

## The Role of the AOFSRR

(Asia-Oceania Forum for SR Research)

and the Cheiron School

for Regional Network

Masaki Takata
(RIKEN/JASRI/SPring-8)

#### Aim of the AOFSRR



#### (history)

Asian Forum aimed at the information exchange among the SR facilities in Asia.

1<sup>st</sup>: Kobe (Japan) 1994 JSSRR

2<sup>nd</sup>: Pohan (Korea) 1995 PAL

3<sup>rd</sup>: SPring-8 (Japan) 1997 JSSRR

4<sup>th</sup>: Hiroshima (Japan) 2001 JSSRR

5<sup>th</sup>: Saga (Japan) 2004 JSSRR

#### (current status)

Existing facilities have been largely developed to produce exciting results . New 3rd generation facilities are now constructing.

#### (establishment of new organization)

the Asia/Oceania Forum for Synchrotron Radiation Research

- (a) Based on established organization,
- (b) From facility base to science base,
- (c) Periodical and scheduled meeting,
- (d) From Asia to Asia/Oceania,
- (e) Communication with other world wide or regional organizations.



### **Organization Structure**

The Australian Synchrotron Research Program (Australia)

The Chinese Society of Synchrotron Radiation Research (China)

The Indus (India)

The Japanese Society of Synchrotron Radiation Research (Japan)

The National Synchrotron Research Center (Thailand)

The National Synchrotron Radiation Research Center (Taiwan)

The Pohang Light Source (Korea)

The Singapore Synchrotron Light Source (Singapore)

#### **Executive Committee**

Richard F. Garrett (ASRP)

In Soo Ko (PLS)

Keng S. Liang (NSRRC)

Herbert O. Moser (SSLS)

Rajendra. V. Nandedkar (INDUS)

Weerapong Pairsuwan (NSRC)

Osamu Shimomura (JSSRR)

Hongjie Xu (CSSR)



#### **Executive Committee**

President: Yoshiyuki Amemiya (Japan)

Vice President: Keng Liang (Taiwan)

Treasurer: Richard Garrett (Australia)

Past President: Osamu Shimomura (Japan)

Members:

Moonhor Ree (Korea)

Herbert Moser (Singapore)

V.C.Sahni (India)

Weerapong Pairsuwan (Thailand)

Hongjie Xu (China)

Secretary: Masaki Takata (Japan)

Secretariat: JSSRR

### **MOU** for the AOFSRR



#### **ARTICLE 1**

AOFSRR aims at the advancement of the science and technology of synchrotron radiation research in the Asian and Oceania region.

#### **ARTICLE 2**

AOFSRR shall undertake the following activities in order to promote the exchange of scientific and technological information;

- 1. To hold scientific meetings.
- 2. To keep in scientific contact and exchange facility information among parties, and cooperate with related organizations.
- 3. To provide a framework for cooperative activities such as staff exchanges, user access to other synchrotron facilities, and scientific and technical collaborations.
- 4. To do other works, to activate the AOFSRR.

#### **ARTICLE 3**

This Memorandum of Understanding will come into effect on mm, dd, 2005 and will be valid for a period of five years. Renewal of this Memorandum of Understanding will be subject to discussion among the parties at least six months prior to the expiration of the period of validity. If any party wishes to make an amendment to this Memorandum of Understanding, the subject may be discussed by the parties and may be made valid through mutual consent by the parties.

Richard F. Garrett Director, Australia Synchrotron Research Program

Date: November 23, 2007.

Rajendra V. Nandedkar Director, INDUS

Date: November 23, 2007 ..

Weerapong Pairswan Director, National Synchrotron Resarch Center

Date: November 23, 2007.

In Soo Ko Director, Pohan Light Source

Date: November 23, 2007 ..



Hongjie Xu
President,
Chinese Society of Synchrotron Radiation

Date: November 23, 2007.

Osamu Shimomura President, Japanese Society of Synchrotron Radiation Research

Date: November 23, 2007.

Keng S. Liang Director, National Synchrotron Radiation Research Center

Date: November 23, 2007 ..

Herbert O. Moser Director, Singapore Synchrotron Light Source

Date: November 23, 2007 ...

# CONSTITUTION of the ASIA-OCEANIA FORUM Synchrotron Radiation for SYNCHROTRON RADIATION RESEARCH

#### 1. Name

The Asia-Oceania Forum for Synchrotron Radiation Research is hereafter referred to as "the AOFSRR".

#### 2. Objectives

- (a) The objective of the AOFSRR is to strengthen regional collaboration in, and to promote the advancement of, synchrotron radiation research and related subjects in Asia and Oceania.
- (b) To achieve the objective stated above, the AOFSRR shall, except in exceptional circumstances, hold a conference every year. The AOFSRR will also actively encourage any other activities that will promote synchrotron radiation research and allied subjects in the region.

#### 3. Membership

Membership shall be open to those countries and regions (which are hereafter referred to as "regions") within the Asian-Oceanian region bounded by Australia, China, India, Japan, Korea, Singapore, Taiwan and Thailand and such other neighbouring regions as may be, from time to time, admitted by the Council.



