

6th CBNM2017-NAGANO

Program

July 19-21, 2017 in Nagano



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

ADSORPTION AND ENERGY

Supported by
Nagano Convention and Visitors Bureau
Quantachrome Instrument Japan Co.
Kotobuki Tsu-shou Co.
Microtrac-BEL.



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: From 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-CEMHTI, 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 Bandoz 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

18:00-18:40 **Poster session**

19:00- 21:00 **Dinner**
Restaurant: Shikisai 四季彩 MIZUNO in Mizuno Museum

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 Sagisaka](#)¹, 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 Yoshimoto](#)¹, Taku Iiyama^{2,3}
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 Putri](#)¹, 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 Hygroscopic Nature of Nanodiamonds

[Elda-Zoraida Piña-Salazar](#)^{1,2}, Koki Urita³, Takuya Hayashi⁴, Eiji Osawa⁵, Ryusuke Futamura², Toshio Sakai⁵, Katsumi Kaneko²
¹ Interdisciplinary 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 Chotimah](#)¹, 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 Ono](#)^{1,2}, Ryusuke Futamura², 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 Tanigaki](#)^{1,2}, 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