



6th FEZA
Conference

20 14 Leipzig

Porous Systems: From Novel Materials to Sustainable Solutions

8 – 11 September 2014
Universität Leipzig · Germany

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DECHEMA

UNIVERSITÄT LEIPZIG

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Welcome

On behalf on the German Zeolite Association and DECHEMA we cordially welcome you to the 6th FEZA Conference (FEZA2014), which is held under the auspices of the Federation of European Zeolite Associations (FEZA) from 8 to 11 September 2014 in Leipzig, Germany. The previous FEZA conferences were held in Eger (Hungary, 1999), Taormina (Italy, 2002), Prague (Czech Republic, 2005), Paris (France, 2008) and Valencia (Spain, 2011). The conference will cover all aspects of the science and technology of ordered porous solids including zeolites, zeotypes, mesoporous materials and porous coordination polymers. Under the general theme of the conference

“Porous Systems: From Novel Materials to Sustainable Solutions”,

different areas in the fields of novel synthesis, state of the art characterisation and emerging applications of porous materials in adsorption, catalysis, sensing, energy storage etc. are covered. We hope that the scientific as well as the social programme will provide the platform for intensive discussion between the participants and for the exchange of new ideas between academia and industry.

The conference is preceded by a Summer School (5 to 8 September) devoted to “Hierarchical Materials – From Theory to Application”, which is organized in cooperation with the FAU Cluster of Excellence “Engineering of Advanced Materials (EAM)” at Schloss Schney near Lichtenfels. A field trip to visit the “roots of zeolite production in Germany” is organised after the conference.

The Lecture Programme includes 4 plenary lectures, 12 keynote lectures and 76 oral communications, which are organised thematically according to subtopics comprising recent synthetic, theoretical and performance advancements related to inorganic, organic and hybrid porous materials. The Poster Programme is subdivided in two poster sessions; it involves 397 regular communications and 101 recent research reports. In addition, we expect interesting results and lively discussions in six topical poster workshops, which are introduced for the first time into the FEZA conference programme.

This programme is the joint effort of many people, at first from all of you who provided that many excellent scientific contributions. The evaluation process was supported by the efficient and timely refereeing of the Members of the International and National Advisory Board, who gave their valuable opinions on the scientific quality of the submitted abstracts, which was the basis for selecting the oral contributions from around 700 submissions.

We sincerely thank our partners and sponsors for their generous support. In particular, we would like to thank Matthias Neumann from DECHEMA for their excellent conference planning and tireless work to make this conference a success. Finally, we are thankful to all members of the Institute of Chemical Technology at the Universität Leipzig as well the Institute of Chemical Reaction Engineering and the Erlangen Catalysis Resource Center at the FAU Erlangen-Nürnberg for their dedication to the conference organisation.

The organising committee wishes all participants an interesting and exciting conference and a pleasant stay in Leipzig, a wonderful, historically meaningful city in the center of Germany.

Martin Hartmann, Roger Gläser, Wilhelm Schwieger, Dirk Enke, Silke Megelski
FEZA2014 Organising Committee

Chair: M. Hartmann, Universität Erlangen-Nürnberg/D

12:15 **OPENING CEREMONY** **Audimax**

12:45 **PLENARY TANDEM LECTURE** **Audimax**

Synthesis of new zeolites: from understanding to the discovery

J. Cejka, Academy of Science of the Czech Republic, Prague/CZ

P. Nachtigall, Charles University in Prague/CZ

Synthesis of Novel Materials

Chair: H.O. Pastore, University of Campinas/BR

14:00 **New perspectives in degermanation of zeolites**

N. Kasian, Kiev University-UA; A. Tuel, CNRS, Villeurbanne/F

14:20 **Pore engineering of layered zeolites**

P. Wu, H. Xu, L. Xu, J. Jiang, East China Normal University, Shanghai/CHN

14:40 **Single-step delamination of a MWW borosilicate layered zeolite precursor under mild conditions without surfactant and sonication**

X.Y. Ouyang, University of California at Berkeley, CA/USA; S.-J. Hwang, California Institute of Technology, Pasadena, CA/USA; R.C. Runnebaum, University of California at Berkeley, CA/USA; D. Xie, Chevron Energy Technology Company, Richmond, CA/USA; Y.-J. Wanglee, University of California at Berkeley, CA/USA; T. Rea, S.I. Zones, Chevron Energy Technology Company, Richmond, CA/USA; A. Katz, University of California at Berkeley, CA/USA

15:00 **COK-14: new materials with OKO topology, tunable hydrophilicity and catalytic activity**

E. Verheyen, E. Gobechiya, E. Breynaert, J. Martens, C. Kirschhock, KU Leuven/B; L. Joost, V. Van Speybroeck, University of Ghent/B; C. Martineau, F. Taulelle, UVSQ, Versailles/F

15:20 **Coffee break and exhibition**

Synthesis of Novel Materials

Chair: R.E. Morris, University of St. Andrews/UK

15:50 **KEYNOTE LECTURE**

Phosphorus containing structure-directing agents for synthesis of new zeolites

F. Rey, Instituto de Tecnologia Quimica, Valencia/E

16:20 **Promising applications of zeolites synthesized in the absence of organic structure-directing agents**

S.P. Elangovan, The University of Tokyo/J; K. Itabashi, UniZeo Co., Ltd., Tokyo/J; M. Ogura, The University of Tokyo/J; Y. Kubota, Yokohama National University/J; T. Okubo, The University of Tokyo/J

16:40 **Growth modifying agents for the induction of morphological changes in FAU-type zeolite X crystals**

A. Inayat, C. Schneider, W. Schwieger, Universität Erlangen-Nürnberg/D

17:00 **Random polymer-directed synthesis of ultrathin inorganic mesostructures**

R. Ryoo, Institute for Basic Science (IBS) and KAIST, Daejeon/ROK; C. Jo, Y. Seo, K. Cho, Institute for Basic Science (IBS), Daejeon/ROK; H.S. Shin, J. K. Cho, Institute for Basic Science (IBS) and KAIST, Daejeon/ROK

Chair: M. Hartmann, Universität Erlangen-Nürnberg/D

OPENING CEREMONY

Audimax 12:15

PLENARY TANDEM LECTURE

Audimax 12:45

Synthesis of new zeolites: from understanding to the discovery

J. Cejka, Academy of Science of the Czech Republic, Prague/CZ

P. Nachtigall, Charles University in Prague/CZ

Novel Materials for Catalysis

Chair: T. Okubo, The University of Tokyo/J

Role of acidity and textural properties of ZrO₂/SBA-15 catalyst in biodiesel additives production 14:00

K. Barbera, P. Lanzafame, S. Perathoner, G. Centi, University of Messina/I

Methylated porous SiON as heterogeneous nucleophilic catalyst for C-C bond formation reactions 14:20

Y. Furukawa, M. Ogura, The University of Tokyo/J

Catalytic activities of Nb-containing mesoporous materials in the acetalisation of glycerol 14:40

A. Feliczak-Guzik, I. Nowak, Adam Mickiewicz University in Poznan/PL

Functional microporous polymer networks for catalytic applications 15:00

S. Fischer, J. Schmidt, J. Roeser, R. Dawson, D. Becker, M. Trunk, A. Thomas, TU Berlin/D

Coffee break and exhibition 15:20

Understanding Properties: Theory/Modelling/Simulation

Chair: J. Sauer, Humboldt-Universität Berlin/D

KEYNOTE LECTURE

Zeolite topology and structure: can we really predict feasible materials? 15:50

R. Bell, University College London/UK

Theoretical study of the stepwise formation and relative stability of T-atom vacancies in zeolites 16:20