#### 4. Council and Executive

- (a) The AOFSRR shall be administered by a Council consisting of one Councilor from each member region. The former chair is an ex-officio member.
- (b) The Council shall elect a president, vice president and treasurer from its members. These three elected members constitute the Executive Committee. The president shall appoint a secretary who shall be an exofficio member of the Council.
- (c) Executive members shall hold office for one two-year term, after which elections shall be held. No member of the Executive shall serve more than three terms. The President shall serve for one two-year term and shall not be eligible for re-election as President.
- (d) The Council and Executive shall meet at least once in every year. A quorum for meetings of the Council shall consist of not less than one half of the current membership eligible to vote. All members of the Executive must be present at a meeting of the Executive Committee.
- (e) If the Councillor for a particular region is unable to attend a meeting of the Council, an alternate may be appointed.

#### 5. Finances

Expenditure of AOFSRR funds is managed by the treasurer under the direction of the Council.

#### 6. Changes to the constitution

Proposals for changes to the constitution shall be communicated in writing to the President at least six months prior to a Council meeting. A change to the constitution shall require a two thirds majority vote of all those eligible to vote at Council meetings. Voting may be recorded by mail or proxy.

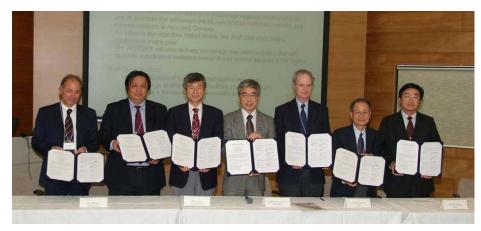
## 1st WS of AOFSRR

November 23,24, 2007





Participants 127 114 general 13 student **Nationality** Australia 10 China 14 73 Japan Korea 16 Singapore Taiwan 11 Thailand



Sign and Seal MOU

- √ Facility Reports & Scientific Results
- √ Future Plans
- √ Memorandum of Understanding
- √ Constitution of AOFSRR
  - 2nd AOF Workshop:

Hsinchu, Taiwan, November 2-3, 2007



## 2nd Work Shop of the Asian-Oceania Forum for Synchrotron Radiation Research

Place: National Chiao Tung University Library, Hsinchu, Taiwan,

Date : November 1-2, 2007

Participants: 350

Chair: Keng Liang (Vice President of AOFSRR)











3<sup>rd</sup> Workshop Will be held at Australia Melbourne December 1-5 2008

# Asia/Oceania Forum for Synchrotron Radiation Research

The international summer school is one of the important step to develop the engineers and scientists resource for Synchrotron radiation research in Asia Oceania region.

- To achieve the objective stated above, the AOFSRR shall hold a conference every year.
- The AOFSRR will also actively encourage any other activities that will promote synchrotron radiation research and related subjects in the region.

#### **Specific Activities:**

- (1) Organization of scientific collaboration meetings,
- (2) Exchange of information of facilities and user groups,
- (3) Provide a framework for cooperative activities,

#### TOMORROW'S USERS

THE 2006 APS XAFS SUMMER SCHOOL

- Orga
- Pron
- Assis
- Shot
- Repr Euro
- Push

ixty graduate students from U.S. universities majoring in physics, chemistry, earth sciences, materials science, and related fields spent two weeks, from August 13 to the 27, 2006, at the eighth edition of the National School for Neutron and X-ray Scattering at Argonne. The 60, who were selected to participate in an intensive general background course in neutron and x-ray techniques, were given lectures by top senior scientists from academia, industry, and national laboratories, including basic tutorials on the principles of scattering theory and the characteristics of neutron and



The National School for Neutron and X-ray Scattering, class of 2006.

#### HERCULES

Higher European Research Course for Users of Large Experimental Systems

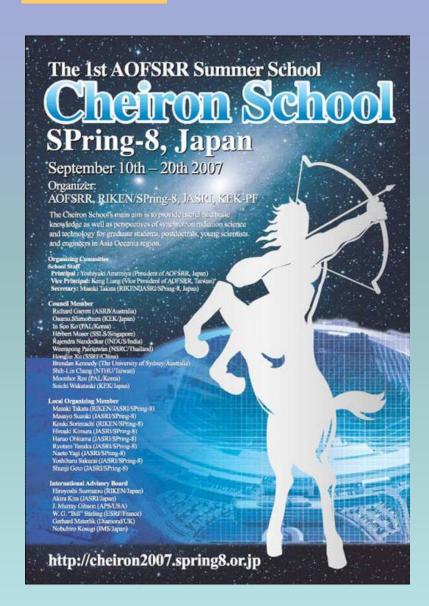


European course aims to train young scientists in the use of large instruments by providing a general overview of the techniques and scientific possibilities associated with neutrons and synchrotron radiation to investigate condensed matter or biomedical topics.

on



#### 1<sup>st</sup> AOFSRR Summer School Cheiron School 2007



Organizer: AOFSRR, RIKEN/SPring-8, JASRI, KEK-PF

Aim:

To provide useful and basic knowledge as well as perspectives of synchrotron radiation science and technology for graduate students, postdoctrals, young scientists and engineers in Asia Oceania region.

**Period:** September  $10^{th} - 20^{th}$  2007

Site: SPring-8, Japan

Organizing Committee

School Staff

*Principal*: Yoshiyuki Amemiya (President of AOFSRR, Japan) *Vice Principal*: Keng Liang (Vice President of AOFSRR, Taiwan)

Secretary: Masaki Takata(RIKEN/JASRI/SPring-8, Japan)

#### **Council Member**

Richard Garrett (Australia)

Osamu Shimomura (Japan)

In Soo Ko (Korea)

Herbert Moser (Singapore)

Rajendra Nandedkar (India)

Weerapong Pairswan (Thailand)

Hingjie Xu (China)

Brendan Kennedy(Australia)

Shih-Lin Chang(Taiwan)

M. Ree (Korea)

Sou-ichi Wakatsuki(Japan)



#### 1<sup>st</sup> AOFSRR Summer School Cheiron School 2007

#### Why the "Cheiron School"?

The most importance is that

This summer school should be useful and practical for the Asian Oceania SR facilities.

