

# 3<sup>rd</sup> AIST International Imaging Workshop & PIKNIKH Series VIII

## “Bio-imaging with Beauty: Teachings, Tools and Technologies”

### January 18-23, 2016

Biomedical Research Institute (<https://unit.aist.go.jp/bmd/en/>)

National Institute of Advanced Industrial Science and Technology (AIST), 1-1-1 Higashi, Tsukuba, Japan

AIST International Imaging Workshop is a residential one-week course held at the Biomedical Research Institute, offering a wide range (from the principles of light to super resolution) of microscopy training to young talented researchers. Participants are trained through hands-on practical sessions in several critical and important issues related to imaging technologies. The third imaging workshop will be held together with an International Symposium co-hosted by KK Chanel Research & Technology Development Laboratory, Japan. The team of AIST-DAILAB and CHANEL researchers will jointly endeavor to set a most interactive symposium and poster session called Platform for Innovating KNowledge to International KNowHow (PIKNIKH).

The talks from specialists in the field of bio-imaging, functional health and beauty will be organized to motivate young scientists to do innovative research with advanced tools and technologies.

#### Course Details

**Laboratory Course 1:** Basic training in Microscopy

*Anatomy of the light microscope, Basic optics, Lenses, Bright field, Phase contrast, DIC, Fluorescence, Fluorochromes and Filters, Fluorescence imaging, Basic microscope maintenance*

**Laboratory Course 2:** Basic training in Laser Scanning Microscopy

*Learn the basic technique for a confocal microscopy, including spectral imaging, photo-activation, calcium imaging, and so on.*

**Laboratory Course 3:** Training in Multi-photon Laser Microscopy

*Learn the principle of two-photon excitation and observe a deep brain layer of a living mouse.*

**Laboratory Course 4:** Training in Super-resolution Microscopy

*Learn the technique for super-resolution observation using SIM*

**Laboratory Course 5:** Training in Bioluminescence Screening & Imaging

*Learn the principle and techniques in high throughput screening & cell imaging based on bioluminescence technology*

#### Program

**January 18, 2016**

*Orientation*

*Joint Symposium & Poster Session with Chanel R&T Japan*

*Reception*

**January 19, 2016**

*Course 1- Basic training in Microscopy (All members)*

**January 20, 2016 ~ January 22, 2016**

*Course 2: LSM*

*Course 3: Multi-photon Laser Microscopy*

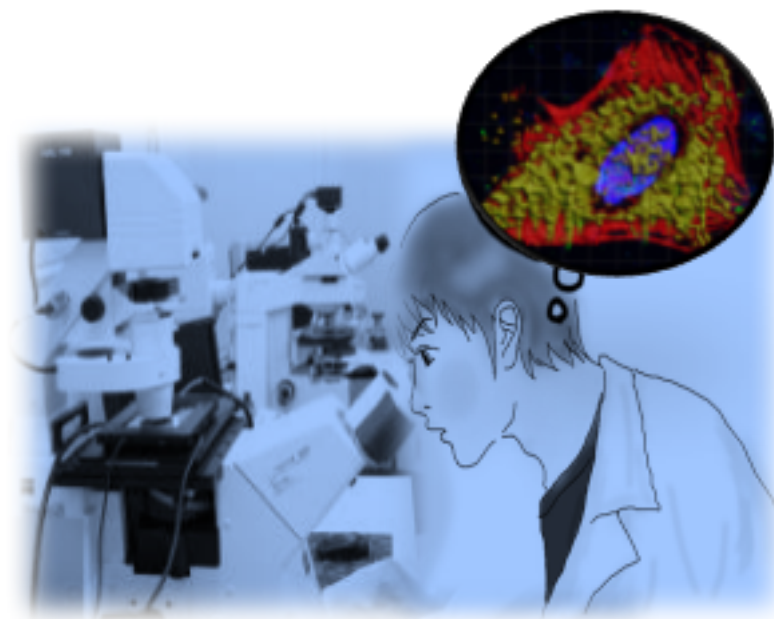
*Course 4: Super Resolution Microscopy*

*Course 5: Bioluminescence Screening & Imaging*

*\*Course 2- 5 will be held with a Group of 4-5 members* **January 22, 2016 - Farewell**

**January 23, 2016 - Tour to microscope companies**

**January 24, 2016 - Departure**



**Instructors:** Y. Ohmiya, K. Katoh, T. Ebihara, T. Ochiishi, Y. Sasaki, K. Kiyosue, T. Tomita, A. Sasaki, H. Inagaki and M. Doi

**Organizers:** Y. Ohmiya, R. Wadhwa, M. Doi and S. Kaul

**Sponsors:** Nikon, Olympus, ATTO, Hamamatsu Photonics

*For further information:*

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*Platform for Innovating Knowledge to International KnowHow  
PIKNIKH Series VIII*

*Stress and Aging  
“Bio-imaging for Cosmetics & Health Care”*

*&  
3<sup>rd</sup> AIST International Imaging Workshop*

*January 18, 2016 (13:30~19:00 h)  
Main Auditorium building 1, AIST*

## ***Review and Report***

- ❖ DAILAB organized Third AIST International Imaging Workshop. From over 200 applicants, 18 selected participants were fully supported and trained, through hands-on practical sessions in several critical and important issues related to imaging technologies, over a period of one week.
- ❖ A highlight of the third imaging workshop was an International **PIKNIKH** (Platform for Innovating **KN**owledge to **I**nternational **KN**owHow) co-hosted by KK CHANEL Research & Technology Development Laboratory, Japan. The team of AIST-DAILAB and CHANEL researchers jointly organized a most interactive podium and poster presentations.
- ❖ The talks from specialists in the field of bio-imaging, functional health and beauty motivated young scientists to do innovative research with advanced tools and technologies.
- ❖ A pictorial review and report is compiled as follows.



