6th CBM2017-NAGANO

Program

July 19-21, 2017 in Nagano

6th Symposium on Challenges for Carbon-based Nanoporous Materials:

Supported by

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Welcome

Thank you very much for coming to Nagano to share your time and scientific achievements with us at 6CBNM. It is really wonderful that many friends gather in Nagano to discuss the present and future science on Energy and Environment issues from various aspects.

Human society has serious issues on energy, environments, resources, foods, water, and others; we scientists are recommended to collaborate to challenge interdisciplinary research subjects through highly sophisticated professionals-friendship. Also our personal friendship should be an intensive peace network all over the world.

I hope that all of you could have a pleasant time through high quality science and mutual communications in greenish area, Nagano.

Katsumi Kaneko, FRSC
Chairman of 6CBNM
Distinguished Professor
Center for Energy and Environmental Science
Shinshu University
Building: Lecture hall and foyer at third floor of SASTec building, Shinshu University, Wakasato Campus in Nagano.

Registration desk open times
19 Wednesday 16:00 -19:00
20 Thursday 9:00-17:00
21 Friday 8:30-11:00

Program
All Papers other than papers by Kaneko group are invited papers. Discussion is important. Please leave five or three minutes for 30 min or 15 min presentations, respectively.

19 Wednesday
17:00- 17:10 Opening address Katsumi Kaneko

Chair Teresa Bandosz
17:15- 17:35 Flash presentations for posters Each 2 min with 2 slides
17:40- 17:50 Sieving oxygen isotopes through one-, two- and three-dimensional porous materials
Sanjeev Kumar Shinshu University, Japan
17:50-18:00 PDMS-embedded SWCNT towards Fabrication of Stretchable Strain Sensor
Preety Ahuja Shinshu University, Japan
18:00- 18:40 Keynote lecture
Porous Aromatic Frameworks - A new black stuff to consider
Freek Kapteijn Delft University of Technology, Netherland
18:45- 20:30 Quantachrome Instruments Japan Reception

20 Thursday

Chair Matthias Thommes
9:00- 9:30 The Nano-Carbon Landscape: Form Doped Graphene and Molecular Sensors to Nanotubes and their Biological Applications
Mauricio Terrones Pennsylvania State University, USA
9:30-10:00 Unprecedented electronic states of exchanged ions endowed by zeolite lattice – From where does such specificity come? -
Yasushige Kuroda Okayama University, Japan
10:00-10:30 Light-induced modifications of nanoporous carbons
Conchi Ania CNRS-CERMHTI, France

Break (30 min)
Chair Artur. P. Terzyk
11:00-11:30 Properties of molecular hydrogen confined in microporous carbons investigated by neutron spectroscopy techniques
Cristian Contescu Oak Ridge National Laboratory, USA

11:30-12:00 Flux crystal growth concept as new approaches to material synthesis and design: A challenge for super-ion conduction path in all-solid-state LIBs
Katsuya Teshima Shinshu University, Japan

12:00-12:15 Intrinsic thermal management capability of elastic layer-structured metal-organic framework-11 exhibiting multi-gate adsorption for CO₂
Hideki Tanaka Kyoto University, Japan

12:15-12:30 Direct observation of host-guest complex formations by frequency-modulation atomic force microscopy in water
Hitoshi Asakawa Kanazawa University, Japan

Lunch (1 h 30 min)

Chair Juan Matos Lale
14:00-14:30 Can a secondary control of materials structure be of interest for gas capture or storage?
Philip Llewellyn Aix-Marseille University, France

14:30-14:45 Structural elucidation of physical and chemical activation mechanisms of activated carbons based on the microdomain structure model
Jin Miyawaki Kyushu University, Japan

14:45-15:00 Ultrasound-assisted green synthesis and deposition of metal nanoparticles in aqueous media
Toshio Sakai Shinshu University, Japan

15:00-15:30 CO₂ interactions with porous carbons: is the surface stable at ambient conditions?
Teresa Bandosz City College of New York, USA

Break (30 min)

Chair Christian M. Lastoskie
16:00-16:30 Graphene-based nanoporous carbons for energy applications
Takashi Kyotani Tohoku University, Japan

16:30-17:00 Modified carbon aerogels for electrocatalysis
Krisztina László BUTE, Hungary

17:00-17:30 Polymer Chemistry in Metal-Organic Frameworks
Takashi Uemura Kyoto University Japan

17:30-17:45 Intermolecular Structure of Binary Mixture in Confined Spaces: by XRD, ND and RMC
Taku Iiyama Shinshu University, Japan

17:45-18:00 Structural Evidence for the Superionic-State Formation of Ionic Liquids in Carbon Nanopores
Ryusuke Futamura, Shinshu University, Japan
21 Friday

Chair Conchi Ania
8:30- 9:00 Toolkit for a Reliable Characterization of Hierarchical Structured Nanoporous Materials by Physical Adsorption and Mercury Porosimetry
Matthias Thommes  Quantachrome Instrument Co. USA

9:00- 9:30 Nanoporous liquid-crystalline materials for water treatment membranes and ion transport electrolytes
Takashi Kato  The University of Tokyo, Japan

