Aluminosilicate Zeolites** **Petr Nachtigall** Charles University, Factuly Of Science *Czech Republic* *Paper #372*
1150		**Zeolite-Templated Synthesis of 3D Graphene-like Microporous Carbons Using Metal Cation Effect** **Taekyoung Lee** KAIST/IBS *South Korea* *Paper# 384*	**Structural Stabilization and Diversity of Germanosilicates** **Hao Xu** East China Normal University *China* *Paper#514*	
1210	**Research on the reaction mechanism of methanol-to-olefins (MTO) over zeolites by solid-state NMR spectroscopy** **Wang Chao** WIPM	**Diastereoselective Protonation of Chiral Benzyl-Ephedrines through Confinement in Nanoporous Materials** **Luis Gomez-hortiguela** Csic	**Structure–activity relationship of hierarchical zeolites** **Michael Tsapatsis** University of Massachusetts Amherst *United States* *Paper# 479*	**Molecular Modeling of Penetration of Monovalent Cations into Zeolite N Membrane** **Monireh Khosravi** Institute for Future Environments, Queensland University Of Technology

	China *Paper# 346*	*Spain* *Paper# 151*		*Australia* *Paper# 288*
1230	**Highly Selective Production of Propylene from Methanol over SAPO-14 Molecular Sieve Catalyst** **Miao Yang** Dalian Institute of Chemical Physics *China* *Paper# 354*	**Hierarchical cartridges formed combining bacterial cellulose nanofibrils and zeolite Y nanocrystals** **Raquel de Andrade Bessa** The University of Manchester *United Kingdom* *Paper# 416*	**Continuous flow Synthesis of A series of UiO-66 Metal-Organic Frameworks** **Yao Wang** Dalian University of Technology *China* *Paper# 233*	**Combining Catalysis and Computational Fluid Dynamics for Improved Reactor Design** **Matthew Potter** University of Southampton *United Kingdom* *Paper: 237*
1250	**Bifunctional Catalysts Based on Micro-/Mesoporous Zeolite Y with Enhanced Activity for Aqueous-Phase Processing of Biomass-Derived Levulinic Acid** **Hue Tong Vu** Universitaet Leipzig *Germany* *Paper# 482*	**Methane conversion to value-added products over fe-fer catalyst using n2o as co-reactant at moderate temperatures** **Guangyu Zhao** *The University of Newcastle* *Australia* *Paper#527*	**Monoliths with MFI zeolite layers prepared with the assistance of 3D printing: Characterization and performance in the gas phase isomerization of α-pinene** **Piotr Michorczyk** Institute Of Organic Chemistry And Technology, Cracow University Of Technology *Poland* *Paper# 561*	
1310 - 1400	**LUNCH**			***Exhibition, Grand Ballroom***
1400 – 1600	**2.3.1** **Adsorption and catalysis** *Sponsored by* BEL MicrotracBEL Corp.	**2.3.2** **Crystalline Porous and Hierarchically structured materials (zeolites, composites, bio-inspired, layered)**	**2.3.3** **Synthesis methods, New Synthetic and Natural Zeolites**	**2.3.4** **Theory (modelling and simulation of frameworks, their surfaces, pores and aggregate properties**
	Michael Stockenhuber	Robert Millini	Jun Huang	Masahiko Matsukata
Room	Crown 3B	Crown 1	Crown 3A	Crown 3C
1400	**Ultrasmall metal nanoparticles confined within zeolites: Highly efficient nanocatalysts for hydrogen generation** **Ning Wang** Jilin University *China* *Paper# 467*	**Nanosponge TS-1: a fully crystalline hierarchical epoxidation catalyst** **Jan Prech** Charles University *Czech Republic* *Paper# 330*	**Synthesis and framework stabilization of new zeolite YNU-5 toward catalytic application** **Yoshihiro Kubota** Yokohama National University *Japan* *Paper# 278*	**KEYNOTE:** **The autonomous material explorer: Intelligent screening of porous materials by combining molecular simulation and machine learning** **Tina Düren** University of Bath *United Kingdom*
1420	**Hybrid anisotropic nanocellulose aerogels with high-loadings of zeolite for selective CO2 capture**	**Hierarchical Hollow and nanosheet ZSM-5 with Encapsulated Metal as Catalysts**	**Synthesis and structural determination of template-free nanosized CHA-type zeolite**	

	Walter Julian Rosas Arbelaez Chalmers University of Technology *Sweden* *Paper# 386*	**Anfeng Zhang** Dalian University of Technology *China* *Paper# 437*	**Maxime Debost** Laboratory of Catalysis And Spetrochemistry (lcs) *France* *Paper# 478*	
1440	**Probing zeolites with pyridine: quantitative AGIR measurements of the molar absorption coefficients** **Vladimir Zholobenko** Keele University *United Kingdom* *Paper# 462*	**One-pot Solvent-free synthesis of c-axis oriented ZSM-5 hollow fiber catalyst** **Xinqing Chen** Shanghai Advanced Research Institute *China* *Paper# 5*	**INVITED:** **STA-28: A Novel Zeotype Prepared Using Framework Bound Organic Structure Directing Agents** **Alessandro Turrina** Johnson Matthey *United Kingdom*	**Role of Ag cation in Ag-X membrane for propylene/propane separation** **Masahiko Matsukata** Waseda University *Japan* *Paper# 305*
1500	**Ethanol dehydration performed by [Al]- and [V,Al]-magadiite catalysts** **Heloise Oliveira Pastore** *University of Campinas* *Brazil* *Paper# 101*	**A Hydrothermally Stable Mesoporous Zeolite as FCC Catalyst—from Laboratory to Refinery** **Xionghou Gao** Petrochemical Reseearch Institute, Petrochina Company Limited *China* *Paper# 73*	**Catalytic conversion of HMF to biodiesel: the role played by Al, Fe and B incorporate in MFI-framework** **Girolamo Giordano** Dept Env & Chem Eng - Univ Of Calabria *Italy* *Paper# 456*	**Formation and local structure of framework al lewis sites in *BEA zeolites** **Stepan Sklenak** J. Heyrovsky Institute of Physical Chemistry of The Czech Academy of Sciences *Czech Republic* *Paper# 205*
1520	**Mechanism of the First C-C Bond Formation in Methanol Conversion over Zeolites** **Xinqiang Wu** Dalian Insititute of Chemical Physics *China* *Paper# 448*	**Zeolitic but Unique Microchannels within Layers of Magadiite, a Natural Layered Silicate** **Yusuke Ide** National Institute for Materials Science (NIMS) *Japan* *Paper# 138*	**KEYNOTE:** **Single zeolite crystals with highly ordered intracrystalline hierarchically macro-meso-microporosity for sustainable catalysis** **Bao-Lian Su** University of Namur *Belgium*	**KEYNOTE:** **ELECTRONIC DISPROPORTIONATION UPON SORPTION INTO ZEOLITES** **Karl Seff** University of Hawaii *United States* *Paper# 120*
1540	**Synthesis of Nano-sized, Sheet-like and Hierarchical SAPO-34 Zeolites and Their Catalytic Properties for the Methanol-to-olefin Reactions** **Jiajia Ding** Shanghai Research Institute of Petrochemical Technology *China* *Paper# 48*	**Hierarchical IWR Zeolites with House-of-Cards-Like Structure Directed by Choline Cation** **Zhendong Wang** Sinopec Shanghai Research Institute of Petrochemical Technology *China* *Paper# 216*		
1600 – 1620	**AFTERNOON TEA**			***Exhibition, Grand Ballroom***

PROGRAM: Tuesday 9 July 2019

1620 – 1740	2.4.1 Adsorption and catalysis *Sponsored by* BEL MicrotracBEL Corp.	2.4.2 Crystalline Porous and Hierarchically structured materials (zeolites, composites, bio-inspired, layered)	2.4.3 Synthesis methods, New Synthetic and Natural Zeolites	2.4.4 Theory (modelling and simulation of frameworks, their surfaces, pores and aggregate properties)
Chair	Vladimir Zholobenko	Lakshmi Kantam	Alessandro Turrina	Alexander Genest
Room	**Crown 3B**	**Crown 1**	**Crown 3A**	**Crown 3C**
1620	**Pt/UiO-66 Catalysts with Tunable Acidity for Enhancing Chemoselective Cinnamaldehyde Hydrogenation** **Yan Wang** Taiyuan University of Technology *China* *Paper# 537*	**KEYNOTE:** **Analysis of pore quality in hierarchical zeolite catalysts** **Javier Perez-Ramirez,** ETH Zurich, *Switzerland*	**ADOR approach for synthesis of new zeolites by design** **Michal Mazur** Charles University *Czech Republic* *Paper# 114*	**Quantification of textural properties of hierarchical zeolites** **Alexander Sachse** IC2MP *France* *Paper# 157*
1640	**HMCM-22 Zeolite with different SiO2/Al2O3: Synthesis and catalytic properties in methane dehydroaromatization** **Kamal Pant** Indian Institute of Technology Delhi, India *India* *Paper# 256*		**Template-free synthesis of highly dispersed faujasite nanocrystals** **He Han** Dalian University of Techonology *China* *Paper# 186*	**Theoretical insights into the origin of selectivity in the MTO process catalyzed by small-pore zeolites** **Mercedes Boronat** Instituto De Tecnologia Quimica, Upv-csic *Spain* *Paper# 442*
1700	**Separation of low concentration methane from nitrogen using zeolites with a vacuum swing adsorption process** **Guoping Hu** University of Melbourne *Australia* *Paper# 316*	**Assembly of sub-crystals in macro-scale and construction of composite building units in micro-scale for SAPO-34** **Aihua Xing** National Institute of Clean-and-low-carbon Energy *China* *Paper# 314*	**JBW-type zeolite from hydrated silicate ionic liquids** **Nick Pellens** Ku Leuven *Belgium* *Paper# 359*	**Temperature dependence of CO adsorption in H-FER zeolite: combined theoretical and experimental investigation** **Miroslav Rubes** IOCB *Czech Republic* *Paper# 99*
1720	**Oligomerization of C5 olefins over Nano-Ferrierite** **Cristina Martinez Sanchez** Instituto De Tecnología Química *Spain* *Paper# 485*	**New approaches to generation of acid sites in mesoporous silicas** **Maciej Trejda** Adam Mickiewicz University *Poland* *Paper# 195*	**Catalytic upgrade of pyrolysis vapours coupled with gaseous hydrogenation to produce hydrocarbon-rich bio oil** **Muxina Konarova** The University of Queensland *Australia* *Paper# 631*	**Effect of Pore Topology on Water Adsorption in Zeolites: Computer Simulation Studies** **Robert Bell** University College London *United Kingdom* *Paper# 414*
1730 – 1830	**Poster Presentations**			***Exhibition, Grand Ballroom***

