



KINKEN WAKATE 2012

9th Materials Science School for Young Scientists and Students

We are pleased to announce that "9th Materials Science School for Young Scientists and Students 2012 (KINKEN-WAKATE2012)" will be held on 26-November at Tohoku Univ.

The place has been changed!

Date: 26-November (Mon) 13:00~ 20:30(Tentative)

Place: COE Bldg, 2F Seminar Room I, Institute for Materials Research, Tohoku Univ. Sendai, Japan

URL <http://neutron-center.imr.tohoku.ac.jp/WAKATE2012/index.html>

Organizers: International Collaboration Center (ICC-IMR), Center of Neutron Science for Advance Materials (NC-IMR), Institute for Materials Research, Tohoku University.

Program

13:00~13:05 Opening K. Ohoyama

13:05- 13:55 **Prof. Yukio Noda** (Tohoku Univ.)

“Introduction of Neutron and X ray scattering (mainly neutron) for material science”

13:55-14:05 Discussion

14:05- 14:55 **Prof. J. Mizuki** (Kwansei Gakuin Univ.)

“Introduction of Synchrotron Radiation X-ray scattering”

14:55-15:05 Discussion

Coffee Break 15:05-15:20

15:20-16:10 **Dr. Seongsu Lee** (Korea Atomic Energy Research Institute, Korea)

“Structural investigations by neutron powder diffraction: magnetic and crystal structure refinements”

16:10-16:20 Discussion

16:20-17:10 **Prof. Seunghun Lee** (Univ. of Virginia, USA)

“Investigations of spin and lattice dynamic by neutron inelastic scattering”

17:10-17:20 Discussion

17:30- 18:50 **Snack (COE 2F Seminar Room II)**

19:00~ **Night Session**

Presentation by all the participants (< 5 min / person)

Contents of Lectures (Tentative)

(Lecture 50min, question time 10min)

Caution: The contents of the lectures will be decided by the lecturers. So, the organisers cannot guarantee that all the contents in the list will be explained on 26-NOV.

Prof. Yukio Noda (Tohoku Univ.)

“Introduction of Neutron and X ray scattering (mainly neutron) for material science”

Neutron source (Reactors and Pulsed sources)

Important characters of neutrons for materials science, such as lights atom, magnetic moments, scale of energy and λ (measurements of phonon and magnon), large penetration depth and so on.

Basic explanation of neutron science, such as diffraction, inelastic scattering, radiography, rapid prompt γ

Principle of diffraction (Bragg scattering)

Prof. Junichiro Mizuki (Kwansei Gakuin Univ.)

“Introduction of X-ray scattering, in particular, dynamics investigations”

Generation of X-ray (Difference of Synchrotron Radiation X-ray and Lab. Instruments)

Basic lecture of X-ray diffraction, mainly Synchrotron Radiation X-ray (diffraction, inelastic scattering, resonant X-ray scattering RIXS, XAFS.....)

What we can do using Synchrotron Radiation X-ray

Importance of Dynamics investigations by Synchrotron Radiation X-ray

What is the difference from neutrons scattering: advantage of X-ray, and complementarity investigations.

Recent results of inelastic X-ray scattering in materials science

Dr. Seongsu Lee (Korea Atomic Energy Research Institute, Korea)

“Structural investigations by neutron powder diffraction: magnetic and crystal structure refinements”

Importance of structure investigation in material science

Basic lecture of diffractometer and real diffraction experiments

Analysis of crystal and magnetic and crystal structure

Rietveld technique, Fourier transfer technique, PDF, Representaion analysis of magnetic structures.....

Resent results of investigations of material science in which structure refinements play important roles.

Prof. Seunghun Lee (Univ. of Virginia, USA)

“Investigations of spin and lattice dynamic by neutron inelastic scattering”

Principle of neutron inelastic scattering (phonon, magnon, CEF, etc)

Basic explanation of neutron spectrometers

What is phonon and magnon?

Why observations of inelastic scattering are important for materials science?

Typical spectrometers in the world

Resent results of spin and lattice dynamics investigations which gave important impacts to materials science.

Registration

Registration (including Snack) is **FREE**.

To attend WAKATE2012, please send a mail with the following information to the secretary of WAKATE2012 (e-mail: imr_neutron@imr.tohoku.ac.jp)

Required information on your registration mail.