Thus, the school curriculum includes "meet the experts" and "BL practice", where the students can consult experts for their own problems in SR science.

**Cheiron** is one of the immortal gods and provided the right knowledge and skill for the right person. For instance,

Cheiron taught martial art to <u>Hercules</u>, art of medicine to Aesculapius, equestrian art to Castor, and etc.

The policy of the summer school fits to Cheiron's achievements.

#### Local Organizing Member

Masaki Takata (RIKEN/SPring-8)

Masayo Suzuki (JASRI/SPring-8)

Kouki Sorimachi (RIKEN/SPring-8)

Hiroaki Kimura (JASRI/SPring-8)

Haruo Ohkuma (JASRI/SPring-8)

Ryotaro Tanaka (JASRI/SPring-8)

Naoto Yagi (JASRI/SPring-8)

Yoshiharu Sakurai (JASRI/SPring-8)

Shunji Goto (JASRI/SPring-8)

#### **International Advisory Board**

Hiroyoshi Suematsu (RIKEN/Japan)

Akira Kira (JASRI/Japan)

J. Murray Gibson (APS/USA)

W. G. "Bill" Stirling (ESRF/France)

Gerhard Materlik (Diamond/UK)

Nobuhiro Kosugi (IMS/Japan)

#### Secretary

Kouki Sorimachi(RIKEN)

Aya Inobe(JASRI)



