

MOSBRI Course on Quality control for Integral Membrane Proteins, ESC3. EMBL Hamburg, Germany (EMBL-SPC) from 12th-14th September 2022– Registration open!



This MOSBRI course focuses on sample preparation of integral membrane proteins and their complexes using a biophysical quality control pipeline prior to performing structural biology experiments, such as electron cryo-microscopy (cryo-EM) and macromolecular crystallography (MX). The course will contain tutorial lectures, instrument demonstrations and practical sessions, and is aimed at researchers with some experience in membrane protein purification or interested in acquiring new scientific and technical skills on quality control. The course is free of charge, with financial support available for participants.

Registration is open and the deadline for application has been **extended until the 15th of August 2022**.

Find more information about this course and how to apply at:

<https://www.mosbri.eu/training/end-user-short-courses/esc3/>

1st MOSBRI Scientific Conference 2022 in Paris

The MOSBRI2022 conference was the first on-site scientific meeting organised by the MOSBRI project since its launch in July 2021. The meeting provided a platform for international scientific exchange and showcased the newest developments in molecular-scale biophysics and related areas. 170 participants attended the meeting at Institut Pasteur (Paris, France). 25 outstanding speakers presented the state of the art of their research and 13 company representatives presented the latest advances in biophysical instrumentation. After two years of virtual conferences, the opportunity to network extensively in person was highly appreciated, notably during two evening poster sessions.



Participants of the MOSBRI2022 conference at Institut Pasteur, Paris.

The next MOSBRI scientific conference will be held in Zaragoza, Spain, from the 5th to 7th of June 2023!

MOSBRI course on Fluorescence Microscopy for Amyloid Fibril Imaging Linköping (Sweden) from 23rd to 25th May 2022

Five participants from four countries: Belgium, Denmark, The Netherlands and Sweden, attended the ESC2 course on fluorescence microscopy for amyloid fibril imaging at Linköping University (ProLinC) in Sweden. The 3-day course, hosted by Sofie Nyström and Per Hammarström (ProLinC) included lectures about amyloid fibril staining using fluorescent probes, fluorescence microscopy imaging, and image data processing in model systems and in amyloid diseases. The course also comprised of hands-on sessions in the lab and at the microscopes using participants' own samples (recombinant proteins, cells, and tissue sections).

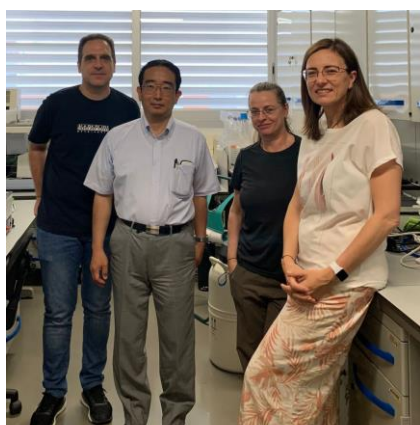
All lecture presentations are available for download on the MOSBRI website:

<https://www.mosbri.eu/training/end-user-short-courses/esc2/>



ESC2 course participants preparing samples

MOSBRI reaching out to the World with transnational access



From left to right: Adrian Velazquez-Campoy, Daisuke Seo (Kanazawa University), Sonia Vega, and Olga Abian

Dr Daisuke Seo from Kanazawa University in Japan visited the MOSBRI site BIFI-LACRIMA (University of Zaragoza, Spain) to carry out research on the project *Molecular mechanism of determining the directionality of the reversible reaction catalysed by ferredoxin-NAD(P)⁺ oxidoreductase*. This project, reaching beyond Europe, was enabled by the fact that MOSBRI can grant up to 20% of its access to user groups coming from outside the EU or associated states.

BIFI-LACRIMA is the MOSBRI reference site for isothermal titration calorimetry (ITC) and thus a natural choice for Dr Seo to carry out assays on Ferredoxin (Fd), a small iron sulphur protein functioning as an electron mediator, to investigate the reduction/oxidation of Fd with NADP⁺, a process which is catalysed via a soluble flavoprotein, ferredoxin-NAD(P)⁺ oxidoreductase (FNR):

$$\text{NAD(P)H} + 2\text{Fd}_{\text{ox}} \rightleftharpoons \text{NAD(P)}^+ + \text{H}^+ + 2\text{Fd}_{\text{red}}$$

Dr Seo used ITC to determine the binding parameters (intrinsic affinities and enthalpies, as well as cooperativity constants and heterotropic enthalpies) for the interaction of FNR with NADP⁺ and Fd, in relation to the mechanism that determines the directionality of FNR action.

Did you know that ...

- Under MOSBRI, BIFI-LACRIMA offers their expertise in Protein Stability and Interactions, Protein Stabilization and Drug Discovery, as well as Characterization and Quality control.
- BIFI-LACRIMA is the MOSBRI reference site for Differential Scanning Calorimetry, Isothermal Titration Calorimetry, and Time-resolved single particle fluorescence
- Using MOSBRI's free-of-charge transnational access programme, you have the possibility not only to carry out research at BIFI-LACRIMA, but also to gain knowledge from their extensive expertise and thus learn how to best use e.g. calorimetry in your home laboratory.

Read more about BIFI-LACRIMA's expertise at www.mosbri.eu/partners/bifi-lacrima/

MOSBRI offers free Transnational access to our biophysical pipelines

Did you know that **MOSBRI** offers **free-of-charge** access to full molecular-scale biophysical characterisation of your sample?

We call this offer **MOSBRI pipelines**.

The **MOSBRI pipelines** are an integrated access to a synergistic set of biophysical instruments and technologies. This will allow the TNA user to fully exploit the overarching expertise of the TNA site to tackle advanced questions.

Our pipelines allow you to study your samples in many ways, including *protein sample optimization, monodispersity and stability, protein characterization and architecture, and multi-technique interaction studies*. The **MOSBRI pipelines** also include studies of more specific biological systems like membrane proteins and amyloids. Furthermore, we aim to develop new pipelines based on the needs and experience we gain from our TNA users.

You can read more about the **MOSBRI** pipelines at <https://www.mosbri.eu/services/pipelines/> or if you have any questions or enquiries, please do not hesitate to contact the **MOSBRI** TNA manager (tna@mosbri.eu).



In other news...

MOSBRI had a booth at the 8th NovAliX conference: “Biophysics in drug discovery” on 9th to 11th May 2022, in Munich (Germany) and at the Instruct Biennial structural biology conference (18th -20th May 2022) in Utrecht, The Netherlands. **MOSBRI** partners from Czech Republic, France, Germany, and Spain showcased their research and represented the project at these two events.



MOSBRI booth at the NovAliX conference 2022.

From left to right: Juan Sabin (Affinimeter),
Chris Gennick (**MOSBRI** SAB member, Novartis)
and Patrick England (Institut Pasteur).



Gala dinner at the Biennial Instruct conference 2022.

From left to right: Angelica Struve, Stefan Niebling, Osvaldo Burastero (EMBL-SPC), Patrick England, Liliana Avila-Ospina (Institut Pasteur) and Jan Stransky (MoB-IBT).

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