

JAPAN-MOROCCO HANDAI PROJECT ON FUNCTIONAL NANOPHOTONICS

KICK-OFF WORKSHOP

February 25th(Wed.) & 26th(Thu.), 2015
MAScIR, Rabat, Morocco

Organized by

Optics & Photonics Center, Moroccan Foundation for Science,
Innovation & Research (MAScIR), Rabat, Morocco, and
Photonics Center Osaka University, Japan

Funded by

International Joint Research Promotion Program, Osaka University

Presentation

Osaka University established the **International Joint Research Promotion Program** in 2013 as a measure for promoting its academic initiatives. In order to further enhance research quality and promote globalization of Osaka University, Osaka University supports advanced research between international researchers and Osaka University researchers. Currently, 50 projects are underway. In 2014, out of 35 projects submitted, a screening committee selected the 7 projects. This program is a first step toward the **establishment of international joint labs.**

Handai project, which was selected this year in the framework described above, is based on a partnership between photonics center in Osaka, which is headed by Professor Satoshi Kawata, with optics and photonics center in MAScIR, which is headed by Professor Zouheir Sekkat. This project is entitled “Nano-functional Photonics: study of new nano optical/photonic functions originating from the interaction of photon and nano-structured materials” and is running in the period April 2014– March 2017. The goal of the project is to carry joint advanced applied research and innovation as well as exchange of researchers and expertise.

The Handai Project Kick-off Workshop will be held in 25th-26th February 2015 at MAScIR. This workshop will gather principal researchers and students involved in the project from both sides of Japan and Morocco. All the participants will report their latest scientific results on nano-functional photonics and discuss about collaboration to find pathways to innovative nano optical/photonic functions. The International Year of Light and Light-based Technologies 2015 has just started. The Handai Project Kick-Off Workshop is an extremely good opportunity for all the participants to start sailing in the same boat in the International Year of Light to get to a new port in a new continent.

«For the rest of my life I want to reflect on what light is.»

Albert Einstein, 1916

Guests of Honor

Rachid Benmokhtar Benabdellah

Vice President of MAScIR, Rabat, Morocco
Minister of Education, Morocco

Tsuneo Kurokawa

Ambassador Extraordinary and Plenipotentiary, Embassy of Japan,
Rabat, Morocco

Hicham Bouzekri

General Director of MAScIR, Rabat, Morocco

Saaid Amzazi

President of Mohamed V University, Rabat, Morocco

Workshop Program

Wednesday, February 25, 2015

9:30~10:30 Opening Ceremony

Chair: Zouheir SEKKAT (MAScIR / University Mohammed V)

Rachid BENMOKHTAR Benabdellah (Vice President of MAScIR / Minister of Education)

Tsuneo KUROKAWA (Ambassador Extraordinary and Plenipotentiary, Japanese Embassy)

Saaïd AMZAZI (President of University Mohammed V)

Hicham BOUZEKRI (General Director of MAScIR)

Satoshi KAWATA (Director of Photonics Center, Osaka University, Osaka, Japan)

Zouheir SEKKAT (Director of Optics & Photonics Center, MAScIR / University Mohammed V)

10:30~11:00 Coffee Break

11:00~12:00 Plenary Talks

Chair: Eiichi TAMIYA (Osaka University, Osaka, Japan)

11:00~11:30 Satoshi KAWATA (Osaka University, Osaka, Japan)

“Plasmonics: A New Functional Nanophotonics”

11:30~12:00 Zouheir SEKKAT (MAScIR /University Mohammed V, Rabat, Morocco)

“Photonic Research in Rabat”

12:00~14:00 Lunch Break

14:00~15:40 Invited Talks

Chair: Prabhat VERMA (Osaka University, Osaka, Japan)

14:00~14:20 Eiichi TAMIYA (Osaka University, Osaka, Japan)

“Nanomaterials and MEMS Based Biosensors for Medical Applications”

14:20~14:40 Yasushi INOUE (Osaka University, Osaka, Japan)

“Nano-Investigation of DNA Conformation Change by Using Gold Nano-Dimers”

14:40~15:00 Dmitry V. NESTERENKO (MAScIR, Rabat, Morocco)

“Propagating Mode Sensors and Their Sensitivity”

15:00~15:20 Katsumasa FUJITA (Osaka University, Osaka, Japan)

“Super-Resolution Fluorescence Microscopy Using Optical Saturation”

15:20~15:40 Hidekazu ISHITOBI (Osaka University, Osaka, Japan)

“Light-Induced Polymer Movement and Its Application to Nano-Imaging”

15:40~16:00 Coffee Break

16:00~17:20 Invited Talks

Chair: Yasushi INOUE (Osaka University, Osaka, Japan)

16:00~16:20 Prabhat VERMA (Osaka University, Osaka, Japan)
“Optical Antennas for Tip-Enhanced Raman Scattering”

16:20~16:40 Shinji HAYASHI (MAScIR, Rabat, Morocco)
“Coupling for Sensing”

16:40~17:00 Safae AAZOU (MAScIR, Rabat, Morocco)
“Performance Comparison of Organic Bulk Heterojunction Solar Cells Based on P3HT and Anthracene-Containing PPE-PPV”

17:00~17:20 Hiroyuki YOSHIDA (Osaka University, Osaka, Japan)
“Exotic Liquid Crystals for Photonics”

17:30~18:30 Laboratory Tour in MAScIR

19:30~ Banquet Dinner

Thursday, February 26, 2015

9:30~11:00 Talks of Students

Chair: Shinji HAYASHI (MAScIR, Rabat, Morocco)

- 9:30~ 9:45 Daiki MITA (Osaka University, Osaka, Japan)
“Single-Cell Imaging of Activated Neutrophils by Raman Spectroscopy”
- 9:45~10:00 Takuma HORII (Osaka University, Osaka, Japan)
“ECL Imaging of Neutrophils Using Multi-Microwell Array Electrode”
- 10:00~10:15 Tarik AJJAMMOURI (MAScIR / University Mohammed V,
Rabat, Morocco)
“Chemical Synthesis of Cu_2ZnSnS_4 (CZTS) Nanocrystals for Solar Cell Applications”
- 10:15~10:30 Zakaria LAGHFOUR (MAScIR / University Mohammed V,
Rabat, Morocco)
“Development of Low Cost Solar Cells Based on Thin Films of Silicon”
- 10:30~10:45 Bikas RANJAN (Osaka University, Osaka, Japan)
“Nanoplasmonic Enhanced Raman and Hyper Raman Spectroscopies”
- 10:45~11:00 Imad MAOULI (Osaka University, Osaka, Japan)
“Tunable Plasmonic Probes for TERS Imaging in the Visible Region”

11:00~11:30 Coffee Break

11:30~12:30 Talks of Students

Chair: Dmitry V. NESTERENKO (MAScIR, Rabat, Morocco)

- 11:30~11:45 Siham REFKI (MAScIR / University Mohammed V,
Rabat, Morocco)
“Metal-Insulator-Metal Plasmonic Sensor: Estimation of Sensitivity”
- 11:45~12:00 Kozue WATANABE (Osaka University, Osaka, Japan)
“Resolution Improvement of Raman Microscopy by Structured Line Illumination”
- 12:00~12:15 Kentaro MOCHIZUKI (Osaka University, Osaka, Japan)
“Fluorescent Probe Providing Nonlinear Response Through Photoinduced Charge Separation”
- 12:15~12:30 Jyunji KOBASHI (Osaka University, Osaka, Japan)
“A Polarization Rotator Utilizing Deformation-Free Polymer-Stabilized Cholesteric Liquid Crystal”

12:30~14:00 Lunch Break