G. Vayssilov, P. Petkov, H. Aleksandrov, University of Sofia/BG

Virtual prototyping and optimization of catalyst pore-systems by a combined synthetic, analytical and computational approach 16:40

V. Novák, Institute of Chemical Technology, Prague/CZ; E. Ortel, TU Berlin/D; B. Winter, B. Butz, Universität Erlangen-Nürnberg/D; B. Paul, TU Berlin/D; M. Marek, P. Kocí, Institute of Chemical Technology, Prague/CZ; E. Spiecker, Universität Erlangen-Nürnberg/D; R. Kraehnert, TU Berlin/D

Molecular dynamics study of diffusion in 8-ring acidic zeolites 17:00

S.L.C. Moors, A. Ghysels, K. De Wispelaere, Ghent University, Zwijnaarde/B; G. Sastre, Universidad Politecnica de Valencia/E; K. Hemelsoet, M. Waroquier, V. Van Speybroeck, Ghent University, Zwijnaarde/B

Synthesis of Novel Materials

Chair: R.E. Morris, University of St. Andrews/UK

- 17:20 **Michael addition reaction catalyzed by mesoporous materials based on a T-N (T= Si,Al,P) network synthesized by using ionic liquids**
A.I. Saugar, C. Márquez-Álvarez, J. Pérez-Pariente, CSIC, Madrid/E
- 17:40 **Inkjet printing for fabrication of nanozeolite based holographic sensors**
I. Naydenova, T. Mikulchyk, Dublin Institute of Technology/IRL; V. Georgieva, University of Caen/F; V. Toal, S. Martin, Dublin Institute of Technology/IRL; S. Thomas, S. Mintova, University of Caen/F
- 18:00 **BBQ WELCOME AT UNIVERSITÄT LEIPZIG**



Understanding Properties: Theory/Modelling/Simulation

Chair: J. Sauer, Humboldt-Universität Berlin/D

Efficient use of computer simulation to screen molecular adsorption and molecular diffusion in zeolites

17:20

D. Sholl, Georgia Institute of Technology, Atlanta, GA/USA

Resolving the formation mechanism of nanostructured MFI zeolite: towards rational design of templates

17:40

E. Hensen, X. Zhu, Eindhoven University of Technology/NL; M. Goesten, Delft University of Technology/NL; R. Rohling, B.M. Szyja, Eindhoven University of Technology/NL; J. Gascon, F. Kapteijn, Delft University of Technology/NL

BBQ WELCOME AT UNIVERSITÄT LEIPZIG

18:00



Chair: J. Bronić, Rudjer Boskovic Institute, Zagreb/HR

- 08:30 **PLENARY LECTURE** **Audimax**
From gas adsorption to photochemistry – exploiting Metal-Organic Framework design
 N. Champness, University of Nottingham/UK

Novel Materials: Metal-Organic Frameworks

Chair: S. Kaskel, TU Dresden/D

- 09:20 **Periodic mesoporous organosilicas and metal-organic frameworks for heterogeneous catalysis – some case studies**
 P. Van Der Voort, Ghent University/B
- 09:40 **Synthesis of alkyl levulinates over Zr-containing MOFs**
 F.X. Llabrés i Xamena, F.G. Cirujano, A. Corma, Universitat Politècnica de València/E
- 10:00 **Oligopeptide grafting in MOF for enantioselective application**
 J. Bonnefoy, J. Canivet, E.A. Quadrelli, D. Farrusseng, Université Lyon 1, Villeurbanne/F
- 10:20 **Coffee break and exhibition**

Sustainable Solutions: Adsorption

Chair: K.S. Triantafyllidis, Aristotle University of Thessaloniki/GR

- 10:50 **KEYNOTE LECTURE**
Evaluation of MOFs for gas adsorption and separation
 P. Llewellyn, Université de Provence, Marseille/F
- 11:20 **Catechol/hydroquinone adsorptive separation in porous zirconium oxide based metal-organic framework**
 D. Damasceno Borges, Université Montpellier 2/F; B. Van de Voorde, KU Leuven/B; T. Devic, C. Martineau, C. Serre, Université de Versailles Saint-Quentin-en-Yvelines/F; J. Denayer, Vrije Universiteit Brussel/B; D. De Vos, KU Leuven/B; G. Maurin, Université Montpellier 2/F
- 11:40 **Tuning adsorption properties of zeolites as adsorbents for CO₂ separation: best compromise between capacity, selectivity and regeneration**
 E.J. Garcia, J. Perez-Pellitero, G.D. Pirngruber, C. Laroche, IFPEN, Solaize/F; C. Jallut, Université Claude Bernard Lyon 1/F; M. Palomino, F. Rey, S. Valencia, Instituto de Tecnología Química, Valencia/E
- 12:00 **Thermodynamic description and modelling of sorption and capillary condensation in porous systems**
 J. Adolphs, POROTEC GmbH, Hofheim/D
- 12:20 **Understanding the textural properties of mesoporous molecular sieves with 2D and 3D ordered pore structure - recent advances**
 R. Guillet-Nicolas, R. Ahmad, K.A. Cychoz, Quantachrome Instruments, Boynton Beach, FL/USA; F. Kleitz, University Laval, Quebec/CDN; M. Thommes, Quantachrome Instruments, Boynton Beach, FL/USA
- 12:40 **Lunch break and exhibition**

Chair: J. Bronić, Rudjer Boskovic Institute, Zagreb/HR

PLENARY LECTURE

Audimax

08:30

From gas adsorption to photochemistry – exploiting Metal-Organic Framework design

N. Champness, University of Nottingham/UK

Novel Materials by Design

Chair: A. Corma, Universidad Politécnic de Valencia/E

Functionalized 2D mesoporous magadiite and [Al]-magadiite

H.M. Moura, H.O. Pastore, University of Campinas/BR

09:20

Discovery of novel high silica small pore zeolite ZZ-1

Y.-F. Chang, Sigma Innova LLC, Houston, TX/USA; X.D. Huang, Sigma Innova (Tianjin) Co. Ltd./CHN

09:40

Amorphous metal-organic frameworks: structure, properties and applications

T. Bennett, University of Cambridge/UK

10:00

Coffee break and exhibition

10:20

Sustainable Solutions: Photo- and Electrochemistry

Chair: N. Novak Tušar, National Institute of Chemistry, Ljubljana/SLO

KEYNOTE LECTURE

10:50

Materials with ordered mesoporosity for solar hydrogen generation and as proton-conductive additives for fuel cell membranes

M. Wark, University of Oldenburg/D; R. Marschall, University of Giessen/D

Ultrasmall nickel oxide nanocrystals as highly efficient catalysts for electrochemical oxidation of water

K. Fominykh, J. Feckl, P. Zehetmaier, K. Peters, T. Bein, D. Fattakhova-Rohlfing, University of Munich/D

11:20

Periodic mesoporous organosilicas: a versatile class of nanoporous organic-inorganic hybrid materials

L. Grösch, S. Martens, Y.J. Lee, F.J. Brieler, M. Fröba, University of Hamburg/D; P. Ortman, C. Pasel, D. Bathen, University of Duisburg-Essen/D

