

British Zeolite Association

33rd Annual Meeting

24th – 26th March 2010



*Promoting the Science of
Nanoporous Materials*

FINAL PROGRAM



UNIVERSITY OF
Southampton



PROGRAMME FOR THE 33RD ANNUAL BZA MEETING

Wednesday, March 24

- 10:30 12:30 Registration for 33rd BZA Meeting (Avenue Campus)
- 12:45 13:00 Welcome and Introductory Remarks (Lecture room)
- 13:00 **PL1** PROBING ZEOLITE CHEMISTRY BY ADVANCED SPECTROSCOPIC TOOLS
Jean-Pierre Gilson (Université de Caen – CNRS, France)
- 13:50 **OR1** ATOMIC FORCE MICROSCOPY INVESTIGATIONS ON THE CRYSTAL GROWTH OF STA-7: INFLUENCE OF TIME, Si AND TEMPLATE CONTENT
P. Cubillas, M. Castro, P.A. Wright, M.W. Anderson
- 14:10 **OR2** INVESTIGATING THE SUBSTITUTION MECHANISM OF METAL IONS IN NANOPOROUS ALUMINOPHOSPHATE MATERIALS
K. Simmance, G. Sankar, R.G. Bell, C. Prestipino
- 14:30 **OR3** NOVEL MANGANESE OXIDE AND PLATINUM/MANGANESE OXIDE OCTAHEDRAL MOLECULAR SIEVE CATALYSTS FOR SELECTIVE HYDROGENATION OF α,β -UNSATURATED ALDEHYDES AND KETONES
H. Daly, H.G. Manyar, H. Moor, S. McMonagle, Y. Tao, A. Goguet, C. Hardacre
- 14:50 **OR4** FLEXIBILITY WINDOW OF ZEOLITES
A. Sartbaeva, S.A. Wells, M.M.J. Treacy, M.F. Thorpe
- 15:10 **OR5** MORPHOLOGY-DEPENDENT ZEOLITE INTERGROWTH STRUCTURES LEADING TO DISTINCT INTERNAL AND OUTER-SURFACE MOLECULAR DIFFUSION BARRIERS
L. Karwacki, M.H.F. Kox, B.M. Weckhuysen
- 15:30 15:50 Tea, coffee and refreshments
- 15:50 **OR6** DESIGN OF FUNCTIONALISED MIL-53-(Al³⁺) FOR ENHANCED CO₂ CAPTURE
A. Torrisi, C. Mellot-Draznieks, R.G. Bell
- 16:10 **OR7** THE DESIGN OF METAL SINGLE-SITE CATALYSTS FOR THEIR APPLICATION IN PHOTOCATALYSIS
S. Dzwigaj, J-P. Nogier, Y. Millot, T. Shishido, E. Thouverez, J-B. Delsuc, M. Matsuoka, M. Anpo, M. Che
- 16:30 **OR8** ZEOLITE GROWTH VIA TRIAL AND ERROR NANOPARTICLE FLOCCULATION AND AGGREGATION MECHANISMS
L. Bonneviot, G. Gao, B. Albela



- 16:50 **OR9** ALUMINUM-ZONING IN ZSM-5 CRYSTALS: ITS ORIGIN AND CHARACTERIZATION
N. Danilina, S. Castelanelli, F. Krumeich, J.A. van Bokhoven
- 17:10 **OR10** INFLUENCE OF THE SUPPORT ON THE STRUCTURE AND PROPERTIES OF Fe IONS IN MICROPOROUS MATRICES: A SPECTROSCOPIC STUDY
G. Berlier, M. Vishnuvarthan, S. Coluccia, J. Dzierzak, R. Raja
- 17:30 **OR11** HYDROTHERMAL SYNTHESIS OF POROUS BERYLLIUM MATERIALS: ZEOLITE INSPIRED FRAMEWORKS
B.T.R. Littlefield, J.A. Armstrong, M.T. Weller
- 17:50 **OR12** INTERCALATION AND CO-INTERCALATION OF SMALL MOLECULES INTO LAYERED ORGANOCLEAYS
J.E. Martin, Y. Espidel, M. Butler, S. Mann
- 18:10 **OR13** OIL SPILLAGE REMEDIATION USING THE ZEOLITE CHABAZITE
A. Kelay, C.D. Williams, M.A. Fullen
- 18:30 19:30 **Check-in (Highfield Halls)**
- 19:30 20:30 **Dinner (Restaurant – Avenue Campus)**
- 20:30 22:30 **Poster Session (Avenue Campus)**
Wine Reception

