

**3<sup>rd</sup> WORLD MATERIALS RESEARCH INSTITUTE FORUM  
and  
Symposium on Materials Challenges for Clean Energy  
National Institute of Standards and Technology (NIST)  
Gaithersburg, MD**

**June 21-25, 2009**

**Sunday, June 21, 2009**

1900 Registration & Get Acquainted Reception

Crown Plaza Suites Hotel  
Rockville, MD

**Monday, June 22**

**Symposium on Materials Challenges for Clean Energy**

800 Transport from hotel to NIST

830 Symposium Opening

835 Welcome

840 Welcome

850 Announcements/Arrangements

Dr. Mike Simonson, ORNL

Prof. Teruo Kishi, NIMS

Dr. Eric Amis, NIST

Dr. Stephen Freiman, NIST

**Session 1: Overview of Energy Materials Needs**

900 Energy Research Needs and Opportunities  
in Materials Sciences and Engineering

940 Japanese Clean Energy Policy  
and Some Activities of Asian Member Institutes

1020 Novel Materials for Energy Applications

**Session Chair: Dr. Eric Amis**

Dr. Linda Horton, U.S. DOE

Dr. Masaki Kitagawa, NIMS, Japan

Dr. Renzo Tomellini, European Commission

1100 Break

**Session 2: Materials for Solar Energy Development**

1130 Dye-sensitized Solar Cells with Nanotechnologies

1200 Structure and chemistry measurements  
for organic photovoltaic materials

1230 Materials Development for Solar Energy

1300 Lunch

**Session 2 (continued)**

1400

**Session 3: Hydrogen and Bioenergy Processes and Materials**

1430

1500 Interfacial processes for interconversion  
between water and hydrogen

1530

1600 Break

1630 Poster Session and Reception

1830 Transportation back to hotel

**Tuesday, June 23**

800 Transportation from hotel to NIST

**Session 4: Energy Storage and Conversion**

830

900

930

**Session Chair: Dr. Stephen Freiman**

Dr. Liyuan Han, NIMS

Dr. Dean DeLongchamp, NIST

Dr. Chad Duty, ORNL

Dr. Reiner Klenk, Helmholtz Center, Berlin

**Session Chair: Prof. Dr. Thomas Boellinghaus**

Prof. Dan Eliezer, Ben-Gurion University

Prof. Kohei Uosaki, Hokkaido University

Prof. Andreas Züttel, EMPA

**Session Chair: Dr. Graham Sims**

Dr. Kazunori Takada, NIMS

Dr. Ralph Baesler, BAM

Prof. Ctirad Uher, Univ. of Michigan

1000 New Opportunities for Computational Science  
in Electrochemical Energy Storage Research

Dr. Jack Wells, ORNL

1030 Break

**Session 5: Materials for Energy Efficiency**

1100

1130

1200

**Session Chair: Dr. Jüergen Lexow**

Prof. Dr.-Ing. Dieter Bohn, RWTH Aachen

Dr. Kyung-Tae Hong, KIST

Dr. Anne-Christine Ritchkoff, VTT

1230 Lunch

**Session 5 Continued**

1330

1400 Predicting the Sustainability of Cementitious and Polymeric  
Infrastructural Materials used in Energy Applications

Prof. Wei Liu, IMRE

Dr. Ed Garboczi/Dr. Joannie Chin, NIST

**Session 6: Nuclear Energy Materials**

1430 Prospects for Evolutionary and Revolutionary Development  
of Structural Materials for Fission and Fusion Energy.

1500

1530

1600

**Session Chair: Dr. Naoto Kishimoto**

Dr. William Corwin, ORNL

Dr. Takeo Muroga, NIFS

Dr. Anton Erhard, BAM

Dr. Srikumar Banerjee, Bhabha At. Res. Ctr.

**1630 Session Summaries**

**Session Chair: Dr. Mike Simonson**

1730 Adjourn Symposium: Transportation to hotel and airport



**Thursday, June 25**

800 Transportation from hotel to NIST

830 Special Topics (50 minutes each)

NanoEHS	(Chair: Eric Amis)	Dr. Kamal Hossain, NPL Dr. Debra Kaiser, NIST
Synchrotron	(Chair: Thomas Boellinghaus)	Dr. K. Kobayashi, NIMS Dr. Altaf Carim, U.S. DoE Prof. Yves Petroff, UC Berkeley
Sustainability	(Chair: Masaki Kitagawa)	Dr. David L. Greene, ORNL Dr. Ichiro Daigo, Univ. of Tokyo

1100 Break

1130 Plans and Venue for next WMRIF and associated Workshop Professor Kishi

1150 Adjourn Professor Kishi

1200 Lunch

1330 NIST Tours: Center for Nanoscale Science and Technology  
NIST Center for Neutron Research  
NIST Museum

1500 Individual Working Group Meetings (as needed)

1600 Transportation to hotel and airports (Individuals to make their own arrangements)