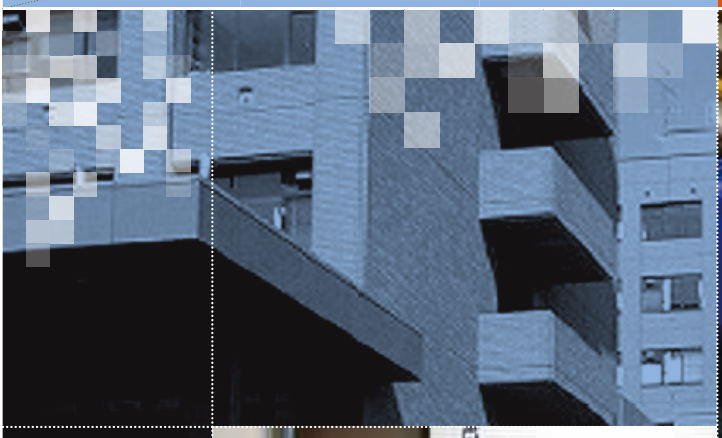
ICC-IMR news No.3

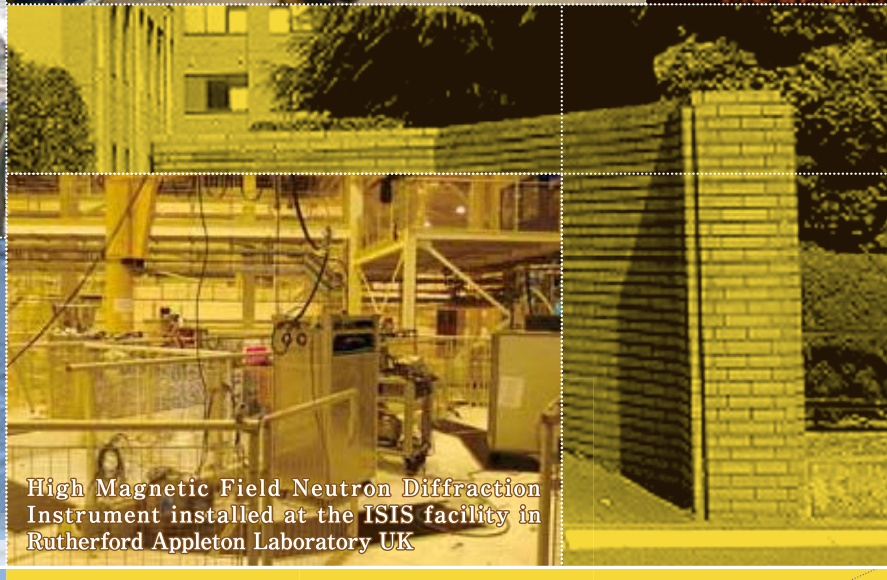
International Collaboration Center

Institute for Materials Research, Tohoku University



Molecular-Beam Epitaxial Growth Instrument

Poster Session at the 122th IMR Symposium



High Magnetic Field Neutron Diffraction Instrument installed at the ISIS facility in Rutherford Appleton Laboratory UK

Welcome to ICC-IMR

ICC-IMR was founded in April 2008 as the center for the international collaboration of the Institute for Materials Research (IMR). As one of the centers of excellence in material science, IMR holds 24 research groups and five research centers. ICC-IMR works as a gateway of diverse collaborations between international researchers and IMR members. ICC-IMR has invited 27 visiting professors and conducted nine international research projects since the start-up. The applications are open for foreign researchers and the projects are evaluated by peer-review process by international reviewers. Currently, ICC-IMR coordinates six different programs:

1) International Integrated Project Research
2) Visiting Professorship
3) Short Single Research Visits
4) International Workshops
5) Fellowship for young researcher and PhD student
6) Material Transfer Program

We welcome applicants from around the globe to participate in these international programs.

Material Science Week 2011 Oct.11-Dec.12, 2012

IMR held a campaign called "Material Science Week 2011" over the period of two months from October to December to aid the ongoing recovery efforts of the institute, the university and the various affected communities in the Tohoku area. As one of the important features of the week, "Declaration of Material Science 2011" was written up and made it public. With that as a start, many other events, like international workshops, open lecture for citizens, and "Material Contest" were held. The total of 16 events including about 1900 participants have been registered as assenting events. We believe that MSW 2011 would contribute the recovery of our institute and the Tohoku area.

A SIGNING CEREMONY

A signing ceremony for starting up was held at IMR lecture hall on Oct.11, which was seven months after the March 11 disaster. Opening speech to explain the aim of this declaration was made by Prof. Yamada, a chief of MSW committee and also by Prof. Niinomi, an IMR director after praying silently for the disaster dead. Then, it was signed the declaration by four representatives from France, Poland, India and China and Director Niinomi and read aloud it by professors of IMR. IMR expressed our gratitude for your support and reaffirms our determination to promote our mission in the declaration, "Contributions in the field of Materials Science to build a better society" with overseas partners. The MSW2011 heightened the goals of our international collaboration and strengthened the partnership with citizens. 62 signatories from 20 nations and 41 institutions in total were finally collected.