11:40

Donor-acceptor covalent organic frameworks showing light-induced charge transfer

D. Medina, V. Werner, F. Auras, M. Dogru, J. Schuster, S. Linke, M. Döblinger, P. Knochel, T. Bein, University of Munich/D

12:00

Control and manipulation of both H₂ and CH₄ activation ability of Zn²⁺ in MFI: models studies on Zn²⁺-MFI interaction

A. Oda, O. Takahiro, Okayama University/J; Y. Takashi, K. Hisayoshi, Kyoto Institute of Technology/J; K. Yasushige, Okayama University/J

12:20

Lunch break and exhibition

12:40

Sustainable Solutions: (Bio)Medical Applications

Chair: T. Bein, Universität München/D

- 14:00 **KEYNOTE LECTURE**
Intracellular drug release based on mesoporous silica nanoparticles for controlling stem cell proliferation and differentiation
M. Lindén, University of Ulm/D
- 14:30 **Organically modified silica nanoparticles with incorporated photosensitizer for photodynamic therapy**
B. Martins Estevão, E. Gianotti, F. Cucinotta, L. Marchese, University of Eastern Piedmont, Alessandria/I
- 14:50 **Large-pore periodic mesoporous organosilicas (PMO and PMA) for lipase and laccase immobilization**
V. Gascón, I. Díaz, C. Márquez-Álvarez, R.M. Blanco, CSIC, Madrid/E
- 15:10 **Theoretical and experimental investigation of clotrimazole inside SBA-15**
A. Gignone, B. Onida, Politecnico di Torino/I; M. Delle Piane, M. Corno, P. Ugliengo, Università di Torino/I
- 15:30 **Evaluating periodic mesoporous organosilica (PMO) coatings as a novel biomaterial**
N. Wendt, N. Ehlert, Leibniz Universität Hannover/D; S. Schlie-Wolter, B. Chichkov, Laser Zentrum Hannover e.V./D; P. Behrens, Leibniz Universität Hannover/D
- 15:50 **Coffee break, exhibition and posters**
- 16:30
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18:00 **POSTER SESSION I**
- 19:00 **FEZA-PARTY AT MORITZBASTEI LEIPZIG**

Sustainable Solutions: Separations

Chair: D. Sholl, Georgia Institute of Technology, Atlanta, GA/USA

KEYNOTE LECTURE

Continuous and mixed matrix membranes based on MOFs for gas and liquid phase separations

14:00

A.G. Livingston, Imperial College London/UK; F. Cacho, S. Sorribas, B. Zornoza, O. de la Iglesia, C. Tellez, J. Coronas, University of Zaragoza/E

Silicalite/Silicone membranes for ethanol separation

14:30

H. Richter, M. Weyd, R. Meyer, Fraunhofer Institute for Ceramic Technologies and Systems (IKTS), Hermsdorf/D

Effect of zeolite acidity in hybrid Cu-ZnO-ZrO₂/H-ZSM5 system for one step synthesis of DME by CO₂ hydrogenation

14:50

G. Bonura, C. Cannilla, F. Frusteri, Istituto di Tecnologie Avanzate per l'Energia "Nicola Giordano", Messina/I; M. Migliori, A. Aloise, E. Catizzone, G. Giordano, University of Calabria, Rende (CS)/I

SBA-15 addition during pelletization of a sorbent for pre-combustion capture of CO₂

15:10

Ch. Vogt, G.P. Knowles, A.L. Chaffee, Monash University, Clayton/AUS

Assessing the catalytic functions of hydrogen spillover with Pt-encapsulated aluminosilicates having controlled nanostructures

15:30

J. Im, H. Shin, H. Kim, M. Choj, Korea Advanced Institute of Science and Technology, Daejeon/ROK

Coffee break, exhibition and posters

15:50

POSTER SESSION I

16:30

18:00

FEZA-PARTY AT MORITZBASTEI LEIPZIG

19:00

Chair: V. Valtchev, Université de Caen/F

- 08:30 **PLENARY LECTURE** **Audimax**
Correlating activity to structure and pore accessibility: probing zeolite-containing catalysts with micro- and nano-spectroscopy
 B.M. Weckhuysen, University of Utrecht/NL

Understanding Properties by Spectroscopy

Chair: M. Anderson, University of Manchester/UK

- 09:20 **Intercrystal and intracrystal heterogeneity in catalytic activity of dealuminated mordenites revealed by fluorescence microscopy**
 A.V. Kubarev, J. Van Loon, J. Hofkens, M.B.J. Roeffaers, KU Leuven, Heverlee/B
- 09:40 **Molecular sieve driven selectivity using encapsulated Pt nanoparticle in single crystal zeolite**
 S. Li, C. Aquino, L. Gueudré, D. Farrusseng, Y. Schuurman, IRCELYON, Villeurbanne/F
- 10:00 **Developing methods to tailor nanoparticle morphology in microporous hosts**
 M.E. Potter, D. Xuereb, A. Gill, University of Southampton/UK; A. Levy, Honeywell LLC, Morristown, NJ/USA; R. Raja, University of Southampton/UK
- 10:20 **Coffee break and exhibition**

Understanding Properties by Spectroscopy

Chair: S.B. Hong, Pohang University of Science and Technology/ROK

- 10:50 **KEYNOTE LECTURE**
Operando IR for plasma on zeolites: finding new ways for preparation and catalysis
 F. Thibault-Starzyk, CNRS - Centre national de la recherche scientifique, Caen/F
- 11:20 **Reactivity of activated ammonia species on Cu-SSZ-13 catalyst: a combined *in situ* FTIR/XAS/XES study**
 F. Giordanino, S. Bordiga, C. Lamberti, Torino University/I; P. Beato, Haldor Topsøe, Lyngby/DK
- 11:40 **Nonlinear optical microscopy for zeolite catalysis**
 L. Kuan-Lin, J. Hofkens, M.B.J. Roeffaers, KU Leuven, Heverlee/B
- 12:00 **Transport properties of aromatic and aliphatic molecules in mesoscopically ordered MFI on all length scales**
 A. Jentys, R. Kolvenbach, F. Gonzalez Pena, J.A. Lercher, TU München, Garching/D
- 12:20 **Catalytic enhancement with localized surface plasmon resonance on Ag nanoparticles prepared in mesopores by microwave heating**
 K. Fuku, T. Kamegawa, K. Mori, H. Yamashita, Osaka University/J
- 12:40 **Lunch break and exhibition**

Chair: V. Valtchev, Université de Caen/F

PLENARY LECTURE

Audimax

08:30

Correlating activity to structure and pore accessibility: probing zeolite-containing catalysts with micro- and nano-spectroscopy

B.M. Weckhuysen, University of Utrecht/NL

Novel Hierarchically Structured Materials

Chair: G. Giordano, University of Calabria, Rende (CS)/I

How the hierarchization process impacts the catalytic activity of ZSM-5 during the MTO reaction

09:20

L. Lakiss, Z. Qin, J.P. Gilson, K. Thomas, V. Valtchev, A. Vicente, C. Fernandez, University of Caen/F

From macropores to mesopores: elucidating the three-dimensional morphology and transport properties of hierarchical porous materials

09:40

U. Tallarek, K. Hormann, A. Höltzel, D. Hlushkou, Universität Marburg/D; D. Stoeckel, B.M. Smarsly, Universität Giessen/D; C. Kübel, Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D

