



September 13, 2014

Osaka, JAPAN

Organized by



Sponsored by



Dear Friends and Colleagues,

It is our pleasure to invite you all and welcome to Asia Core Student Meeting at Photonics Center, Osaka University. This meeting aims to make strong networks among Asian students, and to obtain new knowledge of various research fields through valuable presentations and discussions. We have 9 groups from 4 countries who belong to wide fields on the basis of optics and photonics. Various research introductions will be given from them. We hope that all attendees can have beneficial time, and this meeting will be meaningful for you in the future career.

Asia Core Student Meeting is organized by Photonics Center, Osaka University, and sponsored by Japan Society for the Promotion of Science.

Asia Core Student Meeting is ready to open. We look forward to meeting you all.

Natsuo TAGUCHI
Student Chair of Asia Core Student Meeting

Content

Committee	3
Program	4
General Information	5
Attendee List	7
Presentation Details	9
Access Map	13

Committee



Natsuo TAGUCHI (Student Chair)

Ph.D Student, KAWATA laboratory
Department of Applied Physics, Osaka University

Research Keywords: Two-photon process, Raman spectroscopy, Polymer

Research Interests: Nanophotonics, Plasmonics, Electronics



Takayuki UMAKOSHI (Vice Student Chair)

Ph.D Student, VERMA laboratory
Department of Applied Physics, Osaka University

Prof. Yasushi INOUE (Acting Director of Photonics Center)

Department of Frontier Biosciences, Osaka University

Tomomi SAKAI (Conference Secretary)

Photonics Advanced Research Center, Osaka University

Program

- 9:30-10:00** Registration
- 10:00-10:10** Opening Remark
- 10:10-10:25** Talk by Prof. Yasushi INOUE
(Acting Director of Photonics Center)
- 10:25-10:45** Self Introduction
- 10:45-11:00** Coffee Break (15 min)
- 11:00-12:15** Research Review by Osaka University Members
- KAWATA Laboratory
 - VERMA Laboratory
 - TAMIYA Laboratory
- 12:15-13:30** Group Photo & Lunch
- 13:30-14:05** Research Review
by OSA Peking University Student Chapter
- 14:05-14:30** Research Review
by a member of Chinese Academy of Sciences
- 14:30-14:50** Coffee Break (20 min)
- 14:50-15:15** Research Review
by University of Mohamed V-Agdal Rabat Members
- 15:15-16:05** Research Review by National Taiwan University Members
- TSAI Laboratory
 - CHU Laboratory
- 16:05-16:40** Break (25 min)
- 16:40-17:55** Laboratory Tour
- 17:55-18:00** Closing Remark
- 18:00-20:00** Banquet

General Information

1. Meeting Venue

Photonics Center (P3 Building, Osaka University Suita Campus)

Address: 2-1, Yamadaoka, Suita, Osaka, 565-0871, Japan

Tel: +81-(0)6-6879-7927

*Please check Access Map page (P. 17)

2. Registration

The registration desk is available at the main entrance of Photonics Center (P3 building 1F). The desk will be open during 9:30 am-10:00 am on 13th September.

Your name badge is ready upon registration, and it is required for all participants to wear during all the conference sessions, coffee breaks and banquet.

3. Meal & Coffee Break

Coffee will be served during each break.

Lunchbox and banquet will be served by the meeting.

4. Internet Access

Wireless Internet access is available in Photonics Center.

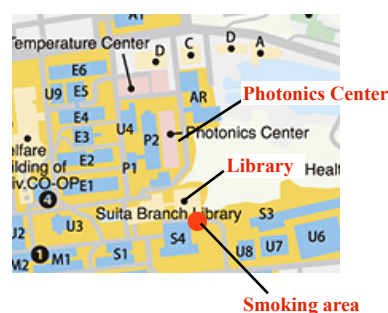
SSID: PARC_PUBLIC

Password will be announced on site.

5. Smoking

Smoking is prohibited in the campus except smoking areas shown as below.

The smoking area is the South side of the library.