## Curriculum

| 119                        |  |                            |  |                            |  |                            |   | Ch                         | eiron Schoo   | 1 200′ | 7 by AOFSI    | RR at                      | SPring-8  |                            |  |                           |               |                       |                       |                            |   |
|----------------------------|--|----------------------------|--|----------------------------|--|----------------------------|---|----------------------------|---|--------|---------------|----------------------------|---|----------------------------|--|---------------------------|---------------|-----------------------|-----------------------|----------------------------|---|
| Time                       | Sep.10<br>Mon  | Time                       | Sep.11<br>Tue                                    | Time                       | Sep.12<br>Wed  | Time                       | Sep.13<br>Thu   | Time                       | Sep.14<br>Fri   | Time   | Sep.15<br>Sat | Time                       | Sep.16<br>Sun   | Time                       | Sep.17<br>Mon  | Time                      | Sep.18<br>Tue | Time                  | Sep. 19<br>Wed.       | Time                       | Sep. 20<br>Thu.   |
| 9:30<br> <br>  10:20       | Registration<br>Open   | 9:00<br> <br> <br>  10:20  | X-ray<br>monochromator<br>S. Goto<br>(JASRI)     |                            |  | 9:00<br> <br> <br> 10:20   | Accelerator<br>Physics (Linac)<br>Y. Ogawa<br>(KEK)   | 9:00<br> <br> <br>  10:20  | Inelastic X-ray<br>Scattering<br>E. Alp<br>(APS)  |        |               | 9:00<br> <br> <br> 10:20   | Detector<br>Ch. Hall<br>(Monash Univ.)  | 9:00<br> <br> <br>  10:20  | EXAFS I. Watanabe (SR Center, Ritsumetkan Univ.)               |                           |               |                       |                       | 9:00<br> <br> <br> 10:20   | High pressure/<br>High temperature<br>O. Shimomura<br>(KEK)/<br>Infrared<br>M. Tobin<br>(Australian |
| 10:20<br> <br> <br>  10:40 | Opening<br>Remarks   | 10:20<br> <br> <br>  10:40 | Coffice  | 9:00                       | Excursion<br>Himeji                                  | 10:20<br> <br>  10:40      | Coffice   | 10:20<br> <br> <br>  10:40 | Coffee  |        |               | 10:20<br> <br> <br>10:40   | Coffee  | 10:20<br> <br> <br>  10:40 | Coffee   |                           |               |                       |                       | 10:20<br> <br> <br>  10:40 | Synchrotron )  Coffee   |
| 10:40<br> <br> <br>  12:00 | Overview of SR<br>R Lamb<br>(The University of<br>Melbourne) | 10:40<br> <br>  12:00      | Mirror and<br>multilayer<br>Ch. Morawe<br>(ESRF) | 13:00                      |  | 10:40<br> <br> <br> 12:00  | Accelerator<br>Physics (Ring)<br>G. LeBlanc<br>(Australian<br>Synchrotron)  | 10-40<br> <br>  12-00      | Protein<br>crystallography<br>S. Wakateuki<br>(KEE)<br>Photoemission!<br>N. Kosugi<br>(UVSOR) | 8:00   | Excursion     | 10:40<br> <br> <br>  12:00 | Soft X-ray<br>Absorption<br>Spectroscopy and<br>Resonant<br>Scattering<br>Di-Jing Huang<br>(NSRRC)                | 10:40<br> <br> <br> 12:00  | Pump-Probe<br>experiment<br>S. Adachi<br>(KEK)                 |                           |               |                       |                       | 10:40<br> <br> <br>  12:00 | New scientific<br>possibilities and<br>directions<br>T. Ishikawa<br>(RIKEN)                         |
| 12:00<br> <br>  13:00      | Lunch  | 12:00<br> <br> <br>  13:00 | Lunch  |                            | Lunch  | 12:00<br> <br> <br>  13:00 | Lunch   | 12:00<br> <br> <br>  13:00 | Lunch   | 21:30  | Kyoto         | 12:00<br> <br> <br>  13:00 | Lunch   | 12:00<br> <br> <br>  13:00 | Lunch  |                           |               |                       |                       | 12:00<br> <br> <br>  12:20 | Closing Remarks   |
| 13:00<br> <br> <br>  14:20 | Light Source 1<br>T. Tanaka<br>(RIKEN)                       | 13:00<br> <br>  14:20      | "Meet the experts"                               | 13:10<br> <br> <br>  14:30 | Next generation<br>sources<br>T. Shintake<br>(RIKEN) | 13:00<br> <br> <br>  14:20 | Diffraction and<br>Scattering<br>B. Kennedy<br>(Univ. of Sydney)  | 13:00<br> <br> <br>  14:20 | "Meet the experts"  |        |               | 13:00<br> <br> <br>  14:20 | Imaging<br>Ch. Hall<br>(Monash Univ.)   | 13:00<br> <br>  14:20      | Industrial<br>applications<br>N. Umesaki<br>(JASRI)            | 9:00<br> <br> <br>  17:30 | BL Practice1  | 9:00<br> <br>  17:30  | Bl. Practice2         | 12:20<br> <br> <br>  14:00 | Lunch   |
| 14:20<br> <br>  14:40      | Coffee   | 14:20<br> <br>14:40        | Coffee   |                            |  | 14:20<br> <br> <br>  14:40 | Coffee  | 14:20<br> <br> <br>  14:40 | Coffee  |        |               | 14:20<br> <br> <br>  14:40 | Coffee  | 14:20<br> <br> <br>  14:40 | Coffee   |                           |               |                       |                       |                            | \   |
| 14:40<br> <br>16:00        | Light Source 2<br>T. Tanaka<br>(RIKEN)                       | 14:40<br> <br> <br>16:00   | Micro-focusing<br>optics<br>B. Lai<br>(APS)      |                            |  | 14:40<br> <br>16:00        | Powder diffraction<br>B. Kennedy<br>(Univ. of Sydney)/<br>Photoemission2<br>B. Cowie<br>(Australian<br>Synchrotron) | 14:40<br> <br>16:00        | VUV & SX optics<br>1<br>T. Namioka<br>(Tohoku Univ.)  |        |               | 14:40<br> <br> <br>16:00   | Small-angle<br>Scattering<br>M. Ree<br>(PAL/Postech)/<br>Atomic and<br>Molecular Physics<br>A. Yagishita<br>(KEK) | 14:40<br> <br> <br> 16:00  | X-ray Fluorescence Analysis A. Iida (KEK)/ LIGA L. Jian (SSLS) |                           |               |                       |                       |                            |   |
| 16:00<br> <br>16:20        | Coffee   | 16:00<br> <br>16:20        | Coffee   |                            |  | 16:00<br> <br>16:20        | Coffee  | 16:00<br> <br> <br>  16:20 | Coffee  |        |               |                            |   |                            |  |                           |               |                       |                       |                            | V   |
| 16:20<br> <br>  17:40      | History of SR<br>T. Sasaki<br>(Hyogo<br>Prefecture)          | 16:20<br> <br> <br>  17:20 | Safety<br>Education                              | 14:30<br> <br>  20:30      | Excursion<br>Himeji                                  | 16:20<br> <br> <br>  17:20 | Spectra<br>T. Tanaka<br>(RIKEN)   | 16:20<br> <br>  17:20      | VUV & SX optics<br>2<br>T. Namioka<br>(Tohoku Univ.)  |        |               |                            |   | 16:30<br> <br>17:30        | Site tour 3<br>(SCSS)  |                           |               |                       |                       |                            | $  \wedge  $  |
|                            |  | 17:30<br> <br>18:30        | Dinner   |                            |  | 17:30<br> <br> <br>  18:30 | Dinner  | 17:30<br> <br> <br>  19:30 | Dinner  |        |               | 17:30<br> <br>19:30        | Dinner  | 17:30<br> <br>19:30        | Dinner   |                           |               | l,                    |                       |                            | / \   |
| 18:00<br> <br>  19:30      | Welcome<br>Reception   | 18:30<br> <br>  20:00      | Site tour 1<br>(SPring-8)                        |                            |  | 18:30<br> <br>19:30        | Site tour 2<br>(New SUBARU)   |                            |   |        |               |                            |   |                            |  |                           |               | 18:00<br> <br>  19:30 | Farewell<br>Reception |                            |   |