PROGRAM: Tuesday 9 July 2019

0730 – 1730	REGISTRATION DESK OPEN	*Grand Ballroom Foyer*
0800 – 0830	ARRIVAL TEA AND COFFEE	*Exhibition, Grand Ballroom*
0800 – 1830	EXHIBITION OPEN	*Exhibition, Grand Ballroom*
0830 – 0930	PLENARY SESSION 2 *Chair: Michael Stockenhuber*	*Crown 1*
0840 – 0930	PLENARY PRESENTATION: Hard Templating: Zeolites, Mesoporous Materials and Complex Composites **Ferdi Schuth,** Max-Planck-Institut für Kohlenforschung**,** *Germany*	
0930 – 0940	*Movement to Concurrent Sessions*	

0940 – 1040	3.1.1 Adsorption and catalysis *Sponsored by* BEL MicrotracBEL Corp.	3.1.2 Porous polymers (MOFS and COFS)	3.1.3 New concepts in shape-selectivity (chemicals, fine chemicals and pharmaceuticals)	3.1.4 Adsorption, Separation and Diffusion (fundamentals, membranes, process intensification)	3.1.5 Industrial Session 1
Chair	Valdimir Zholobenko	Tina Düren	George Zhao	Antonio Araujo	Nikolai Nesterenko
Room	**Crown 3C**	**Crown 1**	**Crown 3A**	**Crown 3B**	**M1**
0940	**Cu (II) Superoxo Species in SAPO-34 Zeolite and Their Catalytic Oxidation Performance** **Haijun Chen** Nankai University *China* *Paper# 552*	**A Facile Synthesis Route for High Porosity MOF Aerogels** **King Lun Yeung** The Hong Kong University of Science and Technology *Hong Kong* *Paper# 421*	**Operando ftir study on the oxidation of functionalised olefins over TS-1 using hydrogen peroxide** **Luke Harvey** The University of Newcastle *Australia* *Paper# 0*	**Sustainable low-cost synthesis of zeolites from mining tailings for heavy metal adsorption** **Hong Peng** The University of Queensland *Australia* *Paper# 139*	**Synthesis of template free high silica Nano-Fau-Y for catalytic cracking applications** **Hanin Radman** Adnoc Refining *United Arab Emirates* *Paper# 238*
1000	**The effect of trivalent framework heteroatoms in Cu-CHA on the Selective Catalytic Reduction of NO** **Dirk De Vos** Kuleuven *Belgium* *Paper# 487*	**Metal-Organic Frameworks for Bioactive Peptide Separation** **Huanting Wang** Monash University *Australia* *Paper# 341*	**Selectivity by confinement within the pores and in the structured external surface of zeolites.** **Mercedes Boronat** Instituto De Tecnología Química, Universitat Politècnica De València-consejo Superior De Investigaciones Científicas *Spain* *Paper# 531*	**Adsorption of toluene in mfi: flexibile zeolite in monte carlo simulations** **Sebastian Caro-Ortiz** TU Delft *Netherlands* *Paper# 406*	**KEYNOTE:** **Recent Advances of Industrial Zeolites for Emission Control Applications** **Hong-Xin Li** Zeolyst international *United States*
1020	**Hydrogen Supply/Storage through the Decomposition/Production of Formic Acid using the Synergic Effect of PdAg Alloy and Surface Modified Amine on the Porous Materials**	**Porous Aromatic Frameworks (PAFs)** **Guangshan Zhu** Northeast Normal University	**Modulating the distribution of Brønsted acid site for DME carbonylation over mordenite** **Ying Li**	**Large-grain, oriented, and thin zeolite MFI membranes fabricated from directly-synthesized nanosheets and their application for xylene isomer separation**	

	Shinya Masuda Osaka University *Japan* *Paper# 219*	*China* *Paper# 60*	Tianjin University *China* *Paper# 102*	**Michael Tsapatsis** University of Minnesota *United States* *Paper# 475*	
1040 – 1110	**MORNING TEA**				***Exhibition, Grand Ballroom***
1110 – 1250	**3.2.1** **Adsorption and catalysis** *Sponsored by* BEL MicrotracBEL Corp.	**3.2.2** **Porous polymers (MOFS and COFS)**	**3.2.3** **New concepts in shape-selectivity (chemicals, fine chemicals and pharmaceuticals)**	**3.2.4** **Adsorption, Separation and Diffusion (fundamentals, membranes, process intensification)**	**3.2.5** **Industrial Session 1**
Chair	Jun Huang	Shaobin Wang	Muxina Konarova	Moses Tade	Michael Stockenhuber
Room	**Crown 3C**	**Crown 1**	**Crown 3A**	**Crown 3B**	**M1**
1110	**KEYNOTE** **Enantiomeric Separations and Catalysis with Chiral Molecular Sieves** **Mark Davis** California Institute of Techology *United States*	**Ni-Deposited MOF as the Photocatalyst for H2O2 Production** **Hiromi Yamashita** Osaka University *Japan* *Paper# 343*	**Identification and regulation of active sites on nanodiamonds: Establishing a highly efficient catalytic system for oxidation of organic contaminants** **Zhong Ren** Nanchang Hangkong University *China* *Paper# 606*	**Fabrication of Twin-Free, Highly Oriented and Sub-Micrometer-Thick Molecular Sieve Membranes with Superior Gas selectivity** **Yi Liu** Dalian University of Technology *China* *Paper# 15*	**KEYNOTE:** **The Synthesis, Structure, and Catalytic Performance of the 11 ring Zeolite EMM 17** **Simon Weston** Exxon Mobil *United States* *Paper# 430*
1130		**Design Synthesis of Nanoscale UIO-66 and its appilcation** **Xinwen Guo** Dalian University of Technology *China* *Paper# 250*	**Pd Nanoparticles Immobilized on MIL-53(Al) as Effective Bifunctional Catalysts for Catalytic Conversion Liquid Methanol One-Step to Methyl Formate** **Shengfu Ji** Beijing University of Chemical Technology *China* *Paper# 18*	**Hierarchically Porous Carbons for Catalytic Oxidation: The Synergetic Enhancement by Nitrogen Doping and Structural Defects** **Wenchao Peng** Tianjin University *China* *Paper# 57*	
1150	**Hydrothermal Stable Subnanometric NiPt Clusters Encapsulated within Silicalite-1 for n-Dodecane Steam Reforming** **Bofeng Zhang** Tianjin University *China*	**INVITED:** **Green Synthesis of Zeolites and Examples for Their Industrially Sustainable Production** **Feng-Shou Xiao** Zhejiang University	**THE ISOPROPYLATION OF NAPHTHALENE OVER BEA ZEOLITES** **Stalin Joseph** The University of Newcastle *Australia*	**Monitoring Mass Transfer in Nanoporous Materials: Impact on Separation and Catalysis** **Jörg Kärger** Leipzig University *Germany*	**Nanosheet Morphology Of Aei Type Zeolite Made Using Morpholinium-Based Structure Directing Agent** **ROGER MOULTON** Sachem, Inc. *United States*

	Paper# 389	*China*	*Paper# 349*	*Paper# 87*	*Paper# 541*
1210	**Multi-ammonium surfactant-directed mesoporous zeolites for supporting high performance metal catalyst** **Jaeheon Kim** Ibs *South Korea* *Paper# 415*	**Systematic Functionalization of Isoreticular Zeolite-like Supramolecular Assemblies (ZSAs) and Application in Gas Adsorption and Separation** **Yunling Liu** Jilin University *China* *Paper# 277*	**Sinter-Resistant Metal Nanoparticle Catalysts Achieved by Immobilization within Zeolite Crystals via Seed-Directed Growth** **Liang Wang** Zhejiang University *China* *Paper# 3*	**Identification and fabrication of specific chemical speciation as active sites in Y zeolites and application in selective adsorption desulfurization and catalytic reaction** **Yun Zu** Liaoning Shihua University *China* *Paper# 170*	**INVITED:** **Hydrocarbon Structure Selectivity in Zeolites and Their Application in Refining Processes** **Xiangcheng Fang** Sinopec *China*
1230	**Preparation of NI nanoparticles encapsulated in silicalite-1 zeolite to suppress coke formation during dry reforming of methane** **Hiroyasu Fujitsuka** Tokyo Institute of Technology *Japan* *Paper# 368*	**Knoevenagel catalysis by ordered mesoporous carbon nitride from 5-Amino-1h-Tetrazole** **Sujanya Jesus Maria Ruban** The University of Newcastle *Australia* *Paper# 348*	**Control of Ti distribution in the zeolite framework and its impact on the catalytic properties** **Toshiyuki Yokoi** Tokyo Institute of Technology *Japan* *Paper# 423*		**The Complex Zeolite UZM-55 Containing 10- and 12-Membered Rings in the Same One-Dimensional Channel** **Christopher Nicholas** Honeywell UOP *United States* *Paper# 115*
1250 - 1400	**LUNCH**				***Exhibition, Grand Ballroom***
1400 – 1600	**3.3.1** **Adsorption and catalysis** *Sponsored by* BEL MicrotracBEL Corp.	**3.3.2** **Porous polymers (MOFS and COFS)**	**3.3.3** **New concepts in shape-selectivity (chemicals, fine chemicals and pharmaceuticals)**	**3.3.4** **Adsorption, Separation and Diffusion (fundamentals, membranes, process intensification)**	
Chair	Hongqi Sun	Bao-Lian Su	Muxina Konarova	Moses Tade	
Room	**Crown 3C**	**Crown 1**	**Crown 3A**	**Crown 3B**	
1400	**Low-temperature synthesis of alpha-alumina nanosheets on microfibrous-structured Al-fibers for Pd-catalyzed CO oxidative coupling to dimethyl oxalate** **Chunzheng Wang** China University Of Petroleum (east China) *China* *Paper# 172*	**KEYNOTE:** **Carbon-based catalytic materials for energy conversion** **Jiesheng Chen**	**Hydrocarbon Pool Mechanism of Methane Dehydroaromatization Over Mo/Zeolite Catalysts** **Nikolay Kosinov** Eindhoven University of Technology *Netherlands* *Paper# 63*	**Mixed matrix membranes consisting of nanosized sodalite crystals for H2/N2 separation** **Ge Yang** China University of Petroleum (east China) *China* *Paper# 121*	