- 1: Full Name
- 2: e-mail: address
- 3: Your Grade or Position (M1, D1, Posdoc, etc)
- 4: Your affiliation (Hayashi Lab. IMR, Tohoku Univ. etc)
- 5: Your Main Interests (magnetism, superconductivity, neutron, X-ray, mu-on, spin dynamics, crystal structure, etc)
- 6: Title of Your Short Presentation in Night Session

Registration Deadline: 18th-November 2012, 21:00

Abstract

Please send Abstract (A half page of A4, English) to secretary by 22-Nov. 21:00 by e-mail.

You can find more detailed information on the Web cite.

URL <http://neutron-center.imr.tohoku.ac.jp/WAKATE2012/index.html>

Secretary of WAKATE2012

Dr. Kenji OHYAMA

Dr. Kouichi HAYASHI

e-mail: imr_neutron@imr.tohoku.ac.jp

Participants List

Name

Position, Affiliation
Main Interests
“Title of the short presentation”

Adam Badra Cahaya

B4, Bauer Lab, IMR, Tohoku University
Main Interests; Spin Caloritronics
“Figure of Merit of Spin Seebeck Effect”

Sun-Chang Choi

D1, Ken-Sasaki Lab. IMR, Tohoku Univ
Main Interests; Neutron, Magnetism, spin dynamics

Milena Agnieszka Guziak

D2, Takahiko Sasaki Lab., IMR
Main Interests; SAXS, WAXS, X-ray, crystalline state of conjugated polymers, superconductivity
“Solvent effect on the electrical conductivity of PEDOT: PSS film.”

Pejchal Jan

Postdoc, Yoshikawa Lab. IMR, Tohoku Univ.
Main interests: Inorganic scintillation crystals
“Inorganic single crystals for X-ray, γ -ray and neutron detection”

Supawan Joonwichien

Posdoc, Usami Lab. IMR, Tohoku Univ.
Main interests: crystal structure
“Impact of and impurities and dislocations on the spatial distribution of electrical properties in multicrystalline Si”

Li Guanqiao

M2, Orimo Lab. IMR, Tohoku Univ.
Main Interests; neutron, X-ray, crystal structure
“Characterization of Complex Hydride YMn_2H_6 ”

Zhenqing Liu

Special Research Student, Furuwara Lab., IMR, Tohoku University
Main interests: neutron, X-ray, crystal structure
“Reverse transformation of martensite to austenite in hypoeutectoid Fe-Mn-C alloys”

So Nara

M2, Ken Sasaki Labs. IMR, Tohoku Univ.
Main interests: Magnetism
“Study on spin dynamics of itinerant electron antiferromagnet $Mn_{3-x}Fe_xSi$ ”

NGUYEN Van Hoang,

Post-doctor, Crystal Physics Laboratory, IMR, Tohoku University
Main interests: crystal structure, spin dynamics, superconductivity
“Anodized Aluminum Oxide fabrication on Si substrate.”

Minoru Sanda

D1, Sato Lab. IMRAM, Tohoku Univ.

Main interests: magnetism

**“Magnetic Properties of S=1/2 Antiferromagnetic Trimer System
 $2\text{Sb}\cdot\text{CuCl}_2\cdot\text{H}_2\text{O}$ ”**

Toyoto Sato

Assistant Professor, Orimo group IMR, Tohoku Univ.

Main interests: Crystal structure

“Vibrational Properties on Al Based Hydrides Studied by Inelastic Neutron Scattering”

Eiichi Takekawa

B4, Taku J Sato Lab, IMRAM, Tohoku Univ

Main Interests: neutron

Wang Yaocen

Postdoc, Makino Lab. IMR. Tohoku Univ.

Main interests: Electron microscopy, Neutron, Crystal structure.

“TEM sample preparation by FIB micro-sampling and thinning”

Zhang Yongjie

M2, Furuwara Lab, IMR, Tohoku Univ

Main interests: X-ray

“VC Interphase Precipitation in V-added Low Carbon Steels”

Hengyu Zhao

D2, Uda Lab. IMR. Tohoku Univ.

Main Interests; crystal lattice parameter

“X-ray Application in Determining Crystal's Solid solution Range”

KINKEN-WAKATE Venue
Tohoku Univ. Katahira Campus
Sendai Katahira 2-1-1

The place has been changed!

Date: 26-November (Mon) 13:00~ 20:30(Tentative)

Place: COE Bldg, 2F Seminar Room I, Institute for Materials Research, Tohoku Univ. Sendai, Japan