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Thursday, March 25

- 9:00 **PL2** HYPOTHETICAL MOFS, ZIFS, ZEOLITES, AND THE ZEOLITE PROBLEM
Michael O'Keeffe (Arizona State University; USA)
- 9:50 **OR14** MECHANICAL PROPERTIES OF ZEOLITIC IMIDAZOLE FRAMEWORKS
J.C. Tan, T.D. Bennett, A.K. Cheetham
- 10:10 **OR15** PHOTOLUMINESCENT MICROPOROUS LANTHANIDE SILICATES AND METAL ORGANIC FRAMEWORKS
J. Rocha
- 10:30 **OR16** SYNTHESIS AND CHARACTERISATION OF ENANTIOSELECTIVE METAL ORGANIC FRAMEWORKS
S.M. Keltie, P.A. Gale, M. Tromp
- 10:50 **OR17** ADSORPTION AND COADSORPTION OF SIMPLE GASES ON THE ZIRCONIUM BASED MOF: Uio66
A.D. Wiersum, S. Bourrelly, C. Serre, P.L. Llewellyn
- 11:10 11:30 Tea, coffee and refreshments
- 11:30 **KN1** ZEOLITE MATERIALS WITH MICRO- AND MESOPORES: AN INDUSTRIAL VIEW ON NOVEL SYNTHESIS STRATEGIES AND THEIR APPLICATION IN CATALYSIS
Sander van Donk (Total Research Centre, Belgium)
- 12:10 **OR18** THE SHAPE-SELECTIVE SORPTION AND HYDROGENATION OF FAMES AND VEGETABLE OILS
A. Philippaerts, S. Paulussen, B. Sels, P.A. Jacobs
- 12:30 **OR19** SELECTIVE COMPETITION ADSORPTION OF SULFUR COMPOUNDS, AROMATICS AND OLEFINS OVER ION-EXCHANGED FAU ZEOLITES
L. Song, L. Duan, H. Wang, X. Ju, L. Jin, M. Pan, X. Chen
- 12:50 **OR20** DESIGN OF IMPROVED CATALYSTS FOR THE CONVERSION OF METHANE TO BENZENE AND HYDROGEN
A. Shepherd, R.F. Howe
- 13:10 14:10 **Lunch**
- 14:10 **PL3** A DECISIVE EFFECT OF Al DISTRIBUTION IN THE FRAMEWORK ON THE PROPERTIES OF METALLO-ZEOLITES OF PENTASIL RING STRUCTURES: SCR-NO_x, NO AND N₂O DECOMPOSITION
Zdeněk Sobalík, B. Wichterlová and J. Dědeček (*J. Heyrovský Institute, Prague*)
- 15:00 **OR21** IN SITU CRYSTAL GROWTH OF SODALITE ZINCOPHOSPHATE STUDIED USING ATOMIC FORCE MICROSCOPY
M.A. Holden, P. Cubillas, M.W. Anderson