1420	**Yolk-shell Nanostructured Aminopolymer–silica composite Encapsulating Pd Nanoparticles for Selective Hydrogenation of Alkynes** **Yasutaka Kuwahara** Osaka University *Japan* *Paper# 200*		~~**Enhancing propane aromatization performance of Zn/H-ZSM-5 zeolite catalyst with Pt promotion: effect of the third metal additive Sn or Fe**~~ ~~**Jiaxu Liu**~~ ~~Dalian University of Technology~~ ~~*Paper# 239*~~	**Pore Entrance Kinetics in Binary Xylene Mixtures: Impeding p-Xylene Transport in MFI Type Zeolites** **Martin Baumgärtl** Technische Universität München *Germany* *Paper# 403*	
1440	**Brønsted Acid Adjustable Metal-Organic Frameworks Act as Bifunctional Catalysts Proved by Fixed-Bed Ethanol Reaction** **Zheng Ming** Dalian Institute of Chemical Physics, Chinese Academy of Sciences *China* *Paper# 156*	**Synthesis of porous coordination polymers from structured and functionalized ionic liquid media** **Martin Hartmann** FAU Erlangen-Nürnberg *Germany* *Paper# 379*	~~**Improvement of HZSM-5 Catalyst Life by Adjusting Si/Al Ratio and Mesoporosity for Catalytic Cracking of exo-tetrahydrodicyclopentadiene**~~ ~~**Tae-Ho Lee**~~ ~~*Korea University*~~ ~~*Korea*~~ ~~*Paper# 153*~~	**A solid-state NMR spectroscopy investigation of flexibility in zeolites** **Suzi Pugh** University of St Andrews *United Kingdom* *Paper# 595*	
1500	**One-pot co-crystallization of beta and ZSM-5 nanozeolites for the direct conversion of a heavy reformate fraction into xylenes** **Cristina Martínez** Instituto De Tecnología Química, UPV-CSIC *Spain* *Paper# 435*	**Highly efficient catalyst for room-temperature oxidation desulfurization: H3PW12O40/UiO-66(Zr) prepared by a facile method** **Yinyong Sun** Hit *China* *Paper# 411*	**KEYNOTE:** **Beta-Zeolite an efficient and eco-friendly catalyst for the nitration and acylation of aromatic compounds** **Lakshmi Kantam** Institute of Chemical Technology *India*	**Solvent Effects on Acid-Base Interactions in Zeolites** **Robert Rioux** Pennsylvania State University *United States* *Paper# 494*	
1520	**Structural design for Ni-SAPO-11 hydroisomerization catalyst** **Yuchao Lyu** China University of Petroleum *China* *Paper# 289*	**Tuning the structure of zeolitic imidazolate frameworks for enhanced photocatalytic C-H activation** **Cameron Ross** University of Southampton / ICES A*STAR *Singapore* *Paper# 94*		**Enhanced Copper Sorption of Chemically Modified and Gamma-irradiated Philippine Natural Zeolite (PNZ)** **Eleanor Olegario** University of the Phillipines *Paper# 650*	
1540	**New ways of preparing highly stable Nickel-Oxide catalysts with organized porosities for the reforming of methane with carbon dioxide.**				

	Julien Reboul CNRS *France* *Paper# 604*				
1600 – 1620	**AFTERNOON TEA**				***Exhibition, Grand Ballroom***
1620 – 1740	**3.4.1** **Adsorption and catalysis** *Sponsored by* BEL MicrotracBEL Corp.	**3.4.2** **Porous polymers (MOFS and COFS)**	**3.4.3** **New concepts in shape-selectivity (chemicals, fine chemicals and pharmaceuticals)**	**3.4.4** **Adsorption, Separation and Diffusion (fundamentals, membranes, process intensification)**	
Chair	Hongqi Sun	Xiaolei Fan	Pegie Cool	Hiromi Yamashita	
Room	**Crown 3C**	**Crown 1**	**Crown 3A**	**Crown 3B**	
1620	**Achieving a Super-long Lifetime in the Zeolite-catalyzed MTO Reaction under High Pressure: Synergistic Effect of Hydrogen and Water** **Peng Tian** Dalian Institute of Chemical Physics *China* *Paper# 492*	**KEYNOTE:** **Editing Functionality into Covalent Organic Frameworks** **Wei Wang** Lanzhou University *China*	**Highly Selective Au-Pt Bimetallic Nanoparticles Supported on Foam-like Mesoporous Silica for Benzyl Alcohol Oxidation** **Pingping Wu** China University of Petroleum (East China) *China* *Paper# 214*	**Grafting of Bipyridine-proline into the Zn-Modified Mesoporous BMMs and its application for Asymmetric Aldol Reaction** **Guang Peng Xu** Beijing University of Technology *China* *Paper# 45*	
1640	**Particularities of Adsorption and Diffusion in Zeolite Membranes for Efficient Seawater Desalination** **Xiaoqin Zou** Northeast Normal University *China* *Paper# 500*		**Improvement of the Effective Diffusivity of a Shaped Zeolite** **Rogéria Bingre** Icpees - Université De Strasbourg *France* *Paper# 159*	**Suitable pore size distribution theory and adsorption experimentation - N2 or Ar gas probe, NLDFT or GCMC kernel** **Kazuyuki Nakai** Microtracbel Corp *Japan* *Paper# 144*	
1700	**The use of silver zeolites for conferring biocidal properties to polymeric materials.** **Eduardo Palomares** Instituto Tecnologia Quimica (upv-csic) *Spain* *Paper# 542*	**Acid Gas Stability and Selectivity of Rare Earth MOFs** **Tina Nenoff** Sandia National Laboratories *United States* *Paper# 629*	**The cooperativity of Brønsted and Lewis acid sites on zeolite for glycerol dehydration** **Zichun Wang** Macquarie University *Australia*	**Framework Mobility in MIL-101 and MIL-53 Investigated by 2H solid-state NMR** **Alexander Stepanov** Boreskov Institute of Catalysis SB RAS *Russian Federation* *Paper# 300*	

			Paper# 208		
1720	**The Low-cost Preparation of Mesoporous USY Zeolite and its Potential as Industrial FCC Catalyst Material** **Baojian Shen** China University of Petroleum *China* *Paper# 135*	**Transition metal complexes modified N-heterocyclic MOF/COF materials: single-site heterogeneous catalysts for liquid phase oxidation** **Ying-Ya Liu** Dalian University of Technology *China* *Paper# 229*	**Application of Bi-functional Ni/HZSM-5 Catalyst for** **Vapor-phase Hydrogenation of Levulinic Acid to γ-valerolactone** **Nataša Novak Tušar** National Institute of Chemsitry *Slovenia* *Paper# 434*	~~**Kinetic evaluation of dehydrated bi-metallic AgaM96−a-LSX (M=Na+, Li+) zeolites and its influence on adsorption of N2 and O2**~~ ~~**Hamida Panezai**~~ ~~Sardar Bahadur Khan Women's University, Quetta~~ ~~*Pakistan*~~ ~~*Paper# 301*~~ **Electrochemical synthesis of metal organic frameworks on thin film electrodes** **Muhammad Azhar** Curtin University *Australia* *Paper# 361*	
1730 – 1830	**Poster Presentations**				***Exhibition, Grand Ballroom***