## List of Subjects and Lecturers

| SUBJECT   | LECTURER                                |
|---|---|
| Overview of SR  | Robert N. Lamb (Australian Synchrotron) |
| Light Source 1&2  | Takashi Tanaka (RIKEN)                  |
| History of SR   | Taizo Sasaki (Japan)                    |
| X-ray Monochromator   | Shunji Goto (JASRI)                     |
| Mirror and Multilayer   | Christian Morawe (ESRF)                 |
| Micro-focusing Optics   | Barry Lai (APS)                         |
| Next Generation Sources                                       | Tsumoru Shintake (RIKEN)                |
| Accelerator Physics (Linac)                                   | Yujiro Ogawa (KEK)                      |
| Accelerator Physics (Ring)                                    | Greg LeBlanc (Australia)                |
| Diffraction and Scattering                                    | Brendan Kennedy (Univ. of Sydney)       |
| Powder Diffraction  | Brendan Kennedy (Univ. of Sydney)       |
| Photoemission(2): PEEM and nanoscience                        | Bruce Cowie (Australian Synchrotron)    |
| Spectra -a Synchrotron Radiation Calculation Code-            | Takashi Tanaka (RIKEN)                  |
| Inelastic X-ray Scattering                                    | Ercan Alp (APS)                         |
| Protein crystallography                                       | Soichi Wakatsuki (KEK)                  |
| Photoemission(1): Spectroscopy                                | Nobuhiro Kosugi (UVSOR)                 |
| VUV & SX Optics 1-2   | Takeshi Namioka (Tohoku Univ.)          |
| Detector  | Chris Hall (Monash University)          |
| Soft X-ray Absorption Spectroscopy and Resonant<br>Scattering | Di-Jing Huang (NSRRC)                   |
| Imaging   | Chris Hall (Monash University)          |
| Small-angle Scattering  | Moonhor Ree (PAL)                       |
| Atomic and Molecular Physics                                  | Akira Yagishita (KEK)                   |
| EXAFS   | lwao Watanabe (Ritsumeikan Univ.)       |
| Pump-Probe Experiment   | Shin-ichi Adachi (KEK)                  |
| Industrial Applications                                       | Norimasa Umesaki (JASRI)                |
| X-ray Fluorescence Analysis                                   | Atsuo lida (KEK)                        |
| LIGA  | Linke Jian (SSLS)                       |
| High pressure/High temperature                                | Osamu Shimomura (KEK)                   |
| Infrared  | Mark Tobin (Australia)                  |
| New Scientific Possibilities and Directions                   | Tetsuya Ishikawa (RIKEN)                |

## Cheiron School 2008





Students



Coffee Break

Principal

Secretary



## **BL** Practices

| No. | BL Practice  | # of Participants |
|-----|--|-------------------|
| 1   | 1:BL01B1 : XAFS measurement of dilute samples or thin films  | 8                 |
| 2   | 2:BL02B1 : Polarization analysis   | 3                 |
| 3   | 3:BL02B2 : Practical Training for Powder Diffraction Experiment at BL02B2                                    | 8                 |
| 4   | 4:BL04B1 : In situ observation of high pressure phase change of simple material                              | 2                 |
| 5   | 5:BL04B2 : Disordered structure probed by high-energy x-ray diffraction technique                            | 8                 |
| 6   | 6:BL08W : Spin moment determination of ferro- or ferrimagnetic materials using magnetic Compton scattering   | 4                 |
| 7   | 7:BL13XU : Training for surface x-ray diffraction measurements   | 5                 |
| 8   | 8:BL14B2 : Building up an experimental station control software  | 4                 |
| 9   | 9:BL17SU : Application of LEEM/PEEM at soft x-ray beamline BL17SU  | 8                 |
| 10  | 10:BL19LXU : Pump and probe technique for picosecond time-resolved x-ray diffraction                         | 6                 |
| 11  | 11:BL25SU : Soft x-ray magnetic circular dichroism measurement and the related techniques                    | 5                 |
| 12  | 12:BL27SU : Soft x-ray photoemission and photoabsorption spectroscopy  | 2                 |
| 13  | 13:BL28B2 : White X-ray diffraction topography at BL28B2   | 1                 |
| 14  | 14:BL37XU : X-ray fluorescence analysis using microfocusing optics   | 2                 |
| 15  | 15:BL38B1 : Data Collection and S-SAD Phasing of Insulin Crystals  | 4                 |
| 16  | 16:BL38B2 : Beam Diagnostics of the SPring-8 Storage Ring  | 5                 |
| 17  | 17:BL39XU : Handling of X-ray polarization and application to X-ray magnetic circular dichroism spectroscopy | 2                 |
| 18  | 18:BL40XU : Instrumentation for small-angle scattering experiments   | 7                 |
| 19  | 19:BL43IR : Microspectroscopy using infrared synchrotron radiation   | 3                 |
| 20  | 20:BL47XU : Instrumentation for micro-tomography experiments   | 4                 |
| 21  | 21:BL17SU : Evaluation of soft x-ray beamline  | 5                 |



## Cheiron School 2008

Beam Line Practice





## List of "Meet the Expert"

| Classes for the Meet the Experts                                     | # of Participants |
|--|-------------------|
| 1st DAY (September 11th)   |                   |
| Coherent diffractive imaging   | 3                 |
| Design of x-ray BL optics  | 10                |
| Detector   | 2                 |
| Fluorescence analysis and imaging                                    | 7                 |
| Single-crystal X-ray Diffraction                                     | 10                |
| SR-based Nanoscience   | 8                 |
| SX-MCD(Polarization measurement in soft X-ray)                       | 3                 |
| Time-resolved Techniques   | 5                 |
| 2nd DAY (September 14th)   |                   |
| Beam Diagnostics   | 2                 |
| BL Control   | 4                 |
| Design of soft x-ray BL optics                                       | 4                 |
| High-pressure Techniques (Sample Environment)                        | 2                 |
| Inelastic X-ray Scattering   | 2                 |
| Medical imaging and therapy  | 3                 |
| non-crystalline x-ray diffraction                                    | 5                 |
| Powder X-ray Diffraction   | 7                 |
| Protein crystallography  | 5                 |
| Small-angle X-ray Scattering   | 4                 |
| Surface and Interface Diffraction                                    | 4                 |
| X-MCD(Phase-retarder for producing circularly polarized X-ray beams) | 3                 |
| X-ray Imaging  | 4                 |