6. Emergency Call

Police: 110

Ambulance & Fire: 119

Photonics Center: +81-(0)6-6879-7927 (available time 9:00-17:00)

Natsuo TAGUCHI (Student chair): +81-(0)80-5208-8180 (for the other time)

7. Contacts

Meeting Secretariat

Email: student_chapter@parc.eng.osaka-u.ac.jp

Attendee List

KAWATA Laboratory Osaka University, Japan

Natsuo TAGUCHI
Zhao-Xu YAN
Imad MAOULI
Shota USHIBA
Takumasa SEKIYA
Yau-Chuen YIU

VERMA Laboratory Osaka University, Japan

Takayuki UMAKOSHI
Toshihiro MINO
Yoshiro OHASHI
Bikas RANJAN

TAKAHARA Laboratory Osaka University, Japan

Masashi MIYATA
Tianji LIU
Yusuke NAGASAKI

TAMIYA Laboratory Osaka University, Japan

Jyo KYOU

OSA Peking University Student Chapter Peking University, China

Bo WANG
Jiu LI
Xiguo XIE
Yu ZHU

DUAN Laboratory
The Chinese Academy of Sciences, China

Yuan-Yuan ZHAO

SEKKAT Laboratory
University of Mohamed V-Agdal Rabat, Morocco

Tarik AJJAMMOURI
Siham REFKI

TSAI Laboratory
National Taiwan University, Taiwan

Chun-Yen LIAO
Hao-Tsun LIN
Mu-Ku CHEN
Wen-Ting HSIEH
Yi-Ru LI
Yi-Teng HUANG

CHU Laboratory
National Taiwan University, Taiwan

Mei-Yu CHEN

Presentation Details

Research Review by Osaka University Members [11:00-12:15]

Shota USHIBA [11:00-11:25]

Kawata Laboratory, Osaka University, Japan

“Exploring Nano World with Light”

Kawata lab. (LaSIE) has been studying the interaction between light and nano-matter since 1993 when LaSIE started up. We have four research groups; NSOM, Bio, Materials, and UV groups, so that our interests cover a variety of fields including plasmonics, super-resolution, bio-imaging, nano-fabrication, and nanomaterials. I will pick up and introduce some interesting studies that represent our group.

Keywords: Super-resolution, Bio-imaging, Nanomaterials

Toshihiro MINO [11:25-11:50]

Verma Laboratory, Osaka University, Japan

“Nano spectroscopy through plasmonics”

Optical spectroscopy/microscopy gives various information of a material with the spatially resolved manner e.g. electron level of a molecule, molecular vibration and orientation. The spatial resolution of optical microscopy, however, is restricted at best to about 300 nm due to the diffraction limit of light. Our group has performed the optical imaging at nanoscale by overcoming the limit via plasmonics. Plasmon oscillation excited in a metal nanostructure generates strongly localized light called near-field light, which makes it possible to enhance weak signal from a tiny area and to achieve super resolution. We're now challenging to develop metal nanostructures which provide higher sensitivity, and to find out new phenomena at nanoscale by using the developed structure.

Keywords: Plasmon, Near-field, Spectroscopy

Jyo KYOU [11:50-12:15]

Tamiya Laboratory, Osaka University, Japan

“Nanobio meets daily life”

Our group focuses on the development of innovative biosensors, single cell devices, and biofuel cells based on original nano- and microchip fabrication technologies using characteristic and specific functions of nanomaterials (metal nanoparticles, carbon nanotubes etc.) and biomolecules (DNA, antibody, enzyme, cell, etc.).

We work on technologies those may bring benefits to daily life, well-being. Bio-sensors for Point-of-care testing (POCT) diagnosis is one of our major aims, it requires the devices handy, low-cost, easy to operate and time saving. To meet these conditions, we take multiple approaches, not only photonic, but also electrochemical.

Tamiya Lab. has been working on variety targets, such as antigens, DNA, cells and so forth. Tests on real samples, i.e. saliva, meat tissues and blood etc., are also taking place in our lab for years. Besides the detection devices, development on nanomaterials based Bio-Fuel Cells is one other important field we put efforts on as well.