PROGRAM: Wednesday 10 July 2019

0800 – 1300	**REGISTRATION DESK OPEN**				*Grand Ballroom Foyer*
0830 – 0930	**PLENARY SESSION 3** *Chair: Moses Tade*				*Crown 1*
0840 – 0930	**PLENARY PRESENTATION: Recent Advances in Petrochemical Zeolite Catalysis** **Jeffrey Bricker,** UOP – Honeywell, *United States*				
0930 – 0940	*Movement to Concurrent Sessions*				
0940 – 1040	**4.1.1** **Refining (heavy oils, shale oils, tar sands, biomass)**	**4.1.2** **Adsorption and Catalysis** *Sponsored by* BEL MicrotracBEL Corp.	**4.1.3** **Industrial Session 2**	**4.1.4** **Adsorption, Separation & Diffusion (fundamentals, membranes, process intensification)**
Chair	. Girolamo Giordano	Thomas Maschmeyer	Ajayan Vinu	
Room	**Crown 3A**	**Crown 3B**	**Crown 1**	**Crown 3C**
0940	**Preparation and Characterization of Zeolite Y Advantageous to Polycyclic aromatic hydrocarbons Conversion** **Chang Liu** Dalian(fushun) Research Institute Of Petroleum And Petrochemicals, Sinopec *China* *Paper# 304*	**Improving the efficiency of biomass catalytic pyrolysis by tailoring the physicochemical properties of technical ZSM-5 based catalysts** **Héctor Hernando Marcos** Universidad Rey Juan Carlos *Paper# 512*	**Understanding bimetallic synergy in extruded nanoparticles for industrial oxidation reactions** **Panashe Mhembere** University of Southampton *United Kingdom* *Paper# 262*	**Fly ash zeolite X for CO2 capture** **Yuri Kalvachev** Institute of Catalysis, Bulgarian Academy of Sciences *Bulgaria* *Paper# 547*
1000	**Hydrodeoxygenation of Phenolic Compounds to Cycloalkanes over HZSM-5 Supported Nickel Phosphides** **Anjie Wang** Dalian University of Technology *Paper# 225*	**Facile synthesis of fluorescent polycyclic aromatic hydrocarbons in calcium ion exchanged-lta zeolite** **Seung Hyeon Ko** Institute for Basic Science *South Korea* *Paper# 382*	**Finding Catalytic Applications of Zeolites Using n-Decane Hydrocracking-Hydroisomerization as a Catalytic Test Reaction** **C. Y. Chen** Chevron Energy Technology Company *United States* *Paper# 375*	**INVITED:** **Selectivity Engineering in Synthesis of Chemicals and Materials using Novel Catalysts** **Ganapati Yadav**
1020	**Oxidative Dehydrogenation of Ethane with Carbon Dioxide over Selected Metal-Impregnated Zeolite Catalysts** **Annelies De Cuyper** Kaiserslautern University Of Technology *Germany* *Paper# 327*	**Experimental Investigation of MTO Reaction over ZSM-5 via Isotopic Transient Analysis** **Takahiko Moteki** The University of Tokyo *Japan* *Paper# 249*	**Combined Alkali-Organoammonium Structure Direction of High Charge Density MeAPO and SAPO Molecular Sieves: The Missing Link** **Gregory Lewis** Honeywell Uop *United States* *Paper# 409*	**Remarkably enhanced industrially relevant acid- and redox-catalysed processes using Al-rich beta zeolites** **Petr Sazama** J. Heyrovský Institute of Physical Chemistry of the CAS *Czech Republic* *Paper# 373*

PROGRAM: Wednesday 10 July 2019

1040 – 1110	MORNING TEA			*Exhibition, Grand Ballroom*
1110 – 1250	**4.2.1** **Refining (heavy oils, shale oils, tar sands, biomass)**	**4.2.2** **Energy conversion and storage (photocatalysis, batteries, thermochemical)**	**4.2.3** **Industrial Session 2**	**4.2.4** **Adsorption, Separation & Diffusion (fundamentals, membranes, process intensification)**
Chair	Michael Stockenhuber	George Zhao	Ajayan Vinu	Shaobin Wang
Room	**Crown 3A**	**Crown 3B**	**Crown 1**	**Crown 3C**
1110	**Influence of support identity of Ru-based catalysts on the catalytic performance for the hydrodeoxygenation of guaiacol and biocrude oil** **Penghui Yan** The University of Newcastle *Australia* *Paper# 528*	**KEYNOTE:** **Opportunities for zeolites in the methane challenge** **Nikolaï Nesterenko** Total *Belgium*	**Characterization of phosphorus-containing ZSM-5 materials: hydrothermal synthesis vs. wetness impregnation** **Ming-Feng Hsieh** Johnson Matthey *United Kingdom* *Paper# 481*	**Clustering of acidic and non-acidic oh groups in zeolites – addressing recent doubts as to the existence of silanol nests** **Hubert Koller** University of Muenster *Germany* *Paper# 540*
1130	**Study of crude oils by use of fast fluidised bed reactor: Unlock the value creation for light olefins production by disruptive technique** **Gnana Pragasam Singaravel** ADNOC Refining *United Arab Emirates* *Paper# 12*		**Recent chevron discoveries in small pore zeolites for petrochemical and separations applications** **Dan Xie** Chevron Energy Technology Co. *United States* *Paper# 294*	**ELECTRONIC DISPROPORTIONATION UPON SORPTION INTO ZEOLITES** **Karl Seff** University of Hawaii *United States* *Paper# 120*
1150	**Catalytic cracking of polyethylene over hierarchical ZSM-5 zeolites** **Karolina Tarach** Jagiellonian University *Poland* *Paper# 461*	**Achieving a Super-long Lifetime in the Zeolite-catalyzed MTO Reaction under High Pressure: Synergistic Effect of Hydrogen and Water** **Peng Tian** Dalian Institute of Chemical Physics *China* *Paper# 497*	**Establishing Structure-Activity Relationships for Direct Methane to Methanol over Cu-Exchanged Zeolites** **Pablo Beato** Haldor Topsoe As *Denmark* *Paper# 383*	**Transition metal cation-exchanged SSZ-13 zeolites for CO2 capture and separation from N2** **Jin Shang** City University of Hong Kong *Hong Kong* *Paper# 291*
1210	**Recent Advances in Thermo-Chemical Conversion of Biomass using Porous Materials** **Michael Wilhelm Stöcker** SINTEF Industry *Norway* *Paper# 7*	**Unrevealing the synergic site in metal modified ZSM-5 zeolite by solid state NMR spectroscopy** **Jun Xu** Wuhan institute of physics and mathematics, CAS *China* *Paper# 404*	**High throughput testing of catalysts with fast deactivation for Methanol-to-Hydrocarbons (MTH)** **Marius Kirchmann** hte Gmbh *Germany* *Paper# 410*	**Solvent-free Secondary Growth of Oriented MFI-type Zeolite Films from Anhydrous Raw Solids** **Zhengbao Wang** Zhejiang University *China* *Paper# 19*

1230	**Cracking performance of light diesel over hierarchical zeolite Y** **Zhihong Gao** Taiyuan University of Technology *China* *Paper# 315*		**KEYNOTE:** Post modified USY in hydrocracking service **Omer Refa Koseoglu** *Saudi Aramco* *Saudi Arabia*	**N-dodecane Hydroisomerization over ZSM-22 : Controllable Microporous Acidity Distribution and Shape-Selectivity** **Wang Xiangyu** Tianjin University *China* *Paper# 630*
1300	**Cultural Excursion** *Please make your way at the conclusion of the session to the coaches located in the coach pick up zone on the lower lobby of Crown Towers. Coaches will depart promptly no later than 1315.*			

PROGRAM: Thursday 11 July 2019

0800 – 1730	REGISTRATION DESK OPEN			*Grand Ballroom Foyer*
0800 – 0830	ARRIVAL TEA AND COFFEE			*Exhibition, Grand Ballroom*
0800 – 1630	EXHIBITION OPEN			*Exhibition, Grand Ballroom*
0830 – 0930	PLENARY SESSION 4 *Chair: Thomas Maschmeyer*			*Crown 1*
0840 – 0930	PLENARY PRESENTATION – Synthesis: zeolites by design: did we really achieve it? **Johan Martens,** University of Leuven**,** *Belgium*			
0930 – 0940	*Movement to Concurrent Sessions*			
0940 – 1040	**5.1.1** **Energy conversion and storage (photocatalysis, batteries, thermochemical)**	**5.1.2** **Crystalline Porous and Hierarchically structured materials (zeolites, composites, bio-inspired, layered)**	**5.1.3** **Synthesis methods, New Synthetic and Natural Zeolites**	**5.1.4** **In-situ/operando spectroscopy of working porous solids**
Chair		Xinmei Liu	Mark Davis	**Antonio Arujo**
Room	Crown 3A	Crown 1	Crown 3B	Crown 3C
0940	**Graphene-dots / Metal-nanosponge Composite Catalysts for High-Performance Hydrogen Evolution Reaction** **Ho-Suk Choi** Chungnam National University *South Korea* *Paper# 396*	**The framework defects – an efficient tool to engineer hierarchical zeolites** **Zhengxing Qin** China University of Petroleum *China* *Paper# 240*	**Formation and Interconversion of Porous Scaffolds with Bicontinuous Structures** **Lu Han** Tongji University *China* *Paper# 598*	**Proton mobility and acid site location in zeolites at catalytically relevant conditions** **Pit Losch** Max-Planck-Institut Für Kohlenforschung *Germany* *Paper# 177*
1000	**Direct CO2 Hydrogenation into Value-added C2+ Hydrocarbons over Oxide/Zeolite Bifunctional Catalysts** **Peng Gao** Shanghai Advanced Research Institute, Chinese Academy Of Sciences *China* *Paper# 4*	**Hierarchical MFI Type Materials with Intracrystalline Macropores: Syntheses Characterization and Catalytic Application** **Wilhelm Schwieger** University of Erlangen-nuremberg, Germany *Germany* *Paper# 449*	**Facile preparation of b-oriented MFI zeolite nanosheet** **Ying Ji** Dalian University of Technology *China* *Paper# 97*	**INVITED:** **Themal Analysis Applied For Degradation Of Petroleum Residues Using Zeolites And Micro-Mesoporous Materials** **Antonio Arujo** Federal University of Rio Grande Do Norte *Brazil*
1020		**Hierarchical ZSM-5 with leafy morphology obtained by dual-template method** **Vesna Rakic** University of Belgrade, Faculty Of Agriculture *Serbia*	**Synthesis of Zinco(alumino)silicate Zeolites with Various Topologies toward High Ion-Exchange Capability for Multivalent Cations** **Kenta Iyoki** The University of Tokyo *Japan*	**Structural Determination of Nanoporous Materials by Rotation Electron Diffraction** **Zhehao Huang** Stockholm University *Sweden*