## Cheiron School 2008 pleasant time













## In Kyoto







## Questionnaire Survey

- We Evaluate the 1st Cheiron school
- Reflect on designing of next Cheiron school



#### Cheiron School 2007 Survey Report

24 Respondents/48 Participants

|              | Supervisor A     | OF Council Memb     | er Poster         | SPring           | 8 HP Other      |       |
|--------------|------------------|---------------------|-------------------|------------------|-----------------|-------|
|              | 19               | 4                   | 0                 | 0                | 1               |       |
|              | If other:        | From Head of Be     | amline Divisio    | n                | _               |       |
| 2. Which is  | s the most appro | opriate schedule fo | or opening the    | Cheiron S        | chool?          |       |
| Early August | Late August      | Early<br>September  | Late<br>September | Early<br>October | Late<br>October | Other |
| 5            | 2                | 10                  | 3                 | 3                | 1               | 0     |
| ♦ 3. What do | you think abou   | it the 11 days / 10 | nights school     | schedule?        |                 |       |
|              | Perfe            | ct About rig        | tht Too s         | hort             | Too long        |       |
|              | 7                | 11                  | 4                 |                  | 2               |       |

- 4. Please rank the TOP 3 Best lecturers from the Lecturers List.
- Next Generation Sources/Tsumoru Shintake (RIKEN)
- The most passionate lecturer and I think the source is the most important.
- More interesting to develop new light source.
- · Impressive lecture about the future generation of x-ray sources.
- · Passionate about science, inspiring and motivating.
- Excited about his work with the FEL, a very engaging speaker who also made his audience feel excited about future directions of synchrotron research.
- Light Source 1-2/Takashi Tanaka (RIKEN)
- · Topic was good, and preparation of lecture seems to be excellent.
- Very nice lectures for understanding the characteristics of 3rd generation synchrotron radiation.
- EXAFS/Iwao Watanabe (Ritsumeikan Univ.)
- · Unfamiliar subject, but easy to understand.
- · This lecture include large research field and have more application.
- Diffraction and Scattering/Brendan Kennedy (Univ. of Sydney)
- · Good lecture notes and detailed analytical treatment of subject.
- · My research field is X-ray multiple diffraction. So it's familiar with me.
- · Teach with energy; stimulate thinking, expressive, lively, clear lectures.
- · He made materials accessible for all the students with different backgrounds.



- Very clear lecture notes and easy to understand explanations during his talk. He was able to make all the
  content easily understood by those in other fields and interesting to those in his own field.
- New Scientific Possibilities and Directions/Tetsuya Ishikawa (RIKEN)
- · An innovative way of presenting lecture.
- · A wonderful and interesting lecture which inspires our enthusiasm to sciences.
- Infrared/Mark Tobin (Australian Synchrotron)
- I went to this talk knowing little about the subject and left the talk with a design for an experiment for my project.
- Small-angle Scattering/Moonhor Ree (PAL)
- · My favorite theme, and various experimental results of leading group.
- This is one of the most widely used techniques using synchrotron source. The lecture was so nice and we
  could understand it in very lucid manner.
- Overview of SR/Robert Norman Lamb (Univ. of Melbourne)
- · I think it is possible to see all of the SR, and the lecture is so interesting.
- The way he presented was quite easy to understand. In addition, it was very nice that he encouraged us to
  participate in the lecture.
- Pump-Probe Experiment/Shin-ichi Adachi (KEK)
- · I am interested in this topic. Because I want to combine this technique with my research.
- · This lecture provided me a new perspective insight the world.
- · It's interesting and my BL practice is like this topic!
- Soft X-ray Absorption Spectroscopy and Resonant Scattering/Di-Jing Huang (NSRRC)
- · Two kind of the research field maybe need two lectures.
- · Clear, explained the fundamentals well.
- LIGA/Linke Jian (SSLS)
- · Prof. Jian's lecture is very clarity, and matched with an logical presentation.
- X-ray Monochromator/Shunji Goto (JASRI)
- Really interesting lecture to discover the hidden side of beamline and to understand the basic operation
  of a beamline.
- Imaging/Chris Hall (Monash University)
- It was very interesting to see a different use of synchrotron source other than crystallography.
- Inelastic X-ray Scattering/Ercan Alp (APS)
- · The contents were very appropriate to my interests.
- Although Inelastic Scattering is very wide topic, Dr. Alp presented the lecture in a nice way to cover lot
  many things. He started the lecture from the very fundamentals and gave a deep insight.
- Even through he had too many slides to fit in the duration of a lecture, his presentation was well-organized.
- Very enthusiastic about his work and eager to share this with the students. Obviously has a wealth of
  experiences to share. He was also keen to talk to students afterwards about their own works.

- The experts were very well qualified and eager to share their knowledge with students. It was good being
  in a smaller group as this enabled more questions and closer discussion with the experts. It was also
  interesting to see the beamlines at which they work and to hear about work done in their field.
  - VUV & SX Optics 1-2/Takeshi Namioka (Tohoku Univ.)
  - This is what exactly relevant with my present work as I am involved in designing a soft X-ray beamline.
     I had read many papers of Prof. Namioka. Directly listening to his lecture was really great.

| Outstan           | ding Good        | Adequate          | Need improven  | nent Poor      |
|-------------------|------------------|-------------------|----------------|----------------|
| 9                 | 12               | 2                 | 1              | 0              |
| 6. How was your u | nderstanding tl  | nrough the whole  | lectures?      |                |
| Very              | easy Ea          | sy About r        | ight Difficult | Very difficult |
| 1                 | 1 2              | 15                | 2              | 2              |
| 7. How would you  | rate your satisf | action with the w | hole lectures? |                |
| Exce              | ellent Very      | good Good         | d Fair         | Poor           |
|                   | 9 9              | 6                 | 1              | 0              |