Message from a Signatory

Timothy Ziman, CNRS Chief Scientist, Institute of Laue-Langevin, Grenoble (FRANCE)

I am confident that the Institute for Materials Research will continue to play an important part in the reconstruction of Sendai and Tohoku, and more generally, to the world scientific community, where the commitment to advancing science for the benefit of revolving the problems facing mankind will only be strengthened by the current difficulties.

Prof. J.R.Vargas Garcia, Metallurgical and Materials Eng. Dept., National Polytechnic Institute (MEXICO)

As a collaborative researcher working at IMR, Tohoku University on March 11 this year, I would like to express my profound acknowledgement for the awesome sense of organization, commitment and concern for the others, clearly identifying your own character to face the effects caused by The Great East Japan Earthquake. Accordingly, I would like to encourage your genuine disposition of sharing your findings for the benefit of society, joining to the International Declaration on Materials Science in Tohoku 2011. I am truly convinced of the whole success of your new commitment, based on the high ethic and scientific levels of the Institute of Materials Research, Tohoku University.

Prof. In-Whan Lyo, Director for Institute of Physics and Applied Physics, and Head of Physics Dept., Yonsei University (SOUTH KOREA)

We shared profound sorrows with our colleagues of Tohoku University at the tragic loss of human lives, and devastation of properties wrought by the catastrophic disasters that stuck East Japan last March. It was utmost heart-wrenching experience to watch, on our local television news, the calamity unfold through the Tohoku area. Nonetheless, we trusted that no matter how devastating a disaster may be, it would not break Japanese people' s spirits and resolve to stand on their feet again, after mourning for the lost and the perished. Standing together with our colleagues and friends at Institute of Materials Research as well as Tohoku University, we commit ourselves to the shared goal of working for the betterment of the humanity and more than willing joint the Declaration on Materials Science in Tohoku 2011.

ICC-IMR Programs

Integrated Project

International integrated projects between IMR and foreign institutions/groups provide world-class collaborative research for a period of up to two years. Diverse research teams with members from multiple countries are encouraged. International referees evaluate each project.

Visiting Professorships

Individuals staying more than a month can apply for a visiting professorship. Successful applicants are employed as formal visiting professors of IMR, and travel costs are supported.

Single Research Visits

Applicants accepted for a short research visit are allowed access to IMR, including its research centers and divisions, and travel expenses are partially supported. Collaborating with several IMR groups is encouraged during a single research visit.

International Workshops

ICC-IMR supports international workshops held at IMR. These can be independent workshops or ones cosponsored with other organizations.

Fellowship for young researcher and PhD student

Applicants are supported partially up to two months of research under the IMR supervisor.

Material Transfer Program

The products of IMR can be transferred to foreign research institution based on the international exchange agreement and are used for the international collaborative research in abroad.

ICC-IMR activities in FY 2011

Research Projects

Development of Functionalized Molecule-based Magnetic Materials (Y2011-2012)
PI: J. Schnack (Bielefeld University, Germany) and H. Nojiri (Magnetism, IMR)

Theoretical Challenges in Spintronic Materials (FY2011-2012)
PI: Y. Tserkovnyak (University of California, USA) and G. Bauer (Theory of Solid State Physics, IMR)

Development of IMR Neutron Spectrometer for Novel Material Science in J-PARC (FY2010-2011)
PI: L-P. Regnault (ILL-Institut Laue-Langevin, France) and K. Ohyama (Metal Physics with Quantum Beam Spectroscopy, IMR)

Lithium Fast-Ion Conduction in Complex Hydrides (FY2010-2011)
PI: A. Remhof(EMPA - Swiss Federal Laboratory for Materials Testing and Research, Switzerland) and S. Orimo (Hydrogen Functional Material, IMR)

Structural and Chemical Analysis on Doped Ceramics by Transmission Electron (FY2010-2011)
PI: T. Epicier(INSA de Lyon and CNRS, France) and T. J. Konno(Advanced Analysis of Material, IMR)

Development of a Compact Pulsed Magnet for High-Field Magneto-optical Studies of Carrier and Exciton Dynamics in Nanostructures (FY2010-2011)
PI: J. Kono(Rice University, USA) and H. Nojiri(Magnetism, IMR)

Visiting Professors

S. Beckman, Iowa State University, USA, June 1- Aug.31, 2011
"Exploration of Lead-free Ferroelectric/piezoelectric Ceramics from First-principles"

M. Sluiter, Delft University of Technology, the Netherlands, June 15 - Aug.7, 2011
"Large-scale Simulation on Novel Nanoscale Materials"

L. Wang, Northeastern University, China, July 1 - Aug.29, 2011
"Improvement of Mechanical Properties of TNTZ in Simulated Body Fluid by Controlling of Grain Boundary"