		Paper# 267	*Paper# 154*	*Paper# 264*
1040 – 1110	**MORNING TEA**			***Exhibition, Grand Ballroom***
1110 – 1230	**IZA General Assembly**			***Crown 1***
1230 – 1400	**LUNCH**			***Exhibition, Grand Ballroom***
1400 – 1600	**5.3.1** **Energy conversion and storage (photocatalysis, batteries, thermochemical)**	**5.3.2** **Crystalline Porous and Hierarchically structured materials (zeolites, composites, bio-inspired, layered)**	**5.3.3** **Synthesis methods, New Synthetic and Natural Zeolites**	**5.3.4** **In-situ/operando spectroscopy of working porous solids**
Chair	Muhammad Azhar		**Fernando Rey**	Jun Huang
Room	**Crown 3A**	**Crown 1**	**Crown 3B**	**Crown 3C**
1400	**Highly dispersed Sub-nanometer Silver Clusters in FAU Cages Exhibiting High Photocatalytic Activity Under Visible Light** **Mohamad El-Roz** Normandie Univ, Ensicaen, Unicaen, Cnrs, Laboratoire Catalyse Et Spectrochimie *France* *Paper# 175*	**Multimodal zeolite catalysts with hierarchically micro-meso-macroporous structure** ~~**Li Hua Chen**~~**Shen Yu** Wuhan University of Technology *China* *Paper# 506*	**First Preparation of Microporous AFY-type MeAPO by Topotactic Pillaring of Lamellar Aluminophosphate Precursor** **Kazuyuki Maeda** Tokyo University of Agriculture and Technology *Japan* *Paper# 201*	**KEYNOTE:** **Combining different techniques in the structure analysis of zeolitic materials** **Lynne McCusker** ETH Zurich *Switzerland*
1420	**Understanding the role of titanium in catalytic oxidation of VAM over Pd/TS-1 and Pd/Silicate-1** **Matthew Drewery** University of Newcastle *Australia* *Paper# 516*	**Sustainable Synthesis of Zeolites and Design of Sinter-Resistant Metal Nanoparticles by Zeolite Fixing** **Feng-shou Xiao** Zhejiang University *中国* *Paper# 9*	**Improving the MTO performance by controlling the Al distribution within Nanosized CHA-Type catalysts** **Manuel Moliner** Instituto Tecnologia Quimica, Upv-csic *Spain* Paper# 391	
1440	**INVITED:** **The design of nanoporous (photo)catalysts for environmental applications** **Pegie Cool** University of Antwerp *Belgium*	**The Role of Zeolitic Acidity in TCE Destructive Oxidation over Ce-Modified Zeolite Bea** **Kinga Gołąbek** Jagiellonian University *Poland* *Paper# 357*	**Continuous Flow Synthesis of Zeolites: Recent Progresses and Future Perspectives** **Zhendong Liu** The University of Tokyo *Japan* *Paper# 293*	**Structural analysis of zeolites in atomic scale with aberration corrected S/TEM** **Kaname Yoshida** Japan Fine Ceramics Center *Japan* *Paper# 125*
1500	**Insights into Methane Dehydro-Aromatization from Photon Ionization Mass Spectrometry**	**Bi-functional Cationic Polymeric Template Assisted Synthesis of Hierarchical Zeolite-Y for CO_2 Capture**	**First Organic Structure-Directing Agents Based on Arsenic Cation: A Versatile Probe for Mechanism**	**Local order, intermolecular interactions and properties of zeolites: the Organic Structure Directing Agent point of view**

	Hao Ma Shanghai Jiao Tong University *China* *Paper# 599*	**Balasubramanian V.Vaithilingam** Adnoc Refining *United Arab Emirates* *Paper# 380*	**Insight of the Crystallization Process in the Growth of Zeolite Structure.** **Fernando Rey** Instituto De Tecnologia Quimica *Spain* *Paper# 590*	**Bruno Alonso** CNRS *France* *Paper# 376*
1520	**Plasmon-Driven Catalysis on Single Hierarchical Metal Nanostructures** **Ping Xu** Harbin Institute of Technology *China* *Paper# 130*	**INVITED:** **The Art of Inducing Hierarchal Porosity In Zeolitic Materials: Controlled Crystallization-Supported Self-Assembly** **Parasuraman Selvam** Indian Institute of Technology-Madras *India*	**A New Microwave Method for Preparing Hierarchical Zeolites with High Mesoporosity** **Xiaolei Fan** The University of Manchester *United Kingdom* *Paper# 56*	**Effect of Macro templating on the titanium sites in microporous titanosilicate TS-1 Catalyst** **Gopinathan Sankar** University College London *United Kingdom* *Paper# 385*
1540	**Applications of zeolite β-templated carbon for supercapacitor devices** **Massimo Migliori** University of Calabria *Italy* *Paper# 450*	**Controlling of acidity and diffusion of SAPO-34 and its improved performance for methanol to olefins reaction** **Aihua Xing** National Institute of Clean-and-low-carbon Energy *China* *Paper# 308*	**Efficiency of Al substitution in Fe- and Mn-impregnated fly-ash-derived SBA-15 mesoporous molecular sieves to promote N2 selectivity in low-temperature NH3-SCR** **Ge Li** National Institute of Clean-and-low-carbon Energy *China* *Paper# 524*	**Microsecond time-resolved in situ/operando spectroscopy of working zeolites thanks to a new quantum cascade laser – FT-IR combined spectrometer** **Josefine Schnee** Laboratoire Catalyse et Spectrochimie-Ensicaen-CNRS *France* *Paper# 605*
1600 – 1620	**AFTERNOON TEA**			***Exhibition, Grand Ballroom***
1620 – 1740	**5.4.1** **Energy conversion and storage (photocatalysis, batteries, thermochemical)**	**5.4.2** **Crystalline Porous and Hierarchically structured materials (zeolites, composites, bio-inspired, layered)**	**5.4.3** **Synthesis methods, New Synthetic and Natural Zeolites**	**5.4.4** **In-situ/operando spectroscopy of working porous solids**
Chair		Jean-Pierre Gilson	Muhammad Azhar	Michael Stockenhuber
Room	**Crown 3A**	**Crown 1**	**Crown 3B**	**Crown 3C**
1620	**Zeolite Y as the water adsorbent for mobile sorption heat storage** **Alenka Ristić** National Institute of Chemistry *Slovenia* *Paper# 268*	**KEYNOTE:** **Hierarchical Zeolites as Catalysts: Synthesis, Structure and Reactivity** **Chris Jones** Georgia Institute of Technology *United States*	**Mastering of Zr-sites in BEA catalyst towards the improvement of its acidity and catalytic performance** **Irina Ivanova** M.V.Lomonosov Moscow State University *Russian Federation* *Paper# 613*	**Redox mechanism of heterogeneous Wacker oxidation over Pd-Cu-exchanged zeolite Y** **Jerick Imbao** Eth Zurich / Paul Scherrer Institute *Switzerland* *Paper# 472*

1640	**Tri-reforming of methane: Effect of catalyst support** **Rohit Kumar** Indian Institute of Technology Delhi, India *India* *Paper# 371*		**Stepwise Gel Preparation for High-Quality Small-Pore Zeolite Synthesis; A Common Tool for Synthesis Diversification** **Nao Tsunoji** Hiroshima University *Japan* *Paper# 106*	**Advanced Electron Diffraction Techniques for Structure Elucidation and Discovery of Novel Porous Materials** **Xiaodong Zou** Stockholm University *Sweden* *Paper# 589*
1700	**High Pressure Intrusion of Aqueous Salt Solutions in Silicalite-1 for Mechanical Energy Absorption and Storage: Influence of Salt Nature** **Andrey Ryzhikov** Institut De Science Des Matériaux De Mulhouse (IS2M) *France* *Paper# 431*	**Rice husk ash derived nanoscale ZSM-5 for highly efficient removal of a toxic textile dye** **Sujit Sen** National Institute of Technology Rourkela *India* *Paper# 574*	**Synthesis and Acid Properties of the Phosphorus-Modified Small and Medium Pore Zeolite ITQ-52** **Raquel Simancas** Tokyo Institute of Technology *Japan* *Paper# 344*	**Reaction and Deactivation Mechanism Insights into Catalytic Conversion of Ethanol to Butadiene over Bifunctional Zn-Y/Beta Zeolite** **Tingting Yan** Nankai University *China* *Paper# 14*
1720	**Zeolite Encapsulated Nickel Nanoparticles and their Catalytic Activity for CO2 Methanation** **Jerrik Mielby** Technical University of Denmark *Denmark* *Paper# 459*	**The role of mesoporosity and acid site speciation of hierarchical y zeolite in low polyethylene (ldpe) cracking** **Jim Mensah** *The University of Newcastle* *Australia* *Paper# 628*	**The synthesis of small particle sized SAPO-34 for the reaction of Methanol to Olefins** **Zhibin Li** Heilongjiang University *China* *Paper# 58*	**Real-Time IR Spectroscopy Describes Brønsted Site – Ethanol Molecule Interaction: Rapid Scan IR Measurements and 2D COS Analysis** **Kinga Góra-Marek** Jagiellonian University *Paland* *Paper# 257*
1830 – 2300	**IZC'19 GALA DINNER** ***State Reception Centre, Kings Park*** *Coaches will depart from the coach pick up zone located on the lower lobby of Crown Towers at 1830*			

