

FEBS Practical Course 2019 - Biomolecules in Action II

Sunday, 2019/6/23

FLASH lecture hall

14:00 - 16:00 Registration

Networking

16:00 - 17:00 Welcome notes and course remarks

Welcome

Chairs: Christian Betzel (DE) Jeroen Mesters (DE)

16:00 - 16:15 **Welcome notes DESY**

Edgar Weckert

16:00 - 16:15 **Welcome notes FEBS**

Irene Diaz-Moreno

16:00 - 16:20 **Welcome notes and course remarks**

Christian Betzel and Jeroen Mesters

17:00 - 19:00 Plenary_1

Plenary

Chairs: Christian Betzel (DE) Jeroen Mesters (DE)

17:00 - 17:45 **X-ray Holography and Tomography of Biological Cells and Tissues**

Tim Salditt

17:00 - 17:45 **Watching an enzyme break the strongest single bond in organic chemistry**

Emil Pai

Cafeteria

19:00 - 21:00 Welcome reception

Networking

Monday, 2019/6/24

FLASH lecture hall

09:00 - 10:30 BiomolActionII_Session_1

Lectures

09:00 - 09:45 **Liquid phase electron microscopy of biological samples**

Eike Schulz

09:00 - 09:45 **X-ray Holography and Tomography of Biological Cells and Tissues**

Arwen Pearson

11:00 - 12:30 BiomolActionII_Session_2

Lectures

11:00 - 11:30 **Intracellular protein crystallization**

Lars Redecke

11:30 - 12:00 **A high throughput case-study of protein expression and crystallization in insect cells for serial crystallography**

Petra Fromme

FEBS Practical Course 2019 - Biomolecules in Action II

12:00 - 12:40 **Single particle imaging**
Filipe Maia

Cafeteria

10:30 - 11:00 Tea/coffee break

Networking

12:30 - 13:45 Lunch break

Networking

Laboratory

14:00 - 18:30 **BiomolActionII_Practicals_1**
XFEL XBI EMBL DESY UHH CFEL

Practical

14:00 - 16:00 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**
Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

16:00 - 16:30 **Short break**

16:30 - 18:30 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**
Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

19:00 - 21:00 EuXFEL facility exploration

Practical

Tuesday, 2019/6/25

FLASH lecture hall

09:00 - 10:30 **BiomolActionII_Session_3**

Lectures

09:00 - 09:45 **Neutron protein crystallography and equilibrium dynamics**
Tobias Schrader

09:00 - 09:45 **Synchrotron radiation macromolecular crystallography**
Thomas Schneider

11:00 - 12:30 **BiomolActionII_Session_4**

Lectures

11:00 - 11:45 **Small Angle Neutron Scattering for the study of dynamic macromolecular complexes**
Frank Gabel

11:00 - 11:45 **Small-angle X-ray scattering (SAXS) to study biomacromolecular solutions**
Dmitri Svergun

Cafeteria

10:30 - 11:00 Tea/coffee break

Networking

FEBS Practical Course 2019 - Biomolecules in Action II

12:30 - 13:45 Lunch break

Networking

19:00 - 21:00 Postersession_1

Poster Sessions

Laboratory

14:00 - 18:30 BiomolActionII_Practicals_2

Practical

14:00 - 16:00 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**
Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

16:00 - 16:30 **Short break**

16:30 - 18:30 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**
Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

Wednesday, 2019/6/26

FLASH lecture hall

09:00 - 10:30 BiomolActionII_Session_5

Lectures

09:00 - 09:45 **Multimodal multiphoton microscopy for nanocrystal detection and bioimaging: new light choice**
Guoqing Chang

09:00 - 09:45 **Fixed target serial crystallography with the Roadrunner III goniometer**
Alke Meents

11:00 - 12:30 BiomolActionII_Session_6

Lectures

11:00 - 11:45 **Latest methods in protein crystallization**
Claude Sauter

11:00 - 11:45 **Macromolecular Powder Diffraction: Ready for Genuine Biological Problems**
Irene Margiolaki

Cafeteria

10:30 - 11:00 Tea/coffee break

Networking

12:30 - 13:45 Lunch break

Networking

FEBS Practical Course 2019 - Biomolecules in Action II

Laboratory

14:00 - 18:30 BiomolActionII_Practicals_3

Practical

14:00 - 16:00 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**

Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

16:00 - 16:30 **Short break**

16:30 - 18:30 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**

Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

Thursday, 2019/6/27

FLASH lecture hall

09:00 - 10:30 BiomolActionII_Session_7

Lectures

09:00 - 09:45 **Mass spectrometry**

Hartmut Schlüter

09:00 - 09:45 **Raman spectroscopy**

Michael Rübhausen

11:00 - 12:30 BiomolActionII_Session_8

Lectures

11:00 - 11:45 **Native MS in biophysical and structural characterization of protein complexes**

Charlotte Uetrecht

11:00 - 11:45 **Saturation transfer difference (STD) NMR as a tool to study protein-ligand interactions**

Thomas Peters

Cafeteria

10:30 - 11:00 Tea/coffee break

Networking

12:30 - 13:45 Lunch break

Networking

19:00 - 21:00 Postersession_2

Poster Sessions

Laboratory

14:00 - 18:30 BiomolActionII_Practicals_4

Practical

14:00 - 16:00 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**

Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

FEBS Practical Course 2019 - Biomolecules in Action II

16:00 - 16:30 **Short break**

16:30 - 18:30 **AFM + SEM / Analytical UC + MS / CD + Biacore / DLSnanosite + SONICC / Calorimetry + nDSF**
Maria Garcia Alai, Hévila Brognaro, Sven Falke, Kristina Lorenzen, Jeroen Mesters, James Moore, Dominik Oberthür, Ekaterina Round, Robin Schubert

Friday, 2019/6/28

FLASH lecture hall

09:00 - 10:30 BiomolActionII_Session_9

Lectures

09:00 - 09:45 **Gathering relevant information from WWW-resources**

Jose A. Gavira

09:00 - 09:45 **Microfluidic Reaction Control for Time-Resolved Structure Determination at XFELs and Synchrotrons**

Martin Trebbin

11:00 - 12:30 Plenary_2

Plenary

11:00 - 11:45 **XFEL based SFX**

Serial crystallography and diffraction with X-ray FELs

11:00 - 11:45 **X-ray Fourier holography takes off**

Taisia Gorkhover

12:45 - 13:15 Discussion and closing remarks

Closing remarks

12:45 - 13:15 **Discussion and closing remarks**

Christian Betzel and Jeroen Mesters

Cafeteria

10:30 - 11:00 Tea/coffee break

Networking

13:15 - 14:00 Lunch break

Networking