

## 5. 研究会・国際会議等

2013年度に理研およびJASRIが主催あるいは共催した、SACLAに関連した研究会・国際会議について紹介する。

### 1. The 6th International Workshop on FEL Science: "New Horizon of XFEL Science" (11月3日～11月7日)

2009年2月にアジア・オセアニア地域でのFELサイエンスの発展を目的としたワークショップを開催し、第6回を迎える今回は台湾での開催となった。アジア・オセアニア地域におけるFELサイエンスの現状および今後の展開について議論が行われた。

#### 1-1 プログラム

November 3 (Sunday)

Opening Address (Chair: M. Yabashi)

- 17:10~17:15 S. Goto
- 17:15~17:20 S. L. Chang
- 17:20~17:25 Shean-Jen Chen
- 17:25~17:30 T. K. Lee

Keynote Lecture (Chair: M. Yabashi)

- 17:30~18:00 T. Ishikawa
- 18:00~20:00 Welcome Reception

November 4 (Monday)

Session I: Facility Introduction (Chair: S. Goto)

- 9:00~9:25 S. L. Chang  
The Current Status of National Synchrotron Radiation Research Center (NSRRC)
- 9:25~9:50 C. Jianhui  
X-rays carrying orbital angular momentum at the SXFEL
- 9:50~10:15 G. Kim  
The Status of PAL XFEL
- 10:15~10:40 M. Yabashi  
Facility report of SPring-8 and SACLA
- 10:40~10:50 Coffee break

Session II: Source and Detector (Chair: S. Goto)

- 10:50~11:15 H. Tomizawa  
The operation status and future plans of SACLA accelerator
- 11:15~11:35 Y. C. Huang  
Advanced XFEL concepts to be derived from a proposed UVU FEL test facility

11:35~12:05 T. Kameshima  
Upgrade overview of multi-port CCD detector system

12:05~12:30 C. H. Lin  
Design of compact readout system for MPCCD

12:30~13:30 Lunch and Discussion

Session III-1: Imaging (Chair: M. Yamamoto)

13:30~13:55 J. Miao  
Single-shot 3D structure determination of nanocrystals with femtosecond X-ray free electron laser pulses

13:55~14:20 M. Nakasako  
Cryogenic CXDI experiments for non-crystalline particles using KOTOBUKI-1 apparatus at SACLA: the present status and future plan

14:20~14:45 T. K. Lee  
Method to enhance resolution of X-ray coherent diffraction imaging for non-crystalline bio-samples

14:45~15:10 B. Abbye  
Long-range electronic correlations in femtosecond nanocrystallography

15:10~15:25 Coffee break

Session III-2: Facility Introduction (Chair: S. Goto)

15:25~15:50 H. Kim  
First implementation of X-ray photon correlation spectroscopy with X-ray free electron laser

15:50~16:15 Y. Kohmura  
X-ray optics based on Berry-phase translation effect inside strained crystals

16:15~16:40 C. Song  
Coherent X-ray from SACLA and SPring-8 for bio-molecular imaging

16:40~17:05 H. Jiang  
High-resolution imaging of single particles with coherent X-ray diffraction

17:05~17:30 Y. K. Hwu  
Nanotechnology for synchrotron X-ray imaging

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|---|---|--|
| 17:30~18:00                                       | Transfer  | Session V: High Energy Density (Chair: K. Tono)  |
| 18:00~20:00                                       | Dinner (Outside)  | 11:15~11:40 K. Shibata   |
|   |   | An approach to a solid metallic state of hydrogen  |
| November 5 (Tuesday)                              |   | 11:40~12:05 R. Kodama  |
| Excursion   |   | High Energy Density Science with High Power Optical Laser and XFEL   |
| 9:00~14:30  |   | 12:05~13:00 Lunch  |
| Tutorial Session (Chair: Y. Kohmura)              |   | Special Session (Chair: H. H. Hwung)   |
| 14:30~15:10 K. Liang                              | From TPS to XFEL: enabling of new X-ray science   | 13:00~13:40 C. H. Wong   |
| 15:10~15:50 H. Kitamura                           | Method to enhance resolution of X-ray coherent diffraction imaging for non-crystalline bio-samples                  | Study and Implication of Biological Glycosylation  |
| 14:45~15:10 B. Abbye                              | Basis of XFELs  | 13:40~13:50 Coffee Break   |
| 15:50~16:30 T. C. Chiang                          | Scientific Case for a Seeded Free Electron Laser  | Session VI: SACLA Updates (Chair: T. Ishikawa)   |
| 16:30~16:40                                       | Coffee Break  | 13:50~14:25 M. Yabashi   |
| Tutorial Summary                                  |   | Status and challenges of SACLA   |
| 16:40~17:00 T. Ishikawa                           |   | 14:25~15:00 K. Tono  |
| Poster Session (Chair: H. Tomizawa)               |   | Experimental instrumentation for structural analysis and dynamics at SACLA   |
| 17:00~18:00                                       | Refer to index for Poster Presentation  | 15:00~15:10 Coffee Break   |
| 18:00~18:30                                       | Transfer  | Session VII-1: Exotic Structure Determination (Chair: C. Song)   |
| 18:30~20:30                                       | Dinner (Outside)  | 15:10~15:30 A. Yabushita   |
|   |   | Ultrafast time-resolved spectroscopy of nitric oxide protein eNOS  |
| November 6 (Wednesday)                            |   | 15:30~15:50 Y. Bessho  |
| Session IV: Ultra Fast Phenomena (Chair: K. Tono) |   | Bioimaging in micro-liquid enclosure by X-ray laser diffraction  |
| 9:00~9:25 K. B. Lee                               | Oxygen-vacancy-induced interface electronic states probed by resonant X-ray scattering                              | 15:50~16:10 C. A. Ma   |
| 9:25~9:50 K. Sawada                               | X-ray analogue of Hall effect and Berry's phase   | Monoglycosylated Hemagglutinin as a Better Influenza Vaccine   |
| 9:50~10:15 D. Y. Noh                              | Enhancement of phase reconstruction and spatial resolution in coherent diffractive imaging using a reference object | 16:10~16:30 S. Wang  |
| 10:15~10:35 M. K. Wu                              | Gap Opening and Orbital Modification of Superconducting FeSe above the Structural Distortion                        | Structural studies on the IL-33 signaling complex  |
| 10:35~16:30 C. W. Luo                             | Ultrafast Infrared Response of Dirac Fermions in Topological Insulators   | 16:30~16:40 Coffee Break   |
| 11:05~11:15                                       | Coffee Break  | Session VII-2: Exotic Structure Determination (Chair: C. Song)   |
|   |   | 16:40~17:00 M. Yamamoto  |
|   |   | High resolution femtosecond crystallography at SACLA   |
|   |   | 17:00~17:20 Y. S. Huang  |
|   |   | Perspective of Coherent X-ray Scattering at TPS Phase-1 beamline   |
|   |   | 17:20~17:40 W. H. Chang  |
|   |   | Towards X-ray diffraction imaging of single molecules displayed on a quasi-crystal: a perspective from 3D cryo-EM reconstruction |

17:40~18:00 M. R. Shen  
Research Challenges at National Cheng  
Kung University Medical College

18:00~18:10 Coffee Break

Closing Address

18:10~18:20 H. H. Hwung

18:20~18:30 T. Ishikawa

18:30~20:30 Farewell Dinner

1-2 概要

- (1) 会議構成：口頭発表 37 件  
ポスターセッション
- (2) 参加者数：55 名

放射光科学研究推進室