0830 – 1300	**REGISTRATION DESK OPEN**			*Grand Ballroom Foyer*
0830 – 0900	**ARRIVAL TEA AND COFFEE**			*Exhibition, Grand Ballroom*
0830 – 1130	**EXHIBITION OPEN**			*Exhibition, Grand Ballroom*
0900 - 0950	**PLENARY SESSION 5** *Chair: Shaobin Wang*			*Crown 1*
0900 – 0950	**PLENARY PRESENTATION: Selectivity control of syngas conversion by bifunctional OX-ZEO catalyst conc** **Xiulian Pan,** Chinese Academy of Sciences, *China*			
0950 – 1000	*Movement to Concurrent Sessions*			
1000 – 1100	**6.1.1** **Characterisation**	**6.1.2** **Catalysis and characterisation**	**6.1.3** **Porous polymers (MOFS and COFS)**	**6.1.4** **New Synthetic and Natural Zeolites**
Chair	**Thomas Maschmeyer**	Michael Stockenhuber	Martin Hartmann	**Muhammad Azhar**
Room	**Crown 3A**	**Crown 1**	**Crown 3B**	**Crown 3C**
1000	**NMR Crystallography to Resolve Structure, Host-Guest and Guest-Guest Interactions in Zeolites** **Eric Breynaert** KU Leuven - COK-KAT *Belgium* *Paper# 477*	**Aromaticity Loss of Xylenes Upon Their Adsorption in 10-Ring Zeolites** **Kinga Góra-Marek** Jagiellonian University *Poland* *Paper# 258*	**Potential of MIL-160(Al) for water generation** **Márcia Silva** Associate Laboratory Lsre-lcm *Portugal* *Paper# 447*	**Syntheses of SCM-10 and SCM-14 zeolites using pyridine derivatives as Structure-directing agents** **Zhendong Wang** Sinopec Shanghai Research Institute of Petrochemical Technology *China* *Paper# 424*
1020	**Selective oxidation of methane to methanol by Fe- and Cu-exchanged zeolites: a spectroscopic investigation** **Dieter Plessers** KU Leuven *Belgium* *Paper# 204*	**Design of supported noble metal catalyst with a core-shell structure for enhancing hydrogenation performance** **Ningyue Lu** Taiyuan University of Technology *China* *Paper# 302*	**Engineering efficiency into a modulated MoF-catalyst for enhanced CO2 utilisation leading to sustainable polymer synthesis** **Daniel Stewart** University Of Southampton *United Kingdom* *Paper# 255*	**KEYNOTE:** **Multiscale Aspects of Zeolite Crystal Engineering** **Jean Pierre Gilson** Ensicaen *France*
1040	**Understanding the Structural Evolution of Amorphous Precursor for *BEA Zeolite around Organic Structure-Directing Agent by Combining X-ray and Neutron Total Scatterings** **Hiroki Yamada** National Institute of Advanced Industrial Science and Technology *Paper# 640*	**STUDY OF EMBRYOS OF LTA ZEOLITE AS A BASIC CATALYST IN KNOEVENAGEL CONDENSATION** **João Guilherme Pereira Vicente** University Center Facens *Brazil* *Paper# 47*	**One-step Controllable Synthesis of Organic-inorganic Hybrid Zeolite with Exceptional Hydrophobicity to Accelerate the Interfacial Reaction at Low Temperature** **Dan Zhou** Hubei University *China* *Paper# 22*	

1100-1130	MORNING TEA			*Exhibition, Grand Ballroom*
1130 – 1230	**6.2.1** **Characterisation**	**6.2.2** **Catalysis and characterisation**	**6.2.3** **Porous polymers (MOFS and COFS)**	**6.2.4** **New Synthetic and Natural Zeolites**
Chair	Xiaodong Zou		**Martin Hartmann**	Suk Bong
Room	**Crown 3A**	**Crown 1**	**Crown 3B**	**Crown 3C**
1130	**Database of zeolite structures: Guide and future projects** **Christian Baerlocher** ETH Zurich *Switzerland* *Paper# 78*	**Pore selectivity and electron transfers in HZSM-5 single crystals: A Raman microspectroscopy mapping and confocal fluorescence imaging combined study** **Alain Moissette** University of Lille *France* *Paper# 155*	**KEYNOTE:** **Porous Metal-Azolate Frameworks for Gaseous Olefin Separation** **Xiao-Ming Chen** Sun Yat-Sen University *China*	**Synthesis of a new zeolite, ITQ-66** **Fernando Rey** Instituto De Tecnologia Quimica *Spain* *Paper# 596*
1150	**Synergy mechanism and deactivation behavior of dimethyl ether carbonylation over Cu/H-MOR: theoretical, spectroscopic and kinetic investigation** **Shouying Huang** Tianjin University *China* *Paper# 400*	**Elucidation of Brøsnted and Lewis sites influence on electron transfers in structured MFI-type zeolites** **Matthieu Hureau** Lasir - Fst- University Of Lille *France* *Paper# 328*		**Synthesis of the two-dimensional zeolite PST-9 and its structural evolution** **Juna Bae** POSTECH *South Korea* *Paper# 81*
1210	**Structural Characterizations of Zeolites by PXRD and Electron Crystallography** **Peng Guo** Dalian Institute of Chemical Physics,Chinese Academy of Science *China* *Paper# 53*		**Scalable Synthesis of VN Quantum Dots Encapsulated in Ultralarge Pillared N-Doped Mesoporous Carbon Microsheets for Superior Potassium Storage** **Haoyang Wu** University of Science and Technology Beijing *China* *Paper# 65*	**Extra-Large Pore Zeolite Synthesis Using Modified Natural Alkaloid as Organic Structure Directing Agent** **Jiuxing Jiang** Sun Yat-sen University *China* *Paper# 84*
1230 – 1240	*Return to plenary room (Crown 1) for closing presentations*			
1240 – 1300	**CLOSING PRESENTATION AND PRIZES**			*Crown 1*

Abstracts at a Glance

Total of 674 abstracts submissions

433 Abstracts submitted for oral presentation; remainder offered posters

204 oral presentations at the conference

195 posters presented at the conference

Interesting facts

90 abstracts offered either an oral or a poster withdrawn

85 offered a poster with no response

65 abstracts withdrawn for failure to register

Abstract Process

The Call for Abstracts opened on Monday 12th November 2018 and was planned to close on Monday 14th January 2019, however, there was an extension to submit until Monday 28th January 2019.

Author Notifications were sent in February 2019.

Review and Selection

The lodgement of an abstract does not indicate automatic inclusion into the Conference Program and the registration process must also be completed.

Abstract Format and Layout Guidelines

Abstract must be written in English and use Arial font, 11 pt

Maximum length of the abstract is 2 pages and should be divided into four sections: Introduction, Experimental, Results and Discussion, Conclusions.

Title: Make the title of the abstract brief, clearly indicating the nature of the investigation. Use CAPITAL LETTERS and BOLD for the title

Name of the author(s): Type only the initial of the first name(s), which should follow the family name(s). Do not include degrees or professional title e.g. Smith J

Address/Institution: Type name and location of the department or institution with which this work is affiliated

Abbreviations: Standard abbreviations may be used. Place special or unusual abbreviations in parentheses after the full wording at the first instance it appears in the body of the text

References should be numbered consecutively in the text and listed at the end according to the following style: 1. Author E. ChemCatChem. 54 (3), 1234-5678 (2016).

It is the author's responsibility to submit a correct abstract; any errors in spelling, grammar, or scientific fact may be reproduced in Conference publications as typed by the author.

Review Process

All abstracts will undergo a peer review process by the IZC'19 International Scientific Board. The IZC'19 International Scientific Board will allocate abstracts taking into account the quality of each abstract and the balance of the program.

Author Acceptance

Following the review of all abstracts, authors will be notified via email of their abstract acceptance in February 2019. This notification will include advice regarding the format (i.e. oral or poster) selected for your presentation.

Presentation

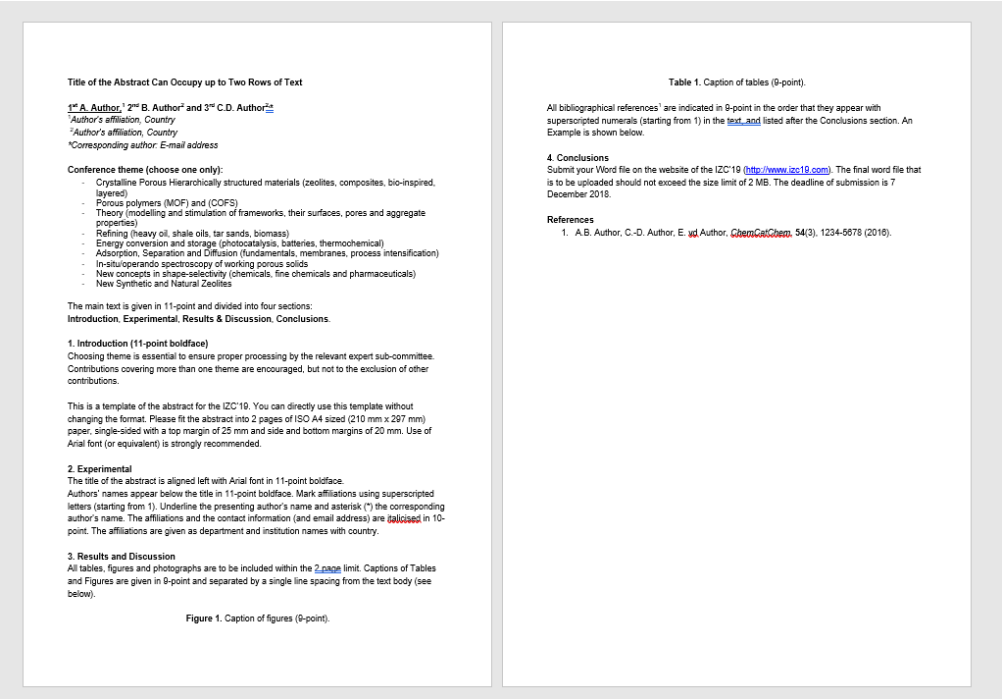
Oral Presentation: Unless advised otherwise, all oral presentations are 15 minutes, plus 5 minutes for question time.

Poster Presentation: Posters will be displayed throughout the Conference. Each poster will be allocated a poster board number and authors must create an A0 size (maximum of 841 mm (width) x 1189 mm (height)), portrait static poster. Authors will also be asked to attend to their poster during a designated poster session.