#### ♦ 8. Please share any additional comments regarding the lectures or the curriculum.

- · It was very good, but some lectures seem to be a little bit lack of preparation.
- I like the way that lectures were well planned. A gap after two days of lectures was a very good idea.
   Also visit to various facilities very well organized.
- For several lectures we were taught content which had been covered in an earlier lecture. For the basic
  concepts this is fine, as it is quick and important, but for the complicated material time was wasted in the
  repeat explanation and meant that different material was not covered.
- The lectures are very good, but some of lecturers may need more communication with students.
- I think the time of each class is a little long. Maybe 50 minutes is better for me. Because I can't focus on the topic whole all time.
- · All lectures was excellent. Please increase the no. of days to avoid parallel session.
- · The lecture time maybe decrease to 60 min is better.
- Some of the lectures are very absorbing and led you to a completely new and novel world, and what you
  need to do is just open your mind to accept them.
- Lectures were really interesting and cover a large field of research which give a good idea of what can be achieved using synchrotron radiation.
- The curriculum was very nice for the learning about the various approaches to each science with synchrotron radiations.
- · In my opinion the curriculum was very well planed, but the lectures were a bit heavy (too much

giving the overview of various optical elements for synchrotron beamlines.

- There should be one more lecture for Soft X-ray monochromators. Namioka's lecture gives very fundamentals in Ray tracing point of view. So some advanced detailed lecture for soft XD-ray monochromators is necessary.
- · Everything is good, but I prefer if you added more course e.g. some application.
- One should consider to split the lectures into two session: i) for "machine people" (accelerator physics, light source,...) and ii) users (diffraction, scattering,...). This would provide the possibility to deepen the corresponding lectures and/or give additional time for more beamline practice.
- · The environment is comfortable for me. But I think sometimes the lectures of one day are too much
- · Very good topics and lecturers. The number of topics is appropriate.
- I wonder if it is necessary to have a lecture on 'SPECTRA'. And may be it is better to make lectures on some specific characterizing a choice for students, but with general ones made compulsory.
- Some lectures are too difficult to understand for such a diverse audience with different backgrounds. I
  believe the general understanding of each field should be emphasized over the understanding of details
  in the lectures presented for every participant.
- The lectures were well designed as a sequence, covering both the machine side and applications of synchrotron light. The lectures were all very qualified and could answer any question about any detail of their topics. It was difficult to choose only three as the best lecturers!

| ♦ 9. How w  | ould you rate the | competence      | of your Expe | rts?             |      |  |
|-------------|-------------------|-----------------|--------------|------------------|------|--|
|             | Outstanding       | Good            | Adequate     | Need improvement | Poor |  |
|             | 11                | 7               | 6            | 0                | 0    |  |
| ♦ 10. How v | vould you rate y  | our satisfactio | on with your | Experts?         |      |  |
|             | Excellent         | Very good       | Good         | Fair             | Poor |  |
|             | 10                | 6               | 8            | 0                | 0    |  |

#### ♦ 11. Please share any additional comments regarding the Meet the Experts.

- It was good, but I think that preparation at beamline was not adequate. Maybe it needs to be more systemized.
- I would like to say that a little more time should be provided in this section. May be every alternative
  day one meet the expert session in evening.
- · Please increase the time for meet the expert's full day.
- I got the deep impression of the imaging facility through visiting to the hutch and being instructed by the
  expert.
- · The meeting session with the experts helped to understand the details about beamline specification and

- I believe this type of practice is most is most helpful for our understanding. I hope we had more time for BL practice.
- The beamline practical was a good chance to pick up new skills and to increase my confidence in planning my own experiments. I appreciated the opportunity to help with setting up equipment as is usually only done by a beamline scientist. It was also a rare opportunity to gain exposure to different beamlines and experiments to those which I would normally be involved in. This was a valuable opportunity to talk with other students who had chosen the same BL practice, hence were in similar fields to my own.

| Outstanding           | Good             | Adequate        | Need improvement | nt Poor        |
|-----------------------|------------------|-----------------|------------------|----------------|
| 17                    | 6                | 1               | 0                | 0              |
| 13. How was your unde | erstanding rega  | rding the BL p  | ractical?        |                |
| Very easy             | 1                | About rigi      | ht               | Very difficult |
| 5                     | 9                | 8               | 2                | 0              |
| 14. How would you rat | e your satisfact | ion with the BI | L practical?     |                |
| Excellen              | t Very good      | d Good          | Fair             | Poor           |
| 16                    | 3                | 5               | 0                | 0              |

#### ♦ 15. Please share any additional comments regarding the BL practical.

- Maybe there were some people who cannot get chance to do BL practice at desired BLs.
- Instead of two full days for two experiments, one full day for one experiment(candidates field of research) plus two half day experiments will be good idea. This way candidate have more exposure to various techniques.
- I think the BL practical is the most beneficial for me among various classes. Also, the future user can do
  training enough.
- I have selected "Pump and probe technique for picosecond time-resolved x-ray diffraction". This
  experiment make my though more clear to design a dynamic reaction experiment, that is what I want to
  do in the future.
- · BL practical was excellent and well organized.
- I had learned the experiment in the beam-line with the instruction of the experts working at the beam-line.
- I think those beamline practice are a really good idea and give the opportunity to actually see in real
  condition all the things learned during the lectures.

