

ABiS-GBI 2023 course - Image data: image analysis, data management and reuse

Jointly organized by Global BioImaging &
Advanced Bioimaging Support (Japan)

3-7 July 2023
Okazaki and Kobe, Japan

Monday, 3rd of July

Location: Okazaki, Japan

Themes: bioimage analysis: basics of images & visualization

9:00 - 9:30 **Registration**

9:30 - 9:45 **Welcome by ABiS at National Institute for Basic Biology**

Naoto Ueno (National Institute for Basic Biology, Japan)

9:45 - 10:00 **Overview of the course: program, logistics & activities**

Gleb Grebnev (Global BioImaging, EMBL)

10:00 - 12:30 **Digital image basics, Lookup table and Spatial calibration**

Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)

Kagayaki Kato (National Institute for Basic Biology, Japan)

Yusaku Ohta (National Institute for Basic Biology, Japan)

12:30 - 13:30 **Networking lunch**

13:30 - 15:00 **Data types and Image file formats**

Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)

Kagayaki Kato (National Institute for Basic Biology, Japan)

Yusaku Ohta (National Institute for Basic Biology, Japan)

15:00 - 15:30 **Coffee break**

15:30 - 18:00 **Volume projections, Volume rendering and Volume slicing**

Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)

Kagayaki Kato (National Institute for Basic Biology, Japan)

Yusaku Ohta (National Institute for Basic Biology, Japan)

18:30 - 20:30 **Dinner at Yakitori ToToYa-HigashiOkazaki (at own cost)**

Tuesday, 4th of July

Location: Okazaki, Japan
Themes: bioimage analysis: scripting

- 09:00 - 12:30 **Scripting: Running a script, Recording a script and Variables**
Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)
Kagayaki Kato (National Institute for Basic Biology, Japan)
Yusaku Ohta (National Institute for Basic Biology, Japan)
- 12:30 - 13:30 **Networking lunch**
- 13:30 - 15:00 **Scripting: Working with strings and Output saving**
Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)
Kagayaki Kato (National Institute for Basic Biology, Japan)
Yusaku Ohta (National Institute for Basic Biology, Japan)
- 15:00 - 15:30 **Coffee break**
- 15:30 - 17:00 **Scripting: Batch processing and Handling script parameters**
Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)
Kagayaki Kato (National Institute for Basic Biology, Japan)
Yusaku Ohta (National Institute for Basic Biology, Japan)

Wednesday, 5th of July

Location: Okazaki, Japan

Themes: bioimage analysis: segmentation and thresholding, registration and stitching, OMERO data management, IDR repository

9:00 - 10:30 **Segmentation and Thresholding**

Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)

Kagayaki Kato (National Institute for Basic Biology, Japan)

Yusaku Ohta (National Institute for Basic Biology, Japan)

10:30 - 11:00 **Coffee break**

11:00 - 12:30 **Registration and Stitching**

Ignacio Arganda-Carreras (Ikerbasque - Basque Foundation for Science, Spain)

Kagayaki Kato (National Institute for Basic Biology, Japan)

Yusaku Ohta (National Institute for Basic Biology, Japan)

12:30 - 13:30 **Networking lunch**

13:30 - 14:30 **Seminar: OMERO data management software**

Jean-Marie Burel (University of Dundee, United Kingdom)

Petr Walczysko (University of Dundee, United Kingdom)

14:30 - 14:45 **Coffee break**

14:45 - 15:45 **Seminar: Image Data Repository**

Jean-Marie Burel (University of Dundee, United Kingdom)

Petr Walczysko (University of Dundee, United Kingdom)

16:00 **Transport: Shuttle bus from Okazaki to Kobe**

Thursday, 6th of July

Location: Kobe, Japan

Themes: OMERO data management, IDR, BioImage Archive & SSBD repositories

9:00 - 9:15

Welcome by ABiS at RIKEN

Shuichi Onami (RIKEN Center for Biosystems Dynamics Research, Japan)

9:15 - 10:45

Workshop: Imaging workflows in OMERO #1

Petr Walczysko (University of Dundee, United Kingdom)

Jean-Marie Burel (University of Dundee, United Kingdom)

10:45 - 11:00

Coffee break

11:00 - 12:30

Workshop: Imaging workflows in OMERO/IDR #2

Petr Walczysko (University of Dundee, United Kingdom)

Jean-Marie Burel (University of Dundee, United Kingdom)

12:30 - 13:30

Networking lunch

13:30 - 14:30

Seminar: The BioImage Archive repository: FAIR and open data using Recommended Metadata for Biological Images (REMBI)

Matthew Hartley (European Bioinformatics Institute EMBL-EBI, United Kingdom)

14:30 - 15:00

Group photo & Coffee break

15:00 - 16:00

Seminar: SSBD: Systems Science of Biological Dynamics

Shuichi Onami (RIKEN Center for Biosystems Dynamics Research, Japan)

Friday, 7th of July

Location: Kobe, Japan

Themes: BioImage Archive repository, *Matthew's scientific talk*

9:00 - 10:30 **Workshop: BioImage Archive repository #1**

Aybuke Kupcu Yoldas (European Bioinformatics Institute EMBL-EBI, United Kingdom)

Matthew Hartley (European Bioinformatics Institute EMBL-EBI, United Kingdom)

10:30 - 10:45 **Coffee break**

10:45 - 12:15 **Workshop: BioImage Archive repository #2**

Aybuke Kupcu Yoldas (European Bioinformatics Institute EMBL-EBI, United Kingdom)

Matthew Hartley (European Bioinformatics Institute EMBL-EBI, United Kingdom)

12:15 - 13:15 **Networking lunch**

13:15 - 14:15 **Seminar: Seminar: Public image data: supporting reuse, AI and long term interoperability**

Matthew Hartley (European Bioinformatics Institute EMBL-EBI, United Kingdom)

14:30 - 15:30 **Tour of RIKEN BDR**