Conference Themes

- Crystalline Porous Hierarchically structured materials (zeolites, composites, bio-inspired, layered)
- Porous polymers (MOF) and (COFS)
- Theory (modelling and simulation of frameworks, their surfaces, pores and aggregate properties)
- Refining (heavy oil, shale oils, tar sands, biomass)
- Energy conversion and storage (photocatalysis, batteries, thermochemical)
- Adsorption, Separation and Diffusion (fundamentals, membranes, process intensification)
- In-situ/operando spectroscopy of working porous solids
- New concepts in shape-selectivity (chemicals, fine chemicals and pharmaceuticals)
- New Synthetic and Natural Zeolites
- Synthesis
- Characterisation
- Computational and Theoretical Investigations
- Applications
- Adsorption and Catalysis
- Biomaterials and Engineering Applications
- Novel Applications

Abstract Template



Title of the Abstract Can Occupy up to Two Rows of Text

1st A. Author,[1] 2nd B. Author[2] and 3rd C.D. Author[2]*
[1]*Author's affiliation, Country*
[2]*Author's affiliation, Country*
**Corresponding author: E-mail address*

Conference theme (choose one only):
- Crystalline Porous Hierarchically structured materials (zeolites, composites, bio-inspired, layered)
- Porous polymers (MOF) and (COFS)
- Theory (modelling and simulation of frameworks, their surfaces, pores and aggregate properties)
- Refining (heavy oil, shale oils, tar sands, biomass)
- Energy conversion and storage (photocatalysis, batteries, thermochemical)
- Adsorption, Separation and Diffusion (fundamentals, membranes, process intensification)
- In-situ/operando spectroscopy of working porous solids
- New concepts in shape-selectivity (chemicals, fine chemicals and pharmaceuticals)
- New Synthetic and Natural Zeolites

The main text is given in 11-point and divided into four sections:
Introduction, **Experimental**, **Results & Discussion**, **Conclusions**.

1. Introduction (11-point boldface)
Choosing theme is essential to ensure proper processing by the relevant expert sub-committee. Contributions covering more than one theme are encouraged, but not to the exclusion of other contributions.

This is a template of the abstract for the IZC'19. You can directly use this template without changing the format. Please fit the abstract into 2 pages of ISO A4 sized (210 mm x 297 mm) paper, single-sided with a top margin of 25 mm and side and bottom margins of 20 mm. Use of Arial font (or equivalent) is strongly recommended.

2. Experimental
The title of the abstract is aligned left with Arial font in 11-point boldface.
Authors' names appear below the title in 11-point boldface. Mark affiliations using superscripted letters (starting from 1). Underline the presenting author's name and asterisk (*) the corresponding author's name. The affiliations and the contact information (and email address) are italicised in 10-point. The affiliations are given as department and institution names with country.

3. Results and Discussion
All tables, figures and photographs are to be included within the 2-page limit. Captions of Tables and Figures are given in 9-point and separated by a single line spacing from the text body (see below).

Figure 1. Caption of figures (9-point).

Table 1. Caption of tables (9-point).

All bibliographical references[1] are indicated in 9-point in the order that they appear with superscripted numerals (starting from 1) in the text, and listed after the Conclusions section. An Example is shown below.

4. Conclusions
Submit your Word file on the website of the IZC'19 (http://www.izc19.com). The final word file that is to be uploaded should not exceed the size limit of 2 MB. The deadline of submission is 7 December 2018.

References
1. A.B. Author, C.-D. Author, E. wd Author, *ChemCatChem*, **54**(3), 1234-5678 (2016).

Poster Information

Poster Location

Posters were displayed in the exhibition hall alongside the exhibition booths. All tea breaks and lunches were served amongst this space, providing delegates with the opportunity to view the posters during the catering breaks as well as at the dedicated poster sessions on Monday and Tuesday afternoon.

Authors were asked to hang their posters by no later than 10.00am on Monday 8 July.

Registration

Key Dates

Early Bird Registration Deadline: Monday 15 April 2019

Standard Registration Opened: Tuesday 16th April 2019

Onsite Registration: Friday 7th July

Registration Type	Early Bird *Closing Monday 15 April 2019*	Standard *Prices applies from Tuesday 16 April 2019*	On-site *Prices applies from Friday 7 July 2019*
Full Registration	$1100.00	$1265.00	$1320.00
***Student/Concession Full Registration**	$544.50	$599.50	$654.50
Additional Exhibitor Registration	$495.00	$495.00	$495.00

Full Registration Inclusions

- Tea breaks and lunches
- Access to Conference Sessions
- Cultural Excursion
- Welcome Reception
- Delegate Bag
- Program Guide
- Name Badge and Lanyard

Conference dinner tickets were exclusive of full registration at were purchased separately $140.00 pp.

The registration desk was located in the foyer of the Grand Ballroom, Crown Perth.

Delegates were requested to personally register on arrival to collect their registration pack and conference name badge. The conference name badges are always to be worn during the conference.

The registration desk was be open from the following times:

Sunday 7 July: 1400 - 1900
Monday 8 July: 0730 - 1730
Tuesday 9 July: 0730 - 1730
Wednesday 10 July: 0730 - 1300
Thursday 11 July: 0730 - 1730
Friday 12 July: 0730 - 1300

Exhibitor Registration

Exhibitor Registrations included access to the Exhibition Hall, catering and Welcome Reception.

Sponsor Registration

Sponsor Registrations included access to all conference session, Welcome Reception and Conference Dinner

Geographical Statistics

Australia	38
Belgium	10
Brazil	5
Bulgaria	1
China	153
Colombia	1
Croatia	1
Czech Republic	11
Denmark	4
Finland	1
France	18
Germany	26
Ghana	1
Hong Kong	2
India	12
Indonesia	2
Iran	1
Italy	3
Japan	55
The Netherlands	4
Norway	1
Phillipines	3
Poland	13
Portugal	1
Russia	2
Saudia Arabia	3
Serbia	1
Singapore	3
Slovenia	3
South Africa	2
South Korea	33
Spain	11
Sweden	5
Switzerland	5
Taiwan	2
Thailand	2
UAE	5
United Kingdom	35
USA	30
	509

Registration	Numbers
Accompanying Person	16
Additional Exhibitor Registration	4
Committee Registrations	10
Early Bird Full Registration	231
Early Bird Student Full Registration	87
Exhibitor Inclusive	10
Keynote Speaker	15
Plenary Speaker	5
Sponsor Registration	14
Standard Full Registration	71
Standard Student Full Registration	13
Travel Grant Registration	13
Travel Grant Student Registration	21

Accommodation *Pricing offered at time of Registration.*

Crown Towers

Room Type	Daily Rate	Inclusions
Deluxe	$290.00	Standard in-room Wi-Fi access
Deluxe	$315.00	One buffet breakfast at Epicurean and standard in-room Wi-Fi access
Deluxe	$340.00	Two buffet breakfasts at Epicurean and standard in-room Wi-Fi access

Crown Metropol

Room Type	Daily Rate	Inclusions
Luxe	$240.00	Standard in-room Wi-Fi access
Luxe	$260.00	One buffet breakfast at Atrium and standard in-room Wi-Fi access
Luxe	$280.00	Two buffet breakfasts at Atrium and standard in-room Wi-Fi access

Crown Promenade Perth

Room Type	Daily Rate	Inclusions
Superior	$200.00	Standard in-room Wi-Fi access
Superior	$215.00	One buffet breakfast at Market & Co restaurant and standard in-room Wi-Fi access
Superior	$230.00	Two buffet breakfasts at Market & Co restaurant and standard in-room Wi-Fi access

Aloft Perth

Room Type	Room and Breakfast 1 Guest	Room and Breakfast 2 Guests
Aloft King/Twin	$190.00	$210.00

Accompanying Partner Program Offered

Sunday 7 July

Perth Swan River Cruise
Enjoy the upper reaches of the Swan River from a different perspective on our exclusive cruise.
Crown Shuttle Time: 9.15am arriving Barrack Street Jetty at 9.30am for 9.55am tour
Barrack Street Shuttle Time: 12noon arriving Crown 12.15pm

AUD 40.00
*** Cancellations within 24 hours no refund*

Monday 8 July
Perth Art, Coffee & Culture Walking Tour
Start your day in Perth with a coffee (or tea), and a dash of culture, art and history. Discover hidden art, laneways, secret gardens, amazing cafes and learn about the local history while exploring the city.

Crown Shuttle Time: 9.30am arriving Town Hall at 9.45am for 10.00am tour
Elizabeth Quay Shuttle Time: 12.15pm arriving Crown 12.30pm
AUD 40.00PP
*** Cancellations within 48 hours no refund*


Tuesday 9 July
The Perth Mint
A guided tour of Perth Mint takes you through exhibits featuring millions of dollars of gold and other precious metals, including the Australian Kangaroo One Tonne Gold Coin—the world's largest gold bullion coin. You also learn the Mint's history and watch gold being melted, poured, and formed into bars.
Crown Shuttle Time: 9.00am arriving 9.15am for 9.30am tour
Perth Mint Shuttle Time: 12noon arriving Crown 12.15pm

AUD 19.00PP
*** Cancellations within 48 hours no refund*

Discover Perth Full Day Tour
Join us for a memorable day discovering Perth and enjoying the many sites has to offer. If you are looking for a quality tour with our knowledgeable guides, then join us for a tour to remember.
includes transfers pick up drop off Crown Hotel.

AUD 125.00
*** Cancellations within 48 hours 25% fee, within 24 hours no refund*

Koalas, Pinnacles & Sand Boarding Tour
Visit beautiful Yanchep National Park to view one of Australia's favourite native animals, the koala. You may even see kangaroos on your walk! Continue to the seaside town of Lancelin, one of Western Australia's best kept holiday secrets where you'll enjoy a 45 minute Sand boarding Adventure through the sand dunes. Not for the faint hearted, this thrill ride takes you up and down some of the biggest dunes in Western Australia.