Stability and application of Ru/H-USY catalysts under biorefinery conditions

10:00

T. Ennaert, J.A. Geboers, K. Houthoofd, P. Magusin, P.A. Jacobs, B.F. Sels, KU Leuven, Heverlee/B

Coffee break and exhibition

10:20

Sustainable Solutions for Energy Conversion and Storage

Chair: M. Fröba, Universität Hamburg/D

KEYNOTE LECTURE

10:50

Porous materials in solar heat storage applications

N. Zabukovec Logar, National Institute of Chemistry, Ljubljana/SLO

MOFs in heat pumps – from fundamentals to application

11:20

M. De Lange, Delft University of Technology/NL; S. Hamad, University Pablo de Olavide, Seville/E; T.J.H. Vlught, Delft University of Technology/NL; S. Calero, University Pablo de Olavide, Seville/E; J. Gascon, F. Kapteijn, Delft University of Technology/NL

ITQ-39 zeolite, an efficient catalyst for the conversion of low value naphtha fractions into diesel fuel

11:40

C. Martinez, M. Moliner, G. Sastre, F. Rey, A. Corma, Universidad Politécnica de Valencia/E

Highly selective liquid-phase oxidation of cyclohexane to KA oil over Ti-MWW catalyst: evidence of formation of oxyl radicals

12:00

W-J. Zhou, R. Wischert, J-M. Clacens, F. De Campo, M. Pera-Titus, Eco-Efficient Products and Process Laboratory (E2P2L), Shanghai/CHN; Y-T. Zheng, B. Albel, L. Bonneviot, CNRS/ENS-Lyon/F; K. Xue, P. Wu, ECNU, Shanghai/CHN

Decomposition of 2,4-dimethylphenol by coupling ozone and porous materials in aqueous media

12:20

J.V. Vittenet, IEM/ Université Montpellier/F; J.R. Rodriguez, J.M. Mendret, S.B. Brosillon, Université Montpellier 2/F; A.G. Galarneau, CNRS / ENSCM, Montpellier/F

Lunch break and exhibition

12:40

Sustainable Industrial Solutions

Chair: G. Bellussi, eni S.p.A., San Donato Milanese/

14:00 KEYNOTE LECTURE**Unconventional routes to aromatics**

E. Köhler, Clariant Produkte (Deutschland) GmbH, München/D

14:30 Investigation of shape selective properties of zeolite SSZ-75 via catalytic test reactions and hydrocarbon adsorption

C. Chen, T. Davis, X. Ouyang, D. Xie, S. Zones, Chevron Energy Technology Company, Richmond, CA/USA

14:50 Development and commercial application of hierarchical porous zeolite catalysts

Z.K. Xie, SINOPEC Corporation, Beijing/CHN

15:10 Conversion of chloromethane to light olefins over SAPO-34 and zeolite catalysts

A. Ghosh, A. Khanmamedova, J. Banke, M. Mier, SABIC, Sugar Land, TX/USA

15:30 Characterization of porous properties of shaped zeolites with the help of NMR spectroscopy

A.N. Parvulescu, U. Müller, BASF SE, Ludwigshafen/D; A.-K. Pusch, F. Stallmach, University of Leipzig/D

15:50 Coffee break, exhibition and posters

16:30

POSTER SESSION II

18:00

19:00 DINNER AT PARKSCHLOSS LEIPZIG

(organised bus transfer, registration necessary)

Understanding Properties by Microscopy

Chair: S. Mintova, Université de Caen/F

KEYNOTE LECTURE

Probing the 3D structures of porous materials by rotation electron diffraction and electron microscopy 14:00

X. Zou, University of Stockholm/S

Anatomy of a screw dislocation: SAPO-18

R.L. Smith, M.W. Anderson, M.P. Attfield, University of Manchester/UK; A. Lind, J.H. Cavka, D. Akporiaye, SINTEF Materials and Chemistry, Oslo/N 14:30

Encapsulation of active species in hollow ZSM-5 single crystals

D. Fodor, ETH Zurich/CH; T. Ishikawa, Paul Scherrer Institute, Villigen/CH; J.A. van Bokhoven, ETH Zurich/CH and Paul Scherrer Institute, Villigen/CH 14:50

Silicate ionic liquid for zeolites synthesis

M. Haouas, University of Versailles/F; L. Van Tendeloo, C.E.A. Kirschhock, J.A. Martens, KU Leuven/B; F. Taulelle, University of Versailles/F and KU Leuven/B 15:10

New quantitative approach to zeolite nucleation and growth with non-autocatalytic rationale for crystal size dispersion

W.J. Roth, Jagiellonian University, Krakow/PL 15:30

Coffee break, exhibition and posters

15:50

POSTER SESSION II

16:30

18:00

DINNER AT PARKSCHLOSS LEIPZIG

(organised bus transfer, registration necessary) 19:00

Chair: J. Pérez-Pariente, CSIC, Madrid/E

- 08:30 **PLENARY LECTURE** **Audimax**
Design of hierarchical zeolite catalysts: where pore and active site quality meet
 J. Pérez-Ramírez, ETH Zurich/CH

Novel Hierarchically Structured Materials

Chair: R. Ryoo, Institute for Basic Science (IBS) and KAIST, Daejeon/ROK

- 09:20 **Integrating synthesis and post-synthetic chemical etching for secondary porosity engineering in zeolite framework**
 Z. Qin, J.-P. Gilson, V. Valtchev, Université de Caen/F; S. Casale, Université Pierre et Marie Curie, Paris/F
- 09:40 **Formation of zeolite beta with hierarchical pore structure**
 M. Castro, Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr/D; W. Park, Institute for Basic Science, Daejeon/ROK; M. Haouas, F. Taulelle, University of Versailles Saint Quentin/F; E. Breynaert, G. Brabants, C.E.A. Kirschhock, KU Leuven/B; R. Ryoo, Institute for Basic Science, Daejeon/ROK; F. Schüth, W. Schmidt, Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr/D
- 10:00 **Hierarchical beta zeolites with uniform mesopores**
 D.P. Serrano, IMDEA Energy Institute and Rey Juan Carlos University, Móstoles/E; R.A. García, M. Linares, Rey Juan Carlos University, Móstoles/E
- 10:20 **Coffee break and exhibition**

Sustainable Solutions by Zeolite Catalysis

Chair: A. Martínez, Instituto de Tecnología Química, Valencia/E

- 10:50 **Kinetics study for catalytic cracking of Naphtha's representatives over ZSM-5 zeolite with different crystal sizes**
 T. Tago, R. Ohnaka, H. Konno, Y. Nakasaka, T. Masuda, Hokkaido University, Sapporo/J
- 11:10 **Methane conversion by direct dehydroaromatization: an effective reaction-regeneration cyclic operation for catalyst life extension**
 M.T. Portilla, C. Martínez, Universidad Politécnica de Valencia/E; F.J. Llopis, Universitat de Valencia/E; A. Corma, Universidad Politécnica de Valencia/E
- 11:30 **Understanding the role of delamination in zeolite-catalyzed aromatic alkylation: UCB-3 versus 3-D Al-SSZ-70**
 R.C. Runnebaum, X. Ouyang, University of California at Berkeley, CA/USA; T. Rea, Chevron Energy Technology Company, Richmond, CA/USA; S.-J. Hwang, California Institute of Technology, Pasadena, CA/USA; I. Arslan, Pacific Northwest National Laboratory, Richland, WA/USA; S.I. Zones, Chevron Energy Technology Company, Richmond, CA/USA; A. Katz, University of California at Berkeley, CA/USA
- 11:50 **KEYNOTE LECTURE**
Substitution of Al in Eni carbon silicates: is it possible?
 R. Millini, Eni SpA, San Donato Milanese/I