# DAILAB

## 3<sup>rd</sup> Imaging Workshop

### Jan 17, 2016

## Welcome Dinner



## DAILAB PIKNIKH Series VIII- Jan 18, 2016

### DAILAB PIKNIKH Series VIII

**Stress and Aging: Bioimaging for Cosmetics & Health Care**

**Venue- AIST, Central 1- Auditorium Building (Chu-Kaigi Shitsu -中会議室)**

#### PROGRAM

|                      |  |
|----------------------|--|
| 13:30 - 14:00        | Registration   |
| 14:00 - 14:05        | Welcome Address - Noboru YUMOTO, Fellow, AIST  |
| 14:05 - 14:15        | Introduction of Department of Life Sciences & Biotechnology - Yoichi KAMAGATA, Deputy Director General, Life Sciences, AIST  |
| <b>14:15 - 16:10</b> | <b>Scientific Session</b>  |
|                      | Stress and Aging - Bioimaging for Cosmetics & Health Care  |
|                      | Coordinators - Sunil KAUL and Nobuhiro ANDO  |
| 14:15 - 14:35        | Introduction of KK Chanel Research & Technology Development Laboratory (CRTDL), Japan  |
|                      | &  |
|                      | Manipulation of pigmentation by a quasi-drug: Strategies and strengths Nobuhiro ANDO   |
| 14:35 - 14:50        | Imaging of physical and Self-assembling characteristics of tranexamic acid cetyl ester hydrochloride (TXC) - a physiologically active reagent for skin health and beauty.    |
|                      | Yuji YAMASHITA, University of Chiba Institute of Science   |
| 14:50 - 15:05        | Manipulation of skin permeability characteristics of tranexamic acid acetyl ester hydrochloride (TXC) - functional characterization by imaging, physical and chemical assays |
|                      | Masayoshi MIYAMOTO (CRTDL)   |
| 15:05 - 15:20        | Bioimaging for functional cosmetics: new regulators of melanogenesis and their implications in skin pigmentation   |
|                      | Renu WADHWA  |
| 15:20 - 15:35        | Imaging tools for understanding bioactivities in Ashwagandha leaves  |
|                      | Sunil KAUL   |
| 15:35 - 15:50        | Development of bioluminescence-based functional quantitative assays  |
|                      | Yoshihiro OHMIYA   |
| 15:50 - 16:00        | <i>C. elegans</i> imaging as an easy and economic drug-screening platform  |
|                      | Motomichi DOI  |
| 16:00 - 16:10        | Cell based imaging of circadian rhythm as an efficient screening assay for physiologically active substances   |
|                      | Yoshiaki ONISHI  |
| 16:10 - 16:15        | Special Address  |
|                      | Purnima RUPAL, Counsellor (Science & Technology), Embassy of India, Tokyo, Japan   |
|                      | <b>GROUP PHOTO, LIGHT TEA &amp; POSTER-BAR</b>   |
| 16:15 - 16:30        | Group Photo (Foyer-ホワイエ) and Tea (Tamokuteki Shitsu-多目的室)  |
| 16:30 - 17:30        | Poster - BAR (Poster Based Presentation About the Research Results)  |
|                      | Students will compete for Poster AWARD - (Presentation 2 min each) (Tamokuteki Shitsu-多目的室)  |
| 17:30 - 19:00        | Reception and Closing (Foyer-ホワイエ)   |
|                      | Welcome Address by Katsunori MATSUOKA, AIST Vice-President and Director General, Life Sciences, AIST   |
|                      | Special Address by Nobuhiro ANDO, Director, K.K. CHANEL  |
|                      | Closing by Yoshihiro OHMIYA, Director, BMRI  |





Welcome to  
DAILAB  
PIKNIKH  
Series VIII

**Yoshihiro  
OHMIYA**  
AIST

**Yoichi  
KAMAGATA**  
AIST

**Renu  
WADHWA**  
AIST

**Sunil  
KAUL**  
AIST

**Nobuhiro  
ANDO**  
CHANEL  
RTDL

**Yuji YAMASHITA**  
Univ. of Chiba

**Masayoshi  
MIYAMOTO**  
CHANEL RTDL

**Purnima RUPAL**  
Embassy of India  
Tokyo

DAILAB PIKNIKH  
Series VIII  
Jan 18, 2016

## DAILAB PIKNIKH Series VIII Jan 18, 2016

**Yoshiaki  
ONISHI**  
AIST

**Sunil  
KAUL**  
AIST

**Motomichi  
DOI**  
AIST



# DAILAB PIKNIKH Series VIII

Jan 18, 2016

&

## 3rd AIST International Imaging Workshop

Jan 18-23, 2016







**DAILAB  
PIKNIKH  
Series VIII**

**Jan 18,  
2016**

**POSTER  
BAR**



# DAILAB PIKNIKH

## Series VIII

### Reception Kanpai





**DAILAB PIKNIKH  
Series VIII, Reception Kanpai**









# Hands-on Training









# Concluding Ceremony

