

# MEDSI 2006 Workshop Program

May 23-26, 2006  
Egret Himeji  
I-messae Hall (3F)

## May 23 (Tue)

16:00-        **Registration**  
18:00-        **Welcome Party**

## May 24 (Wed)

9:00-        **Registration**  
9:10-9:20    **Opening Address**  
              T. Ishikawa (SPring-8/RIKEN)

9:20-10:20    **Tutorial**  
              (Chair: TBD)

9:20-10:20    Basics of Vacuum Applications for Accelerator and Synchrotron Radiation  
              Engineering  
              Emil Trakhtenberg (ANL)

10:20-10:50   **Coffee Break**

10:50-12:30   **Session 1: Novel Design and Components for Accelerator and Beamline**  
              (Chair: TBD)

10:50-11:10   Mechanical Design Considerations for Taiwan Photon Source  
              June-Rong Chen (NSRRC)

11:10-11:30   Sustainable Engineering for NSLS II  
              Edwin Haas (NSLS)

11:30-11:50   Mechanical Analysis for Engineering designs in Diamond Light Source  
              Project  
              Hou Huang (Diamond)

11:50-12:10   Performance of the Australian Synchrotron Storage Ring Alignment System  
              Jonathan McKinlay (Australian Synchrotron)

12:10-12:30   Design Consideration for Mechanically Stable Support, and Concrete Floor  
              Grinding Machine "Yuka-to-Kensaku"  
              Tsumoru Shintake (SPring-8/RIKEN)

12:30-14:00   **Lunch**

- 14:00-15:30 **Poster Session (B1F)**
- 15:30-17:10 **Session 2: High Heat-Load Analysis and Components**  
(Chair: TBD)
- 15:30-15:50 A Case Study of a High Heat Load Equipment at Australian Synchrotron  
Hengzi Wang (Australian Synchrotron)
- 15:50-16:10 Reconsideration of Design Criteria for High-Heat-Load Components  
Sunao Takahashi (SPring-8/JASRI)
- 16:10-16:30 Thermal Fatigue Life Prediction of Glidcop Al-15 Using Nonlinear FEA  
Sushil Sharma (APS)
- 16:30-16:50 Thermal Fatigue Test of Glidcop with Undulators Power  
Lin Zhang (ESRF)
- 16:50-17:10 Diamonds for 3rd and 4th Generation X-ray Sources  
Pierre Van Vaerenbergh (ESRF)

**May 25 (Thu)**

- 9:00-10:00 **Session 3: High Precision Positioning Mechanics**  
(Chair: TBD)
- 9:00-9:20 Towards a 10 nm Run-Out Rotation Axis  
Fabio Comin (ESRF)
- 9:20-9:40 The Analysis of Parasitic Movements on a High Precision Rotation Table  
David Martin (ESRF)
- 9:40-10:00 High Precision Positioning Mechanisms for a Hard X-ray Nanoprobe  
Instrument  
Deming Shu (APS)
- 10:00-10:30 **Coffee Break**
- 10:30-11:50 **Session 4: Optical Devices**  
(Chair: TBD)
- 10:30-10:50 Mechanical Design of an Ultra-High-Vacuum Compatible Compact Hard  
X-ray Monochromator with Artificial Channel-Cut Crystal Mechanism  
Deming Shu (APS)
- 10:50-11:10 ESRF KB Focusing Mirrors – Present and Future  
Yves Dabin (ESRF)
- 11:10-11:30 Development of K-B Mirror Manipulator for Hard X-ray Sub-50nm  
Focusing  
Satoshi Matsuyama (Osaka Univ.)
- 11:30-11:50 Fabrication and Performance of a Lithium Compound Refractive X-Ray

Lenses  
Ali Khounsary (APS)

11:50-13:30 **Lunch**

13:30-15:30 **Poster Session (B1F)**

15:30-16:50 **Session 5: Beam Stability and Vibration Control**  
(Chair: TBD)

15:30-15:50 Online Correlation of Data Quality and Beamline/Beam Instabilities  
Trevor Mairs (ESRF)

15:50-16:10 Site Geotechnical and Vibrational Characterization for the Design of the  
Foundations of the ALBA Project  
Lluís Miralles (CELLS-ALBA)

16:10-16:30 Vibration Characteristic of Stable Support Stand Using Cordierite Ceramic  
Yuji Otake (SPring-8/RIKEN)

16:30-16:50 Engineering strategy for the Nanofocusing End-Stations at the ESRF  
Yves Dabin (ESRF)

**May 26 (Fri)**

9:00-10:20 **Session 6: Sample and Environment Control**  
(Chair: TBD)

9:00-9:20 Developments for Automatic Sample Changing at the EMBL Hamburg  
Structural Biology Beamlines  
Stefan Fiedler (EMBL)

9:20-9:40 How to Make a Pulsed Magnet Fail  
Peter van der Linden (ESRF)

9:40-10:00 Long-Term High-Velocity Erosion of Glidcop in DI Water  
Sushil Sharma (APS)

10:00-10:20 Numerical Simulation and Design of the Air Conditioning System for the  
3GeV TPS Electron Storage Ring  
Jui-Chi Chang (NSRRC)

10:20-10:50 **Coffee Break**

10:50-11:20 **Closing Remarks**

Discussion on the MEDSI workshop  
Presentation by Next Host  
Photograph

**Site Tour to SPring-8**

13:00-14:00    **Lunch at SPring-8 Cafeteria**

14:00-16:30    **SPring-8 Site Tour**

SPring-8

NewSUBARU

SCSS 250-MeV Test Facility

18:00-19:30    **Banquet**

**Adjourn**