Chair: R. Gläser, Universität Leipzig/D

- 12:20 **FEZA AWARD LECTURE** **Audimax**
Structural study of zeolites utilizing novel electron crystallographic methods – A voyage into the world of zeolite structures
 T. Willhammar, Stockholm University/S

- 12:45 **CLOSING CEREMONY AND POSTER AWARDS** **Audimax**
 13:15 End of the conference

Chair: J. Pérez-Pariante, CSIC, Madrid/E

PLENARY LECTURE

Audimax

Design of hierarchical zeolite catalysts: where pore and active site quality meet

J. Pérez-Ramírez, ETH Zurich/CH

08:30

Sustainable Solutions with Hierarchically Structured Materials

Chair: B. Gil, Jagiellonian University, Krakow/PL

SCR-DeNO_x on mesoporous and hierarchically structured V₂O₅/TiO₂

E. Saraci, R. Arndt, J. Kullmann, D. Enke, R. Gläser, Universität Leipzig/D

09:20

Improved DeNO_x catalysts by combining MnO_x and Fe-ZSM-5

M. Salazar, Ruhr-Universität Bochum/D; R. Becker, Sachtleben Pigment GmbH, Krefeld/D; W. Grünert, Ruhr-Universität Bochum/D

09:40

Structure & synthesis of cage-based small-pore zeolites

T. Davis, D. Xie, C. Lew, S. Zones, R. Saxton, Chevron, Richmond, CA/USA

10:00

Coffee break and exhibition

10:20

Sustainable Solutions: Biomass-Related Catalysis

Chair: I.J. Nowak, Adam Mickiewicz University, Poznan/PL

Supported metal catalysts on covalent triazine frameworks in the aerobic oxidation of 5-HMF

J. Artz, R. Palkovits, RWTH Aachen University/D

10:50

Active sites in Sn-beta for glucose isomerization to fructose and epimerization to mannose

R. Bermejo-Deval, M. Orazov, R. Gounder, S.-J. Hwang, M.E. Davis, California Institute of Technology, Pasadena, CA/USA

11:10

Catalytic upgrading of lignocellulosic biomass fast pyrolysis oil (bio-oil) by hierarchical MFI zeolites with optimized properties

K. Triantafyllidis, Aristotle University of Thessaloniki/GR; S. Karakoulia, CPERI/CERTH, Thessaloniki/GR; S. Stefanidis, CPERI/CERTH and University of Western Macedonia, Thessaloniki/GR; K. Kalogiannis, A. Lappas, CPERI/CERTH, Thessaloniki/GR; T. Pinnavaia, Michigan State University, East Lansing, MI/USA

11:30

KEYNOTE LECTURE

Will zeolite-based catalysis be as relevant in future biorefineries as in crude oil refineries?

B. Sels, KU Leuven/B

11:50

Chair: R. Gläser, Universität Leipzig/D

FEZA AWARD LECTURE

Audimax

Structural study of zeolites utilizing novel electron crystallographic methods – A voyage into the world of zeolite structures

T. Willhammar, Stockholm University/S

12:20

CLOSING CEREMONY AND POSTER AWARDS

Audimax

End of the conference

12:45

13:15

POSTER SESSION I

Tuesday, 9 September, 16:30 – 18:00

A. Novel Materials

- A1. Innovative approaches
- A2. Hierarchically structured Materials
- A3. Zeolites and related Materials

C. Sustainable Solutions

- C1. Energy Conversion and Storage
- C2. Methanol Conversion
- C3. Hydrocarbon Conversions
- C4. Redox Catalysis

POSTER SESSION II

Wednesday, 10 September, 16:30 – 18:00

A. Novel Materials

- A4. MOFs and PCPs

B. Understanding Properties

- B1. Characterization I (Spectroscopy)
- B2. Characterization II
- B3. Theory / Modelling / Simulation

C. Sustainable Solutions

- C5. Adsorption and Separation
- C6. (Bio)Medical Applications
- C7. Biomass-Related Catalysis
- C8. Emission Control

POSTER WORKSHOP 1

Tuesday, 9 September, 14:00 – 15:30

Room HS 2

“Sustainable solutions: biomass-related catalysis”

organised by D. Kubička, Výzkumný ústav anorganické chemie, a.s., Litvínov-Záluží/CZ

- P C7.01 **Lignin pyrolysis in the presence of oxide particles embedded onto natural clinoptilolite and ZSM-5**
J. Milovanovic, N. Rajic, University of Belgrade/SRB; R.E. Stensrød, E.M. Myhrvold, R. Tschentscher, M. Stöcker, SINTEF, Oslo/N
- P C7.02 **Preparation of (Fe, Al)-MFI zeolite nanoparticles for DTO reaction**
H. Kobayashi, M. Nakaya, K. Kanie, A. Muramatsu, Tohoku University, Sendai/J
- P C7.03 **Catalytic isomerization of glucose into fructose over Mg-Al hydrotalcite**
I. Delidovich, R. Palkovits, RWTH Aachen University/D
- P C7.04 **Ferrierite as an effective catalyst for skeletal isomerisation of oleic acid – pore mouth catalysis and related deactivation mechanisms**
S.C.C. Wiedemann, J.A. Stewart, F. Soulimani, Utrecht University/NL; T. van Bergen-Brenkman, S. Langelaar, B. Wels, Croda Nederland BV, Gouda/NL; P. de Peinder, VibSpec, Tiel/NL; P.C.A. Bruijnincx, B.M. Weckhuysen, Utrecht University/NL
- P C7.06 **Modified mesoporous cellular foams (MCF) for the catalytic acetalization of glycerol with acetone**
V. Calvino-Casilda, CSIC, Madrid/E; K. Stawicka, M. Trejda, M. Ziolek, Adam Mickiewicz University in Poznan/PL; M.A. Bañares, CSIC, Madrid/E
- P C7.07 **Synthesis of campholenic aldehyde and trans-carveol from α -pinene oxide over Fe and H modified beta zeolite and MCM-41 mesoporous material**
M. Stekorova, Institute of Chemical Technology, Prague/CZ; N. Kumar, P. Mäki-Arvela, Åbo Akademi University, Turku/FIN; J. Roine, Turku University/FIN; A. Aho, Åbo Akademi University, Turku/FIN; J. Dahl, Turku University/FIN; D. Murzin, Åbo Akademi University, Turku/FIN
- P C7.08 **Selective ethanol conversion into butadiene over Zr containing molecular sieves doped with silver**
V. Sushkevich, I. Ivanova, Lomonosov Moscow State University/RUS; E. Taarning, Haldor Topsoe A/S, Lyngby/DK
- P C7.13 **Alkaline-assisted preparation of hierarchical tin-containing zeolites for the continuous production of bio-based chemicals**
P.Y. Dapsens, B.T. Kusema, J. Jagielski, C. Mondelli, J. Pérez-Ramírez, ETH Zurich/CH
- P C7.14 **Generation of novel basic centers in high-silica zeolites and their application in bio-oil upgrading**
T.C. Keller, E.G. Rodrigues, J. Pérez-Ramírez, ETH Zurich/CH