9:30- 9:45 Mechanochemical synthesis – A green approach towards nanoporous materials
Mirian Casco  Technology University of Dresden, Germany

9:45- 10:00 Antifouling properties of biocidal incorporated polymer carbon nanocomposites membranes
Fitri Khoerunnisa  Indonesian University of Education, Indonesia

Group photo and break (30 min)

Chair Philip Llewellyn
10:30- 11:00 Prediction of the breakthrough performance of “gating” adsorbents using osmotic framework adsorbed solution theory
Christian M. Lastoskie  University of Michigan, USA

11:00-11:30 High surface area nanoporous carbons as photocatalytic reactors. An experimental evidence of confining pore effect.
Juan Matos Lale  University of Concepcion, Chile

11:30-12:00 Water nanodroplets on graphite and graphene - MD insight
Artur. P. Terzyk  Nicolaus Copernicus University Poland

Break (20 min)

Chair Cristian Contescu
12:20- 12:35 Gas adsorption properties of fluorinated single-walled carbon nanotubes
Yoshiyuki Hattori  Shinshu University, Japan

12:35-12:50 Application of highly concentrated SWCNT inks
Radovan Kukobat  Shinshu University, Japan

12:50-13:05 Molecular separation with graphene nanowindows
Fernando Vallejos-Burgos  Shinshu University, Japan

13:10 Closing address: Adjourn
Poster presentations 17:50-18:30 20 Thursday

P1. Photoelectrochemical Response of Nanoporous Carbons/Semiconductor Films
   Alicia Gomis-Berenguer, Conchi O. Ania
   ADPOR Group, CEMHTI (UPR 3079) CNRS, University Orléans, 45071 Orléans, France

P2. Hierarchically Structured Porous Carbon Fibers for EDLC
   Kento Sagisaka¹, Yoshiyuki Hattori²
   ¹Interdisciplinary Graduate School of Science and Technology, Shinshu University, Ueda, Japan
   ²Division of Chemistry and Materials, Shinshu University, Ueda, Japan

P3. Mesoscopic Investigation to Binary Mixture Of Water and Cyclohexane by SANS and ND
   Masatsugu Yoshimoto¹, Taku Iiyama²,³
   ¹Interdisciplinary Graduate School of Science and Technology, Shinshu University, Matsumoto, Japan
   ²Department of Chemistry, Shinshu University, Matsumoto, Japan
   ³Center for Energy and Environmental Science, Shinshu University, Nagano, Japan

P4. Organic Molecules-mediated Pore Structure Control of Graphene Monoliths
   Austina Dwi Putri¹, Ryusuke Futamura¹, Toshio Sakai², Katsumi Kaneko¹
   ¹Center for Energy and Environmental Science, Shinshu University, Nagano, Japan
   ²Department of Materials Chemistry, Shinshu University, Nagano, Japan

P5. Role of Porosity in the Hystroscopic Nature of Nanodiamonds
   Elda-Zoraida Piña-Salazar¹,², Koki Urita¹, Takuya Hayashi³, Eiji Osawa³, Ryusuke Futamura⁴, Toshio Sakai¹, Katsumi Kaneko¹
   ¹Interdisciplinary Graduate School of Science and Technology, Shinshu University, Nagano, Japan
   ²Center for Energy and Environmental Science, Shinshu University, Nagano, Japan
   ³Department of Electrical Engineering, Shinshu University, Nagano, Japan
   ⁴Department of Water Environment and Civil Engineering, Shinshu University, Nagano, Japan
   ⁵Nano-Carbon Research Institute, Ltd. Ueda, Nagano, Japan
   ⁶Department of Applied Chemistry, Faculty of Engineering, Nagasaki University, Nagasaki, Japan

P6. Pore Structure of SWCNT-Nanographene Hybrid Films
   Nurul Chotimah¹, Ryusuke Futamura¹, Toshio Sakai², Katsumi Kaneko¹
   ¹Center for Energy and Environmental Science, Shinshu University, Nagano, Japan
   ²Department of Materials Chemistry, Shinshu University, Nagano, Japan

P7. Different Adsorption Behavior of D₂O and H₂O on Activated Carbon Fibers and The Application to Concentration of D₂O
   Yuji Ono¹,², Ryusuke Futamura¹, Yoshiyuki Hattori³, Toshio Sakai⁴, Katsumi Kaneko²
   ¹Interdisciplinary Graduate School of Science and Technology, Shinshu University, Nagano, Japan
   ²Center for Energy and Environmental Science, Shinshu University, Nagano 380-8553, Japan
   ³Division of Chemistry and Materials, Faculty of Textile Science and Technology, Shinshu University, Ueda 386-8567, Japan
   ⁴Department of Materials Chemistry, Faculty of Engineering, Shinshu University, Nagano 380-8553, Japan

P8. Single-wall carbon nanotube meshes
   Naoto Tanigaki¹,², Kukobat Radovan², Ryusuke Futamura², Takuya Hayashi³, Katsumi Kaneko²
   ¹Interdisciplinary Graduate School of Science and Technology, Shinshu University, Nagano, Japan
   ²Center for Energy and Environmental Science, Shinshu University, Nagano, Japan
   ³Department of Water Environment and Civil Engineering, Shinshu University, Nagano, Japan