Next stop, Lobster Shack in the coastal town of Cervantes, for a delicious fish and chip lunch (upgrade to Lobster available at extra cost) and whilst there, take a tour and follow the Western Rock Lobsters journey.
Final stop of the day is the remarkable Pinnacles Desert, one of Australia's most unique and fascinating natural landscapes. Formed over millions of years, thousands of tall limestone spires rise eerily out of the yellow desert sands within the Nambung National Park. Head back to Perth city, arriving early evening.

includes transfers pick up drop off Crown Hotel

AUD 135.00
*** Cancellations within 48 hours 25% fee, within 24 hours no refund*

Thursday 11 July
Elizabeth Quay Aboriginal Walking Tour

90-minute walking with your tour guide on location by the Swan River at Elizabeth Quay, Perth CBD and embark on a journey of discovery through the historic and cultural landscape of Aboriginal life prior to European settlement.
Crown Shuttle Time: 9.30am arriving Elizabeth Quay at 9.45am for 10.00am tour
Barrack Street Shuttle Time: 12noon arriving Crown 12.15pm

AUD 60.00
*** Cancellations within 48 hours*

Partner Program Uptake

Tour	Registrations
Discover Perth Full Day Tour	4
Koalas, Pinnacles & Sand Boarding Tour	9
The Perth Mint	2
Elizabeth Quay Aboriginal Walking Tour	6

Social Program at a glance

Welcome Reception
Sunday 7 July – 6pm – 7.30pm
Included in full registration
Additional tickets – $82.50

Cultural Excursion
Wednesday 10 July – 1pm – 6pm
Included in full registration
Additional tickets – $65.00

Conference Dinner
Thursday 11 July 7pm – 11pm
Not included in registration
Tickets could be purchased separately for $140.00per person.

Social Event	Registrations
Conference Dinner	228
Cultural Tour - Excursion	476
Welcome Reception	502

Sponsorship & Exhibition

Sponsors

Trade Exhibition Hours

Sunday 7 July	17:30 – 19:00
Monday 8 July	08:00 – 17:00
Tuesday 9 July	08:00 – 17:00
Wednesday 10 July	08:00 – 14:00
Thursday 11 July	08:00 – 17:00
Friday 12 July	08:00 – 11.30

Confirmed Exhibitors

Exhibitor List

Organisation	Stand Number
Anton Paar Australia	020
China Catalyst	015
Hiden Analytical	014
Hiden Isochema	011
MicrotracBEL	016
Tatva Chintan Pharma Chem	008

EXHIBITORS

Sinopec	SINOPEC
China Catalyst	CHINA CATALYST GROUP
Anton Paar	Anton Paar
Hiden Analytical	HIDEN ANALYTICAL
MicrotrtacBEL	BEL MicrotracBEL Corp.
Hiden Isochema	HIDEN ISOCHEMA
Tatvachinatan Pharmachem	TATVA CHINTAN

SPONSORS

PLATINUM PARTNER

SINOPEC

GOLD SPONSORS

ExxonMobil

Honeywell UOP

TRAVEL GRANT SPONSORS

International Zeolite Association

ZEOLITE AUSTRALIA

CONFERENCE SPONSOR

Chevron Human Energy

SILVER SPONSOR

TOTAL

WELCOME RECEPTION SPONSOR

CHINA CATALYST GROUP

DELEGATE BAG SPONSOR

ZEOLYST INTERNATIONAL

ACADEMIC SUPPORTER

THE UNIVERSITY of ADELAIDE

SCIENTIFIC PROGRAM SPONSOR

BEL MicrotracBEL Corp.

SUPPORTED BY

City of Perth

Perth PERTH CONVENTION BUREAU

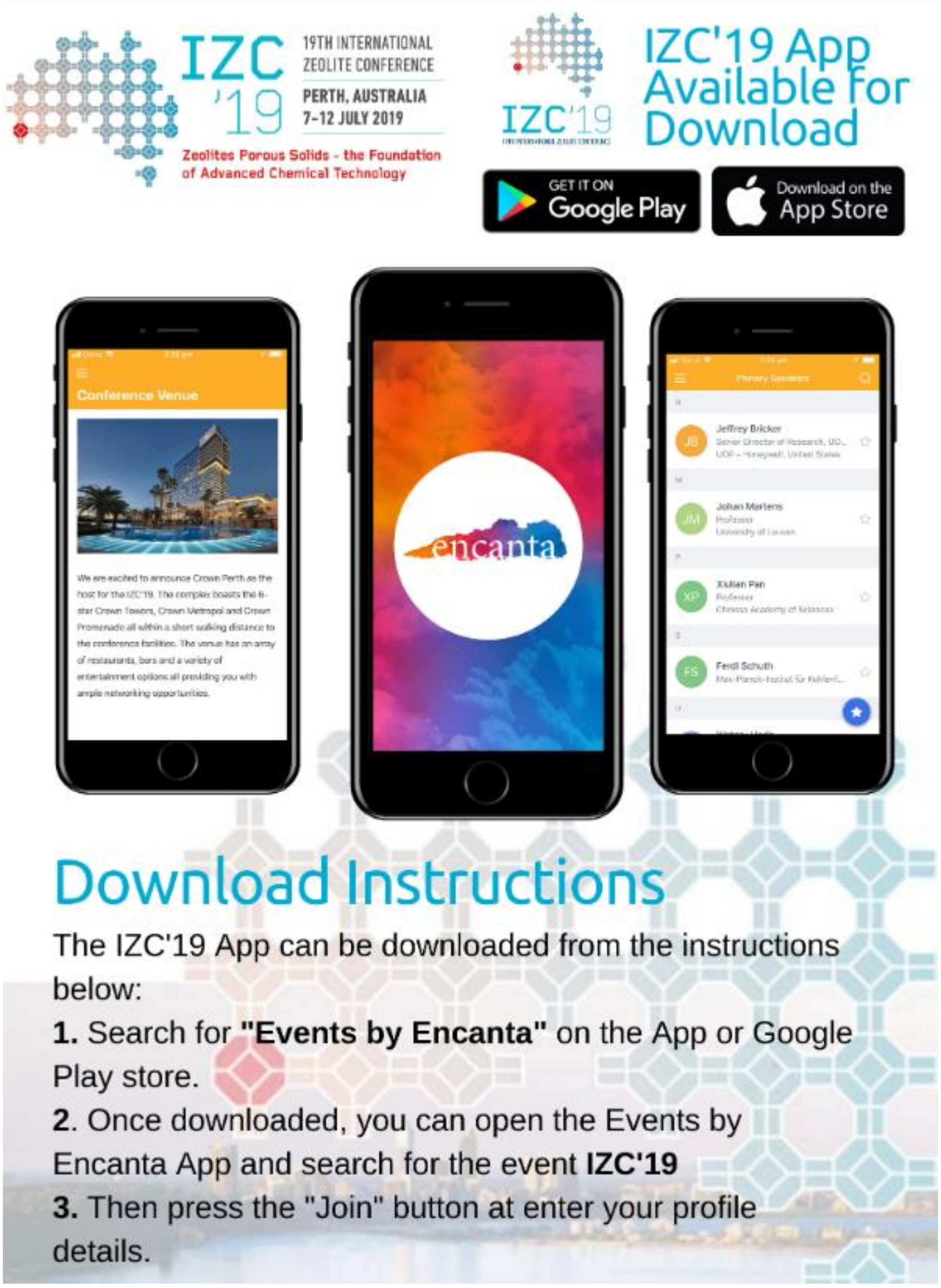
Tourism WESTERN AUSTRALIA

CROWN

IZC'19 DOWNLOAD THE APP

Conference App

Delegates were encouraged to download the IZC'10 Conference app to their smartphone prior to the conference. The App provided the most up to date information regarding speakers, conference program and social program. Any program changes were communicated live through the app. Delegates were able to personalise their own agendas and participate in the interactive news feed with sponsors and exhibitors.



Marketing and Promotion

E-blasts

A total of 20 e-blasts were sent in the lead-up to the Conference. The first being sent to advertise the conference and save the date on Monday 15th October 2018.Following this, a Call for Abstracts e-blast was distributed to a database of over 800. The IZC'19 database was just under 900 subscribers this was combined with email addresses who had expressed an interest to attend and registered attendees.

Title	Date Sent	Open Rate	Click Rate	Recipients
IZC 2019 Launch	Monday 15th October	36.1%	7.1%	974
IZC 2019 Launch Reminder	Monday 12th November	34.3%	4.5%	974
Call for Abstracts	Tuesday 8th January	32.1%	5.8%	974
Abstracts Closing in 24 Hours	Sunday 13th January	30.1%	5.4%	974
Deadline Extended - Abstracts	Tuesday 15th January	27.8%	3.1%	974
Deadline Extended – Australia Day	Friday 18th January	31.8%	3.7%	974
Final Reminder - Abstracts	Friday 25th January	29.4%	3.4%	974
Early Bird Registration Open	Friday 15th February	30.6%	8.1%	974
It's not too late to register – Early Bird Closing in 2 weeks	Monday 1st April	30.0%	6.3%	974
Early Bird Extended and R&R Announcement	Friday 12th April	35.4%	6.0%	974
One Week to go Research Reports	Thursday 23rd May	31.0%	3.3%	974
Download the App	Friday 21st June	31.8%	4.4%	974

IZA General Assembly

The IZA General Assembly was held Thursday 11 July from 1110 – 1230 with no conflicting sessions taking place during this time.

Seven new members were elected to the IZA Council being:

- Jeffrey Rimer
- Tina Düren
- Svetlana Mintova
- Zhongmin Liu
- Yong Ki Park
- Masaru Ogura and
- Michael Stockenhuber

The officers are:

President: Martin Hartmann, **Vice President**: Zhongmin Liu, **Treasurer**: Jeffrey Rimer, **Secretary**: Heloise Pastore.

The venue for the 21st IZC in 2025 was confirmed as Dalian, China.

The Breck Awardee was the team Stephen Brand, Joel Schmidt, Michael Deem, Frits Daeyaert, Yanhang Ma, Osamu Terasaki, Marat Orazov and Mark Davis for "*The first synthesis of enantiomerically enriched STW zeolite*"

The IZA Award was given to Prof. Wilhelm Schwieger, he is the IZA Ambassador from 2019 to 2021.

Finally, the new honorary members were Christian Baerlocher, Takashi Tatsumi and Giuseppe Bellussi.