When nanobio meets daily life, students and researchers from Tamiya Lab. always feel exciting about making human life more convenient, both healthwise and powerless. What can we say, we are sensitive and energetic!

Keywords: Nanobio, Biosensor, POCT

Research Review by Peking University OSA Student Chapter [13:30-14:05]

Bo WANG

OSA Peking University Student Chapter, Peking University, China

“A selected introduction to the research of OSA Peking University student chapter”

The OSA Peking University student chapter is formed by the graduate students of the Institute of Modern Optics in Peking University. Our interests focus on both the fundamental understanding of light-matter interactions and the potential application of nano-optics. As a brief introduction, we present here some frontier research of nano-optics such as the all-optics device design, plasmonics, spin Hall Effect of light and micro/nano-fabrication using two photon polymerization. There will also be a section dedicated to the dynamics of atoms and molecules in femtosecond intense laser field.

Keywords: All-optics device, Micro/nano-fabrication, Strong field physics

Research Review by a member of Chinese Academy of Science [14:05-14:30]

Yuan-Yuan ZHAO

Duan Laboratory, The Chinese Academy of Sciences, China

“3D Printing of Micro- and Nanostructure on Materials”

Recently, a rapid expansion of research on multiphoton nanofabrication technologies towards tailoring micro- and nanostructures with various materials has become attractive. In this presentation, we will make a brief introduction for the multiphoton direct laser writing technique based on photopolymerization, photoreduction and other processes. Furthermore, the underlying mechanism will be discussed. The multiphoton nanofabrication technique would provide future prospective applications in the various scientific fields such as nanophotonics, metamaterials, and microelectronics.

Keywords: Multiphoton nanofabrication, Metamaterials, Nanophotonics

Research Review by University of Mohamed V-Agdal Rabat Members [14:50-15:15]

Siham REFKI and Tarik AJJAMMOURI

Sekkat Laboratory, University of Mohamed V-Agdal Rabat, Morocco

“Plasmonics and photovoltaic”

Plasmonics and photovoltaic are promising technologies which we study in our laboratory, for plasmonics field we try to fabricate Metal-insulator-metal structure for high resolution sensitivity compared to a conventional SPR sensor and for photovoltaic we prepare thin films for solar energy precisely by the wet-chemical synthesis of semiconductor nanocrystals like (CZTS) and their use for the large-scale fabrication of films for solar energy conversion.

Keywords: Surface-plasmon, Metal-insulator-metal structures, CZTS

Research Review by National Taiwan University Members [15:15-16:05]

Mu-Ku CHEN [15:15-15:40]

Tsai Laboratory, National Taiwan University, Taiwan

“PNSTL progress update”

Our main interest is on surface plasmon resonance excitation. We fabricate many nano structures (mainly made of metals) like split-ring resonators or nanobumps, and excite them by the light with proper wavelength. By the surface plasmon resonance, we can control the optical characteristics of light and then have many applications on holograms, anomalous reflectors and even photochemical reactions.

Keywords: Surface plasmon, Hologram, Split-ring resonator

Mei-Yu CHEN [15:40-16:05]

Chu Laboratory, National Taiwan University, Taiwan

“Recent Research in Biomedical Optics Laboratory”

Biomedical Optics Laboratory (BMO lab) was established in the Department of Physics, National Taiwan University in August, 2006. The main research interest in BMO Lab is to develop advanced optical spectroscopy and microscopy techniques and apply them onto biological systems. Current research topics include: Tunable Laser Development, Nonlinear Optical Imaging, Observation of Neuron Functional Dynamics, and Super-Resolution Microscopy.

Keywords: BMO, Spectroscopy, Microscopy

Access Map

Accommodation

12 min by walk from Handai-byōin-mae Sta. (900 m)

* We will take you from the station to the Guest House.