- 15:20 **OR22** IN-SITU FTIR SPECTROSCOPIC STUDY OF CO₂ ADSORPTION
IN MESOCAGED MATERIALS WITH P_{6h} SYMMETRY
R. Atluri, Z. Bacsik, N. Hedin, A.E. Garcia-Bennett
- 15:40 **OR23** SULFONAMIDE ANTIBIOTICS EMBEDDED INTO ZEOLITE-Y: A
SPECTROSCOPIC AND THEORETICAL APPROACH TO THE
STUDY OF HOST-GUEST AND HOST-HOST INTERACTIONS
I. Braschi, G. Gatti, G. Paul, C.E. Gessa, M. Cossi, L. Marchese
- 16:00 16:20 Tea, coffee and refreshments
- 16:20 **OR24** ENCODING SILVER-EXCHANGED ZEOLITES BY 3D
PHOTOACTIVATION
G. De Cremer, E. Bartholomeeusen, M. Roeffaers, J.-I. Hotta, D. De
Vos, J. Hofkens, T. Vosch, B. Sels
- 16:40 **OR25** NMR STUDIES OF IONIC LIQUIDS CONFINED IN
MESOPOROUS SILICA
C. Cropper, J.A. Iggo, N. Winterton, Y.Z. Khimyak
- 17:00 **OR26** CRYSTALLINE MESOPOROUS SILICATES? A TEM STUDY
H. Greer, N. Alam, R. Mokaya, W. Zhou
- 17:20 **OR27** SUPPORTED, CLUSTER-DERIVED MULTIMETALLIC
CATALYSTS FOR A WIDE VARIETY OF INDUSTRIALLY
SIGNIFICANT REACTIONS
J.A.L. Blaine, R. Raja
- 17:40 **OR28** UNRAVELLING THE IMMOBILIZATION MECHANISM OF
GRUBBS-TYPE METATHESIS CATALYSTS ON MESOPOROUS
SUPPORTS
B. van Berlo, K. Houthoofd, P. Wells, M. De Marco, M. Tromp, P.A.
Jacobs, B. Sels
- 18:00 **OR29** A DFT STUDY OF THE CATALYTIC REACTION MECHANISM OF
MnAlPO-5 IN THE AEROBIC OXIDATION OF HYDROCARBONS
L. Gómez-Hortigüela, Furio Corà, G. Sankar, C.R.A. Catlow
- 19:00 20:00 **Cash Bar Open**
- 20:00 22:00 **Conference Dinner** (Highfield Campus)
- 22:00 23:30 **Cash Bar Open**

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Friday, March 26

- 9:00 **PL4** GAS ADSORPTION AND SELECTIVITY BY METAL-ORGANIC FRAMEWORK MATERIALS
Martin Schröder (University of Nottingham; UK)
- 9:50 **OR30** METHANOL TRANSFORMATION IN PRESENCE OF ETHYLENE ON H-ZSM-5
P. Struelens, D. Minoux, N. Nesterenko, S. Van Donk, P.A. Jacobs
- 10:10 **OR31** LUMINESCENT MESOSTRUCTURED HYBRID NANOPARTICLES
E. Gianotti, I. Mileto, E. Bottinelli, G. Caputo, S. Coluccia
- 10:30 **OR32** CAUGHT IN THE ACT: THE SELF-ASSEMBLY OF NANOPOROUS ALUMINOPHOSPHATES OBSERVED USING A MULTI-TECHNIQUE APPROACH
A.M. Beale, M.G. O'Brien, B.M. Weckhuysen
- 10:50 **OR33** DIRECT QUANTIFICATION OF DIFFUSION LIMITATIONS BY SPACE RESOLVED ACTIVITY MAPPING
B. Sels, G. De Cremer, E. Bartholomeusen, M. Roeffaers, K. Lin, P. Pescarmona, D. De Vos, J. Hofkens, T. Vosch
- 11:10 11:30 Tea and coffee
- 11:30 **KN2** MODELLING APPLICATIONS IN THE STUDY OF POROUS SOLIDS
Furio Corà (University College London)
- 12:10 **OR34** SYNTHESIS OF AND CATALYSIS WITH ORDERED MESOPOROUS CARBON WITH SULFONIC ACID GROUPS
L. Peng, F. de Clippel, B.F. Sels, P.A. Jacobs
- 12:30 **OR35** ZEOLITE-SEMICONDUCTOR COMPOSITES
G. Baker, G. Hix, F. Ouali
- 12:50 **Concluding Remarks**
- 13:00 **Lunch**
- End of Conference**

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