- P C7.18 **The catalytic conversion of HMF as a function of the zeolite framework**
P. Lanzafame, S. Perathoner, G. Centi, University of Messina/I; A. Macario,
 A. Aloise, G. Giordano, University of Calabria, Rende (CS)/I
- P C7.20 **Sn in partially dealuminated β zeolites as a bifunctional catalyst for biomass conversions**
 J. Dijkmans, M. Dusselier, K. Houthoofd, P. Magusin, E. Breynaert, M. Trekels,
 A. Vantomme, B. Sels, KU Leuven, Heverlee/B
- P C7.23 **Inhibition of palm oil oxidation in the presence of zeolite nanoparticles**
 K.-H. Tan, Universiti Sains Malaysia, Penang/MAL; H. Awala, Université de Caen/F;
 R.R. Mukti, Institut Teknologi Bandung/RI; K.-L. Wong, Nanyang Technological
 University, Singapore/SGP; S. Mintova, Université de Caen/F; E.-P. Ng, Universiti
 Sains Malaysia, Penang/MAL
- P C7.25 **Peculiar behavior of MWW zeolites in aldol condensation of furfural and acetone**
 O.V. Kikhtyanin, D. Kubicka, Research Institute of Inorganic Chemistry, Litvínov/CZ;
 P. Eliánová, J. Heyrovský Institute of Physical Chemistry, Prague/CZ

POSTER WORKSHOP 2

Tuesday, 9 September, 16:30 – 18:00

Room HS 2

“Sustainable solutions: emission control”

organised by K.-J. Langeheinecke, IAV GmbH, Gifhorn/D

- P C8.02 **Increasing specific surface areas of crystalline deN_2O catalysts via hard templating**
T. Franken, R. Palkovits, RWTH Aachen University/D
- P C8.04 **The influence of Ce, Zr, Au, Cu modifiers of SBA-15 on acidic and redox properties in methanol oxidation**
P. Kaminski, M. Ziolk, Adam Mickiewicz University in Poznan/PL
- P C8.05 **Improving oxidation activity of noble-metal free 3-way catalysts**
A. Schön, J.-P. Dacquin, C. Dujardin, P. Granger, Université de Lille 1,
 Villeneuve d'Ascq/F
- P C8.06 **Bimetallic AgCu-SBA-15 system - the effect of metal loading and preparation method on the surface and catalytic properties**
J. Czaplinska, I. Sobczak, M. Ziolk, Adam Mickiewicz University in Poznan/PL
- P C8.09 **Influence of hydrocarbons on NH_3 -SCR performance of Cu-zeolites**
P.N.R. Vennestrom, T.V.W. Janssens, A. Kustov, Haldor Topsøe A/S,
 Kgs. Lyngby/DK; A. Corma, Universidad Politécnica de Valencia/E

- P C8.13 **Influence of ammonia Co-adsorption on spin and electron transfer for Co(II) sites in zeolites: IR studies on NO activation and DFT modeling**
A. Stepniewski, Institute of Catalysis PAS, Krakow/PL; K. Góra-Marek, M. Radon, Jagiellonian University, Krakow/PL; E. Broclawik, Institute of Catalysis PAS, Krakow/PL
- P C8.14 **Fe zeolites for NO_x abatement – new insights into active sites and reaction mechanisms**
I. Ellmers, Ruhr-Universität Bochum/D; R. Pérez Vèlez, LIKat e.V. an der Universität Rostock/D; H. Huang, TU Kaiserslautern/D; U. Bentrup, LIKat e.V. an der Universität Rostock/D; V. Schünemann, TU Kaiserslautern/D; A. Brückner, LIKat e.V. an der Universität Rostock/D; W. Grünerl, Ruhr-Universität Bochum/D
- P C8.15 **Remarkable effect of preparation procedure on the selective catalytic reduction of NO with NH₃ on CoSiBEA zeolites**
R. Baran, T. Grzybek, AGH University of Science and Technology, Krakow/PL; J.-M. Krafft, S. Dzwigaj, Sorbonne Universités, Paris/F
- P C8.18 **Reactivity of ammonia with Cu-zeolites active for selective catalytic reduction of nitrogen oxides**
M. Moreno-González, B. Hueso, M. Boronat, T. Blasco, A. Corma, Universitat Politècnica de València/E
- P C8.20 **Unique copper-iron relation on the mesoporous silica support generates highly efficient catalyst for VOC decomposition**
M. Rangus, M. Mazaj, National Institute of Chemistry, Ljubljana/SLO; M. Popova, Bulgarian Academy of Sciences, Sofia/BG; A. Ristic, N. Novak Tušar, National Institute of Chemistry, Ljubljana/SLO
- P C8.22 **Selective catalytic reduction with NH₃ at 373 K and oxidation of NH₃ at 523 K in H₂-SCR of NO in excess O₂ on Pt/Nb-MCM-41**
M. Tanaka, M. Komatsubara, A. Koga, R. Hagiwara, M. Iwamoto, Tokyo Institute of Technology, Yokohama/J
- P C8.23 **Cu-containing ZSM-5 zeolites: synthesis, electronic properties and DeNO_x reactivity**
S. Yashnik, Z. Ismagilov, Boreskov Institute of Catalysis, Novosibirsk/RUS
- P C5.24 **Mechanistic insights into NH₃-SCR over Fe-zeolites using operando X-ray absorption and emission spectroscopy**
D.E. Doronkin, T. Günter, M. Casapu, J.-D. Grunwaldt, Karlsruhe Institute of Technology (KIT)/D
- P C8.25 **Low temperature catalytic NO oxidation over microporous materials**
J.A. Loiland, R.F. Lobo, University of Delaware, Newark, DE/USA

POSTER WORKSHOP 3

Tuesday, 9 September, 16:30 – 18:00

Room HS 3

“Novel materials: MOFs and PCPs”

organised by D. Farrusseng, National Center for Scientific Research (CNRS), Villeurbanne/F

- P A4.03 **Porphyrin-based polymers with improved oxygen selectivity for air separation applications**
W.N.H. Tang, D. Danaci, R. Singh, P.A. Webley, The University of Melbourne/AUS
- P A4.06 **Preparation of graphite oxide/metal-organic framework (MIL-101) and adsorptive denitrogenation of model fuels with the composite**
I. Ahmed, S.H. Jhung, Kyungpook National University, Daegu/ROK
- P A4.11 **Adsorption behavior of BTEX mixtures in metal-organic frameworks**
F. Lahoz-Martin, A. Martin-Calvo, S. Calero, University Pablo de Olavide, Seville/E
- P A4.14 **Uptake of lipid bilayer-coated MOF nanoparticles by cancer cells**
S. Wuttke, S. Braig, T. Preiss, J. Sicklinger, C. Bellomo, J. Rädler, A. Vollmar, T. Bein, Universität München/D
- P A4.19 **Mechanochemical synthesis of polycrystalline zeolitic imidazolate frameworks**
S. Tanaka, K. Kida, T. Nagaoka, Y. Miyake, Kansai University, Osaka/J
- P A4.25 **Single-site catalysts via two-step post-synthetic modification of mixed-linker MIL-53(Al)**
M.A. Gotthardt, Karlsruhe Institute of Technology (KIT)/D; W. Kleist, Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D
- P A4.30 **Using thin films for investigating the surface barriers in metal-organic frameworks**
L. Heinke, Z. Gu, C. Wöll, Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D
- P A4.39 **Single and mixed-linker Cr-MIL-101 derivative**
N. Stock, M. Lammert, University of Kiel/D; F. Vermoortele, D.E. De Vos, KU Leuven/B
- P A4.40 **DUT-49 – a new benchmark material for methane adsorption**
U. Stoeck, S. Krause, V. Bon, I. Senkovska, S. Kaskel, TU Dresden/D
- P A4.41 **Engineering photocatalytic properties of MIL-125 to visible zone by functionalisation of organic linkers**
B.L. Su, J. Delbrugere, K. Dedecker, University of Namur/B; X.Z. Fu, Z.H. Li, Fuzhuo University/CHN
- P A4.43 **MOFs married to LDHs with enhanced gas selectivity**
Y. Liu, N.Y. Wang, L. Diestel, F. Steinbach, J. Caro, University of Hannover/D