JT. Wang, Institute of Physics, Chinese Academy of Sciences, China, July 22 - Oct.19, 2011
"Large-scale Simulation on Novel Nanoscale Materials"

K. Basker, Anna University, India, Sep.21- Oct.20, 2011
"Growth and Characterization of Alloys of GaN, InN and AIN for Optoelectronics"

C. Berthier, Laboratoire National des Champs Magnétiques Intenses, CNRS, France, Oct.1- Oct.31, 2011
"High Field NMR on Quantum Phase Transition"

C. Z. Rudowicz, West Pomeranian University of Technology, Poland, Oct.1- Nov.30, 2011
"Study of the Role of the Higher-order Field-dependent(HPFD)Terms in Characterization of Magnetic, Optoelectronic, and Laser Materials"

C. Dong, Dalian University of Technology, China, Oct. 31- Nov. 30, 2011
"Cluster-plus-glue-atom Model for low-E β-Ti Bio-alloys"

Workshops

5th International Workshop on Spin Currents, July 25-28, 2011

Search for New Physics in Transition Metal Compounds by Spectroscopies, July 28 - 30, 2011

The 6th International Workshop on BIO and AMORPHOUS Materials, Aug. 8-9, 2011

KINKEN WAKATE 2011 in Conjunction with International Symposium of Global COE: Materials Integration and ASPT 2011, Dec. 1-2, 2011

The 6th General Meeting of ACCMS-VO, Feb.10 -12, 2012

IMR opened the declaration below to public together with our overseas partners in more than 20 countries to exhibit our resolve to find solutions many of the unsolved problems in our society through research in Materials Science.

International Declaration on Material Science in Tohoku 2011

"Contributions in the field of Materials Science to build a better society"

The Institute for Materials Research at Tohoku University has long played an important role as a world class research institute in materials science and its successes can be attributed to the efforts of dedicated researchers committed to Tohoku University' s principles of "research first", "its open door policy" and "practice-oriented research and education". IMR is renowned for providing new materials, which contribute to making society a better place to live. Over the years, IMR has actively promoted collaborative research with materials science institutions in many parts of the world. In spite of the many great achievements in the field of material science, many problems regarding energy, the environment, information, communication, social infrastructure and limits in the medical field remain unsolved, and researchers continue tirelessly with their studies in the spirit of the words of the founder of IMR, Dr. Kotaro Honda, who said "Try harder, do not give up". Each and every researcher in our institute is well aware of how important their work is.

The Great East Japan Earthquake on March 11 brought tremendous damage, mainly to the Tohoku area, and the most-affected areas are still in the early stages of recovery. Besides the new challenges for materials scientists in the area of energy shortages related to the nuclear accident in Fukushima, the disaster highlighted some of the challenges we have been working on continuously over the years. More importantly, disasters happen in one place after the next. In all of these disasters, the impact has been far-reaching, extending far beyond the country in which they occur. The Great East Japan Earthquake has been no exception. This has strengthened our resolve to find solutions many of the unsolved problems in our society through research in the field of materials science.

In collaboration with our many overseas partners, we at the Institute for Materials Research at Tohoku University are determined to make a profound positive impact on society through our shared reaffirmed mission in the field of materials science. This year, 2011 when the tragedy will be recorded in history, we would like to declare our deepened commitment to the following three endeavors;

1. We will work tirelessly to address a variety of important challenges facing human beings, including energy related issues, environmental protection, safety, and improvements in information and communication systems, social infrastructure and in the medical field.
2. We will strengthen our research focus by strengthening our global partnerships in the drive to find solutions to common issues, which feature challenges in materials science.
3. We will improve the manner in which information is disclosed to the general public, in the knowledge that intellectual property with regard to findings in the field of materials belongs to the community. To deepen our relationship with the community, we will make efforts that the results are used with social support and understanding.

We believe that our commitment to these three tasks will contribute to heal the wounds left by the disaster in the past and prevent or minimize the damage from future disasters. We will make sure that the light of our challenge in materials science will shine brightly from here, from Tohoku to the world.

October 11, 2011

Visitors supported by ICC-Programs
Graph on the world map

Visitors
USA(14), China(11), UK(10), Germany(5), Korea(5), France(4), Canada(2), India(2), Italy(2), Russia(2), Switzerland(2), Iran(1), Netherlands(1), Poland(1), Singapore(1), Thailand(1)

Signatory nations (which had signed the International Declaration)
Argentina, Belgium, Canada, China, France, Germany, India, Indonesia, Italy, Korea, Mexico, Netherlands, Poland, Russia, Slovenia, Spain, Sweden, Switzerland, UK, USA

Contact Information

Website : http://www.icc-imr.imr.tohoku.ac.jp/

E-mail : icc-imr@imr.tohoku.ac.jp

Address : ICC-IMR Office Room#309 Building No.1

Institute for Materials Research, Katahira 2-1-1, Sendai 980-8577, Japan

Tel/Fax : +81-22-215-2019