Organizers

Basic Atomic Energy Research Institute(BAERI), Department of Nuclear and Quantum Engineering, KAIST

National Research Laboratory, Department of Materials Science and Engineering, GIST

HANARO Center, Korea Atomic Energy Research Institute

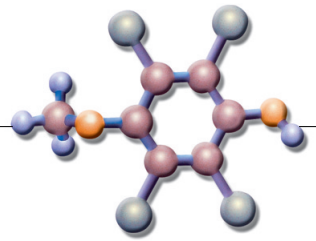
Sponsors

Korean Neutron Beam Users' Association

KAIST Division of International Relations

Advisory Committee

Mahn Won Kim	President of KIAS and Korean Neutron Beam User's Association, Professor of Physics, KAIST
Sow-Hsin Chen	Professor of Nuclear Science and Engineering, MIT
Byung-Jin Jun	Director of HANARO Center, KAERI
Hongdoo Kim	Professor of Chemistry, Kyunghee Univ.
Ki-Bong Lee	Professor of Physics, Postech
Moonhor Ree	Professor of Chemistry, Postech
Kookheon Char	Professor of Chemical Engineering, Seoul National Univ.



KAIST Campus Map

Contact Information

Sung-Min Choi	Basic Atomic Energy Research Institute, KAIST +82-42-869-3822, sungmin@kaist.ac.kr
Do Young Noh	National Research Laboratory, GIST +82-62-970-2311, dynoh@kjist.ac.kr
Hark Rho Kim	Korea Atomic Energy Research Institute +82-42-868-2985, hrkim@kaeri.re.kr
Kwanwoo Shin	Basic Atomic Energy Research Institute, Sogang Univ. +82-2-705-8441, kwshin@sogang.ac.kr

http://neutron.kaist.ac.kr/NeutronXrayWorkshop/

Workshop on Neutron and X-ray Scattering for the Structures and Dynamics of Nanoscale Materials

in Conjunction with the 4th Workshop on X-ray and Neutron Scattering Techniques for Surface Nano-Characterization

Date 2006. 12. 7(Thu) 9:30~18:00
8(Fri) 9:00~13:00

Place KAIST, Mechanical Engineering B/D (N7), ME Auditorium (Room 1501)

KAIST

과학기술부 원자력기초공동연구소 Basic Atomic Energy Research Institute

한국원자력연구소 Korea Atomic Energy Research Institute

광주과학기술원

한국 중성자빔 이용 전문연구회

Invitation

Understanding the structures and dynamics of various nanoscale materials, which will allow us to have an ability to control the materials for new novel functionalities, is an essential ground for the breakthroughs in nanotechnology, biotechnology and information technology. For the last decades, neutrons and x-rays have been extremely powerful tools for the investigations of a broad range of materials. Recently, as the interests of nanoscale phenomena in materials are rapidly increased, the role of neutron and x-ray scattering techniques, which cover all the length scales and the critical range of time scales of interests in nanoscience, have become even more important.

The workshop is a part of the collective efforts to understand the structures and dynamics of nanoscale materials and their corresponding unique functionalities, using neutron and x-ray scattering techniques.

The workshop consists of 20 invited talks delivered by leaders of neutron and x-ray facilities and a group of prominent scientists and engineers who study nanoscale materials including polymeric materials, complex fluids, bio-materials and organic/inorganic nano thin films using neutron and x-ray scattering techniques, and develope novel neutron/x-ray optics, new methods and instruments. We expect that the workshop will provide the most recent progress in the fields of nanoscale materials research using neutron & x-ray techniques.

You are cordially invited to the workshop for fruitful discussions. Your participation will be greatly appreciated.

Sincerely yours

Sung-Min Choi — Director of the Basic Atomic Energy Research Institute (BAERI), KAIST

Do Young Noh — Director of the National Research Laboratory, GIST

Hark Rho Kim — Director of HANARO Utilization Technology Division, KAERI

Schedule

Dec. 7, 2006

9:30-10:00 Registration

10:00-10:10 Opening Remark
Mahn Won Kim / President of KIAS

Neutron Facility
(Chair : Sung-Min Choi / KAIST)

10:10-10:40 Byung-Jin Jun / Director of HANARO Center, KAERI
HANARO's Vision for Neutron Science and Technology

Nanostructured Soft Matter I
(Chair : Hongdoo Kim / Kyunghee Univ.)

10:40-11:10 Kookheon Char / Seoul National Univ.
SANS and SAXS Studies on the Nanostructured Polymeric Materials

11:10-11:40 Joona Bang / Korea Univ.
SAXS and SANS Study on the Cubic Packing of Spherical Block Copolymer Micelles

11:40-12:10 Daewon Sohn / Hanyang Univ.
Neutron and X-ray Scattering Studies of Nanofiber Structure

12:10-13:30 Lunch

Dynamics & Theory in Nanoscale Materials
(Chair : Do Young Noh / GIST)

13:30-14:00 Antonio Faraone / NIST, USA
Neutron Spin Echo Spectroscopy for the Investigation of Dynamics in Protein

14:00-14:30 Hyotcherl Ihee / KAIST
Structural Reaction Kinetics and Dynamics Probed by Time-resolved X-ray Diffraction

14:30-15:00 Junhan Cho / Dankook Univ.
Analysis of Nanostructured Materials from Block Copolymers : Small-angle Neutron Scattering, Neutron Reflectivity, and Molecular Theory

15:00-15:30 Sung-Min Choi / KAIST
SANS and Neutron Spin Echo Studies of Self Assembling Soft Materials

15:30-15:50 Coffee Break

Nanoscale Phenomena in Thin Films
(Chair : Kwanwoo Shin / Sogang Univ.)

15:50-16:20 Young-Soo Seo / Sejong Univ.
No Intrinsic Air nanobubble on a Polystyrene Thin Film at a Water Interface

16:20-16:50 Du Yeol Ryu / Yonsei Univ.
Thickness Dependence of Crosslinked Copolymer Material for Surface Modification

16:50-17:20 Chang Soo Kim / KRISS
Thickness Measurements of Nano-scale Gate Oxide Films Using XRR

17:20-17:50 Ki-Bong Lee / Postech
X-ray Reflectivity Analysis for Interlayer Thickness Between High-k Dielectrics and Si Substrates

18:00- Banquet

Dec. 8, 2006

Nanostructured Soft Matter II
(Chair : Kookheon Char / Seoul National Univ.)

9:00-9:30 Moonhor Ree / Postech
Nondestructive, Quantitative Synchrotron Grazing Incidence X-ray Scattering Analysis of Nanostructures Supported with Substrates

9:30-10:00 Jon Otto Fossum / NTNU, Norway
TBA

10:00-10:30 Jin Kon Kim / Postech
Analysis of Nanoporous Structures in Block Copolymer Thin Films

10:30-10:50 Coffee Break

Optics, New Methods & Instruments
(Chair : Baek Seok Seong / KAERI)

10:50-11:20 Do Young Noh / GIST
Coherent X-ray Diffractive Imaging

11:20-11:50 Hwa Shik Youn / Pohang Accelerator Lab.
X-ray Microscopy

11:50-12:20 Hyon Chol Kang / GIST
Nanometer Focusing of Hard X-rays by a Multilayer Laue Lens

12:20-12:50 Young Soo Han / KAERI
Development of 40m Small Angle Neutron Scattering Instrument for Studying Nanoscale Materials

12:50-12:55 Closing Remark
Hark Rho Kim / KAERI

13:00- Lunch