- P A4.44 **Flexibility of isotopic topologies: zeolites vs zifs illustrated by GIS and LTA frameworks**
A.R. Ruiz-Salvador, S. Hamad, S.R.G. Balestra, University Pablo Olavide, Seville/E; A. Gomez, Canadian Light Source Inc, Saskatoon/CDN; D.W. Lewis, University College London/UK; S. Calero, University Pablo Olavide, Seville/E
- P A4.45 **Green synthesis of zirconium MOFs**
H. Reinsch, KU Leuven, Heverlee/B; K.-P. Lillerud, University Oslo/N; F. Vermoortele, D. De Vos, KU Leuven, Heverlee/B
- P A4.47 **Hydrogen isotope separation in metal-organic frameworks**
I. Savchenko, W. Wahiduzzaman, A. Mavrantanakis, T. Heine, Jacobs University Bremen/D; H. Oh, J. Teufel, M. Hirscher, MPI for Intelligent Systems, Stuttgart/D; D. Denysenko, D. Volkmer, University of Augsburg/D
- P B1.18 **Framework-drug-solvent interactions within the MIL-101 matrices: an NMR view**
T. Cendak, E. Zunkovic, T. Ukmar Godec, M. Mazaj, N. Zabukovec Logar, G. Mali, National Institute of Chemistry, Ljubljana/SLO

POSTER WORKSHOP 4

Wednesday, 10 September, 14:00 – 15:30

Room HS 2

“Novel materials: Innovative Approaches”

organised by B.-L. Su, University of Namur/B

- P A1.03 **Ab initio molecular modelling of the dealumination mechanisms of relevant zeolite frameworks**
 M.C. Silaghi, E. Petracovschi, T. Kerber, C. Chizallet, IFP Energies nouvelles, Solaize/F; J. Sauer, Humboldt University Berlin/D; P. Raybaud, IFP Energies nouvelles, Solaize/F
- P A1.05 **Comparison of post-grafting surface modification and “ship-in-bottle” method in mesopores**
 K. Sato, H. Yoshitake, Yokohama National University/J
- P A1.07 **Carbide-derived carbons with core-shell pore structure**
 T. Ariyanto, J. Gläsel, A. Kern, B.J.M. Etzold, Universität Erlangen-Nürnberg/D
- P A1.08 **Synthesis of small pore silicoaluminophosphates with controlled Si distribution by using supramolecular self-assembled OSDAs**
M. Moliner, R. Martinez-Franco, A. Cantin, A. Corma, Universitat Politècnica de València/E
- P A1.12 **Towards a new strategy for the tailored design of hybrid microporous materials**
M.E. Potter, D. Xuereb, University of Southampton/UK; C.W. Jones, Georgia Institute of Technology, Atlanta, GA/USA; A. Levy, Honeywell LLC, Morristown, NJ/USA; R. Raja, University of Southampton/UK

- P A1.13 **The first synthesis of a new microporous zeolitic silicoborate (ITQ-52) using aminophosphonium as OSDA**
R. Simancas, J.L. Jordá, F. Rey, A. Corma, A. Cantín, Universitat Politècnica de València/E; I. Peral, C. Popescu, ALBA Light Source, Barcelona/E
- P A1.28 **New insights into the synthesis of Sn-beta catalyst**
S. Tolborg, TU of Denmark, Lyngby/DK; A. Katerinopoulou, Haldor Topsøe A/S, Lyngby/DK; D. Falcone, University of Virginia, Charlottesville, VA/USA; E. Taarning, Haldor Topsøe A/S, Lyngby/DK; P. Fristrup, TU of Denmark, Lyngby/DK; M.S. Holm, Haldor Topsøe A/S, Lyngby/DK
- P A1.41 **Preparation of zeolite X coatings on glass**
M. Tatlier, C. Atalay-Oral, Istanbul Technical University/TR
- P A1.44 **Synthesis of helical and supplementary chirally-doped PMOs materials**
R.A. García-Muñoz, V. Morales, M. Linares, B. Rico-Oller, Rey Juan Carlos University, Móstoles/E
- P A2.01 **One-step synthesized hierarchically structured SiO₂ spheres for pre combustion applications**
M.W. Hahn, M. Steib, A. Berger, A. Jentys, J.A. Lercher, TU München, Garching/D
- P A2.19 **Hierarchical zeolite FeZSM-5 for catalytic total oxidation of macromolecules**
K.A. Sashkina, N.A. Rudina, E.V. Parkhomchuk, Boreskov Institute of Catalysis, Novosibirsk/RUS
- P A2.20 **Hierarchically porous monoliths prepared through nanocasting**
A.J. Grano, F.M. Sayler, The University of Alabama, Tuscaloosa, AL/USA; M. Lindén, University of Ulm/D; M.G. Bakker, The University of Alabama, Tuscaloosa, AL/USA; J.H. Smått, Åbo Akademi University, Turku/FIN
- P A2.30 **Multimodal zeolite based catalysts with a hierarchically interconnected three level micro-meso-macro pore structure**
B.L. Su, X.Y. Li, University of Namur/B; L.H. Chen, Wuhan University of Technology/CHN
- P A2.31 **Development of hierarchical micro/mesoporous ZSM-5 using ionic liquids**
A. Sachse, M. Oberson de Souza, Universidade Federal do Rio Grande do Sul, Porto Alegre/BR
- P C4.13 **Elucidating the catalytic activity of Ti sites in organic oxidation reactions over crystalline and amorphous mesoporous titanosilicates**
D. Serrano, Rey Juan Carlos University, Mostoles/E and IMDEA Energy Institute, Mostoles/E; R. Sanz, Rey Juan Carlos University, Mostoles/E; P. Pizarro, Rey Juan Carlos University, Mostoles/E and IMDEA Energy Institute, Mostoles/E; J. Iglesias, N. Simon, M. Lazaro, Rey Juan Carlos University, Mostoles/E; I. Moreno, Rey Juan Carlos University, Mostoles/E and IMDEA Energy Institute, Mostoles/E

POSTER WORKSHOP 5

Wednesday, 10 September, 16:30 – 18:00

Room HS 2

“Sustainable solutions: energy conversion and storage”

organised by S. Henninger, Fraunhofer Institut für Solare Energiesysteme ISE, Freiburg/D