• The beamline practical was a good chance to pick up new skills and to increase my confidence in planning my own experiments. I appreciated the opportunity to help with setting up equipment as is usually only done by a beamline scientist. It was also a rare opportunity to gain exposure to different beamlines and experiments to those which I would normally be involved in. This was a valuable opportunity to talk with other students who had chosen the same BL practice, hence were in similar fields to my own.

#### ♦ 16. Please share any comments regarding the site tour. (SPring-8/SCSS/New SUBARU)

- It was good, but I think that more time should be spent with site tour in order to get more understanding about that.
- The site tour was well planned and executed. I think i don't need to say about site they all are world class facilities.
- I am curious at the SCSS. but I am still not sure how does it work!
- Site tour to SPring-8/SCSS/New SUBARU was excellent and well organized. Please organize a tour for storage ring of SPring-8, booster, Linac also.
- The Spring8 is too large, maybe need more time to know. Such as protein beamline group, scattering beamline group and absorption beamline group will be better.
- · Very novel and interesting tours, and I could get a knowledge of the development of the SPring-8.
- · Very educational and interesting for people who discover synchrotron facilities.
- · The site tours were good chances for notifying the present and future works using synchrotron radiation.
- SPring-8 and SCSS were both very interesting, but I didn't like the New SUBARU tour very much (I think I was a bit tired)
- I saw many instruments I don't understand before. Although I still confuse about these. But I feel
  eye-opening.
- · Very interested places and more advantages for sciences and industrials.
- · Site tours were quite nice. I liked to visit the XFEL prototype.
- The site tour was wonderful, particularly given that the synchrotron was in shut-down, enabling us to see into all the open hutches and learn about the different equipment inside. The tour guides were very



knowledgeable and able to tell us about each of the beamlines and the work usually done there. My colleagues back home were eager to hear about SUBARU and particularly SCSS. This rare opportunity was much appreciated.



SPring-8. I think it is good chance to consider the Japanese mind. Thank you so much.

- · I think the summer school is good. Schedule of classes is a little tight for me.
- This School is very informative, perfectly planed and well organized. Please increase the no. of days to
  avoid parallel session and meet the expert's full day.

#### ♦ 18. Please share any additional comments or suggestions regarding the Cheiron School.

Overall I would say that Cheiron School 2007 was very well planed and organized. Topic of lectures
were excellent with wide area of synchrotron radiation research covered. It will definitely provide good
exposure to new researcher in this area. Finally I would say that please keep doing this good work.
Thank You for your hospitality.

about the too short time left for the dinner during the excursion at Himeji and Kyoto.

- Both excursions were very impressive because the sites showed the traditions of Japanese cultures.
- · Both very nice. It was great to have a break after two days of lectures.
- We enjoyed it so much and is a memorable event.
- You are so attentive to take care us. I feel comfortable. And I like free time to shopping and eating, I
  also like the place we visited. Thank you!
- · Very beautiful historic places.
- · That was really fun, but I thought it was too intense. Especially, in Kyoto, we could go to fewer places.
- I was quite excited to be able to see some of Japan while I was there. Thank you for all the planning and effort put into organizing the tips, so that we were able to see so many sites within only two days. They were all very beautiful and from what I have since read in guidebooks, some of the best in Japan. I particularly appreciated having an English speaking tour guide to show us around and share stories, particularly at Himeji Castle. The Golden Pavilion was beautiful and I took many photos of all the sites to show my friends and family back home. The days were also well-placed in the schedule, giving us a chance to absorb one set of lectures before the next began.

#### 18. Please share any additional comments or suggestions regarding the Cheiron School.

- Overall I would say that Cheiron School 2007 was very well planed and organized. Topic of lectures
  were excellent with wide area of synchrotron radiation research covered. It will definitely provide good
  exposure to new researcher in this area. Finally I would say that please keep doing this good work.
  Thank You for your hospitality.
- Excellent. Should be repeated annually indefinitely. I think that Cheiron School showed us many things.
   First of all, the scale of equipment is so huge. Second, all attendants is so moved by the consideration of

- beamline optics and designing procedures. If the 11 days period is not sufficient, the period should be extended.
- I suggest the Cheiron school should set for about at least one month and added more lectures and more schedule.
- The mini school is good and comfortable, although sometimes I felt nervous about language. Thank you very much!
- Staffs of Cheiron school are very friendly. They were working hard and taking care us very good.
- Maybe some ice-breaker games at the beginning of the school to gel people(students and lectures)
  together will be good. It'll be good if a rough guide of the prices of daily meals and other possible
  expenses is made known to student's weeks before the school for them to gauge the amount of cash to
  bring for the whole trip.
- Participations from Japan should be strongly encouraged. I noticed many students outside Japan complained there were not enough Japanese students. I propose the Japanese participants (especially, graduate students) should be supported financially.
- Thank-you for all the organizing that went making into the Cheiron School such an enjoyable experience. Everything ran so smoothly and the students were very well looked -after. The program was well planned with a good mix of lectures, sight-seeing and practical experience. The accommodation was excellent and everyone was really friendly. It was a very valuable opportunity to learn, develop new friendships and make contacts. Thank you.



#### **Cheiron School 2008**

29th Sept. - 8th Oct.2008 (Beam line practice 7-8th Oct. 2008)@ SPring-8

Cheiron School will promote a concrete "people-to-people" network in Asian/Oceania synchrotron radiation community.