Guest House of the Research Center for Nuclear Physics

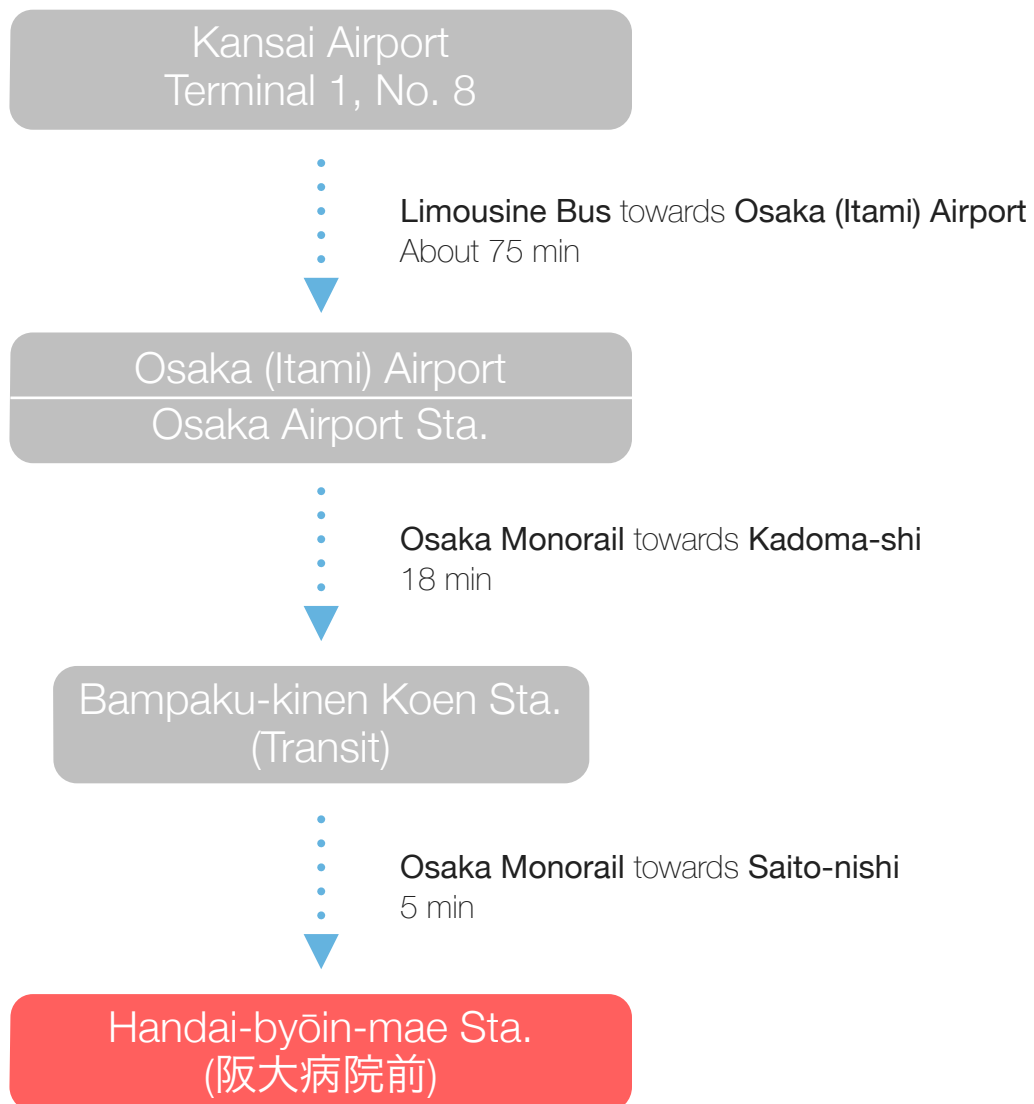
Address: 10-1, Mihogaoka, Ibaraki, Osaka, 567-0047

Tel: +81-(0)6-6879-8904

To Handai-byōin-mae Sta. from Kansai International Airport

A recommended route which is simple and less transfer is shown below.

Fare: ¥2,380



Meeting Venue (Photonics Center)

550 m (7 min by walk)

* We will take you to the venue at 9:00 am on 13th.