- P C1.02 **Assessment of hydration-dehydration behaviour of modified MgO as candidate for high-temperature waste heat storage**
J.I. Salazar Gómez, H. Lohmann, B. Zeidler-Fandrich, Fraunhofer UMSICHT, Oberhausen/D; I. Meyer, J. Meyer, R. Scholz, Fraunhofer UMSICHT, Sulzbach-Rosenberg/D
- P C1.04 **Effect of LiCl aqueous solutions on the energetic performances of silicalite-1**
T.J. Daou, I. Khay, H. Nouali, A. Ryzhikov, S. Rigolet, J. Patarin, Université de Haute Alsace, Mulhouse/F
- P C1.06 **Tailoring of water sorption properties of composites for thermochemical heat storage**
 T. Birsa Celic, A. Ristic, National Institute of Chemistry Slovenia, Ljubljana/SLO
- P C1.13 **Electron transfers in donor - acceptor system adsorbed into zeolite: kinetic and thermodynamic study**
P. Col, M. Hureau, A. Moissette, Université de Lille 1, Villeneuve d'Ascq/F
- P C1.15 **Multicomponent aerogels (TiO₂-Rh/Pt/Ir-rGO) for enhanced photocatalytic water splitting**
 R. da Silva, M. Karnahl, Leibniz Institute for Catalysis, Rostock/D; S. Skruszewicz, University of Rostock/D; F. Heiligttag, ETH Zürich/CH; S. Wohlrab, Leibniz Institute for Catalysis, Rostock/D
- P C1.18 **Ag nanoparticles supported on nanosized zeolites for photovoltaic solar cells**
M. Zaarour, M. El-Roz, B. Dong, M. Alaaeddine, R. Retoux, F. Goubilleau, B. Witulski, J.-P. Gilson, S. Mintova, University of Caen/F
- P C1.19 **Ion exchange in zeolite13X – tuning of sorptive properties for thermochemical heat storage applications**
J. Venus, J.G. Eggebrecht, A. Lieb, F. Scheffler, Universität Magdeburg/D
- P C1.20 **Energetic performances of pure silica STF, MTT and *STO-type zeolites under high pressure water intrusion**
A. Ryzhikov, I. Khay, H. Nouali, T.J. Daou, J. Patarin, Université Haut-Alsace, Mulhouse/F
- P C1.21 **Hydrothermal stability of adsorbents for thermal energy storage applications**
F. Fischer, E. Lävemann, Bavarian Center for Applied Energy Research (ZAE Bayern), Garching/D

- P C1.26 **Stability of zeolite and zeo-type materials under cyclic hydrothermal stress regarding heat pump applications**
G.M. Munz, M. Baumgartner, H. Kummer, S.K. Henninger, Fraunhofer ISE, Freiburg/D
- P C1.29 **Water vapor permeable zeolite coatings for high performance adsorption applications**
H. Kummer, S.K. Henninger, Fraunhofer ISE, Freiburg/D

POSTER WORKSHOP 6

Wednesday, 10 September, 16:30 – 18:00

Room HS 3

“Sustainable solutions: methanol conversion”

organised by M. Stöcker, SINTEF Materials and Chemistry, Oslo/N

- P C2.02 **Influence of internal silanol defects in SSZ-13 on its catalytic performance in the methanol-to-olefins reaction**
X. Zhu, E.J.M. Hensen, Eindhoven University of Technology/NL
- P C2.03 **Characterisation of aromatic and aliphatic MTO intermediates using theoretical excitation and emission spectra**
K. Hemelsoet, University of Ghent, Zwijnaarde/B; Q. Qian, Utrecht University/NL; K. De Wispelaere, T. De Meyer, University of Ghent, Zwijnaarde/B; J. Ruiz-Martinez, Utrecht University/NL; M. Waroquier, University of Ghent, Zwijnaarde/B; B.M. Weckhuysen, Utrecht University/NL; V. Van Speybroeck, University of Ghent, Zwijnaarde/B
- P C2.04 **Synthesis of SAPO-57 and SAPO-59 with different Si contents and their catalytic properties for the methanol-to-olefin reaction**
N.H. Ahn, S. Seo, Pohang University of Science and Technology/ROK; C.P. Nicholas, G.J. Lewis, UOP LLC, A Honeywell Company, Des Plaines, IL/USA; S.B. Hong, Pohang University of Science and Technology/ROK
- P C2.07 **Methanol conversion into light olefins over SAPO-18 catalysts coated with silica: the effect of modification procedure**
S. Konnov, E. Knyazeva, I. Ivanova, A.V. Topchiev Institute of Petrochemical Synthesis RAS, Moscow/RUS
- P C2.08 **Conversion of methyl mercaptan and methanol to hydrocarbons over zeolites – a comparative study**
C. Cammarano, B. Coq, R. Durand, Institute Charles Gerhardt, Montpellier/F; E. Huguet, R. Cadours, Total SA, Paris/F; C. Leroi, Total SA, Lacq/F; V. Hulea, Institute Charles Gerhardt, Montpellier/F

- P C2.09 **SAPO intergrowth materials as catalysts for the MTO process**
R.L. Smith, M.W. Anderson, M.P. Attfield, University of Manchester/UK; A. Lind, D. Akporiaye, J.H. Cavka, B. Arstad, SINTEF Materials and Chemistry, Oslo/N; S. Svelle, University of Oslo/N; T. Fuglerud, INEOS, Porsgrunn/N
- P C2.11 **Hydrothermal stabilization of nanosized SAPO-34 for methanol to olefins**
Z. Li, J. Martinez-Triguero, Universitat Politècnica de València/E; J. Yu, Jilin University, Chanchung/CHN; A. Corma, Universitat Politècnica de València/E
- P C2.12 **High throughput testing of slow and fast deactivating catalysts for methanol-to-hydrocarbons (MTH)**
M. Kirchmann, A. Haas, C. Hauber, hte GmbH, Heidelberg/D
- P C2.14 **Mass transport and adsorption of methanol vapor in monolithic activated carbon**
P. Günther, R. Stierle, P. Patzelt, U. Nieken, University of Stuttgart/D

VENUE

Universität Leipzig
Augustusplatz
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EVENTS

Social Events

Monday, 8 September 2014

BBQ Welcome, Universität Leipzig (included in the registration fee)

Tuesday, 9 September 2014

FEZA Party, Moritzbastei **19:00**
(included in the registration fee)

Wednesday, 10 September 2014

Conference Dinner, Parkschloss Leipzig **19:00**
(fee: 70 Euro incl. 19% VAT)

Pre-School

A pre-conference summer school will be organised to the topic „Hierarchically-ordered Materials: From Theory to Applications“ on **5 – 7 September 2014, Schloss Schney, Lichtenfels/D.**

More information and the online registration for the pre-school is available at www.eam.fau.de/feza-preschool2014.

Field Trip (for students only!)

On **Friday, 12 September 2014**, we invite you on a field trip to visit the “Roots of zeolite production in Germany”. The open air exhibition “**Deutsches Chemie-Museum Merseburg**” (www.deutsches-chemie-museum.de) offers a guided tour showing pieces of original machinery from the beginning of industrial chemistry production in the early last century. The second part of the tour goes to Bitterfeld, where zeolite manufacturing started already in 1966 and now a modern zeolite production facility from Clariant is located (organized by F. Scheffler, Universität Magdeburg/D).

fee: 44,99 Euro incl. VAT

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