

INSTRUCT workshop on Nanobodies for Structural Biology and beyond

Nanobodies4Instruct Training course

We organize the first Nanobody4Instruct Training Course in Brussels **from 9 to 19 September 2018 in Brussels**. The workshop will be devoted to the **hands on discovery** of nanobodies and focusing on its applications in structural biology. 12 researchers/students from INSTRUCT member countries will be selected. The trainees can contribute their own pet protein and will discover the Nanobodies to be used in their future research. In parallel, the researchers will be trained in applying such antibodies in X-ray crystallography and cryo-EM. New developments in the field (Megabodies, Fluobodies) will also be introduced.



In practice, each researcher will have the opportunity to send his/her own protein samples for immunization to Brussels, **4 months prior to the course (Deadline 31 May 2018)**. Immunizations will be completed upfront allowing the participants to perform selections on their own proteins, starting from validated immune libraries. During the course, participants will use their own protein samples to discover the most useful antibodies for solving the structure of their target. For practical reasons, we limit the number of antigens to six resulting in six discovery projects to be run in parallel in small teams. Some of the discovery programs will make use of phage display, others will exploit yeast display. Flipped classroom will be the preferred instructional strategy to introduce the antigens/targets, to plan experiments and report on the results.

Venue: VIB-VUB center For Structural Biology in Brussels

The VIB-VUB center for Structural Biology (CSB) at the Vrije Universiteit Brussel is a center of excellence in structural biology that is recognized worldwide for its scientific work, for the technologies it develops and for the spin-offs it creates. CSB is an integrated center that supports the major methodologies for structural biology (biophysics, NMR, X-ray and cryo-EM) complemented with unique and differentiating platforms including Nanobody technology. The center also hosts the Nanobody4Instruct facility.

Brussels is the thriving center of Europe, and the Vrije Universiteit Brussel is in the heart of it. Brussels is home to the European Commission, Parliament and NATO, a buzzing, influential city where history is made. The city is a key European commercial hub too, a base for many progressive international companies. But more than that, Brussels is a compact city, friendly, positive, cosmopolitan, and easy to get around. Eating out plays a significant part in Belgian life. Along with the celebrated local cuisine, there are restaurants representing every corner of the globe. Nightlife is lively, with plenty of concerts, bars and clubs, theatre and dance. Something for everyone.

Tutors

Jan Steyaert (Novel applications of Nanobodies in Structural Biology), Els Pardon (Nanobody discovery), Rouslan Efremov (Nanobodies in Cryo-EM). We will also invite a number of (International) speakers to showcase appealing applications of Nanobodies in Structural Biology.



Housing

Students will be housed in U-residence on the campus of the Vrije Universiteit Brussels at walking distance of the research labs of CSB (www.u-residence.be). Restaurants, bars and sport accommodations are available on campus.

Getting There

Air: Brussels International Airport is only 30 minutes away from the lab.

Rail: CSB is connected by train to Brussels Midi station, with national and international high-speed connections to London, Paris, Amsterdam, Köln etc.



Associated activities

This workshop will precede the International VIB Conference ‘Structural Dynamics in Cellular Communication’, which will take place September 20-21, at the Royal Academy of Sciences in the heart of Brussels, Belgium. We will negotiate a special rate for participants of the workshop to attend the meeting.

Applications

The workshop is particularly targeted for PhD students or postdocs having projects aimed at 3D structure determination using X-ray crystallography or cryo-EM, working at institutes of Instruct-ERIC countries. Trainees are encouraged to send proteins in advance. There is no registration fee and we aim to cover also the accommodation costs and meals of the students. Application for the course can be submitted from now on till 28.02.2018 to Maia De Kerpel (Maia.De.Kerpel@vub.be). The application should include:

- a cv
- a motivation letter [1 page maximum]
- an abstract of the project that on which you would like to generate Nanobodies [1 page maximum]
- a letter of recommendation from your supervisor

Your motivation letter should include information on your pet protein to potentially be used for immunization and Nanobody discovery during the workshop. We will decide and inform each applicant as soon as possible. Subsequently we will communicate concerning sample preparations and shipment. We will also ask you to prepare two PowerPoint slides, introducing your lab (title slide) and your project (second slide) to be used for a brief introduction at the beginning of the workshop.

