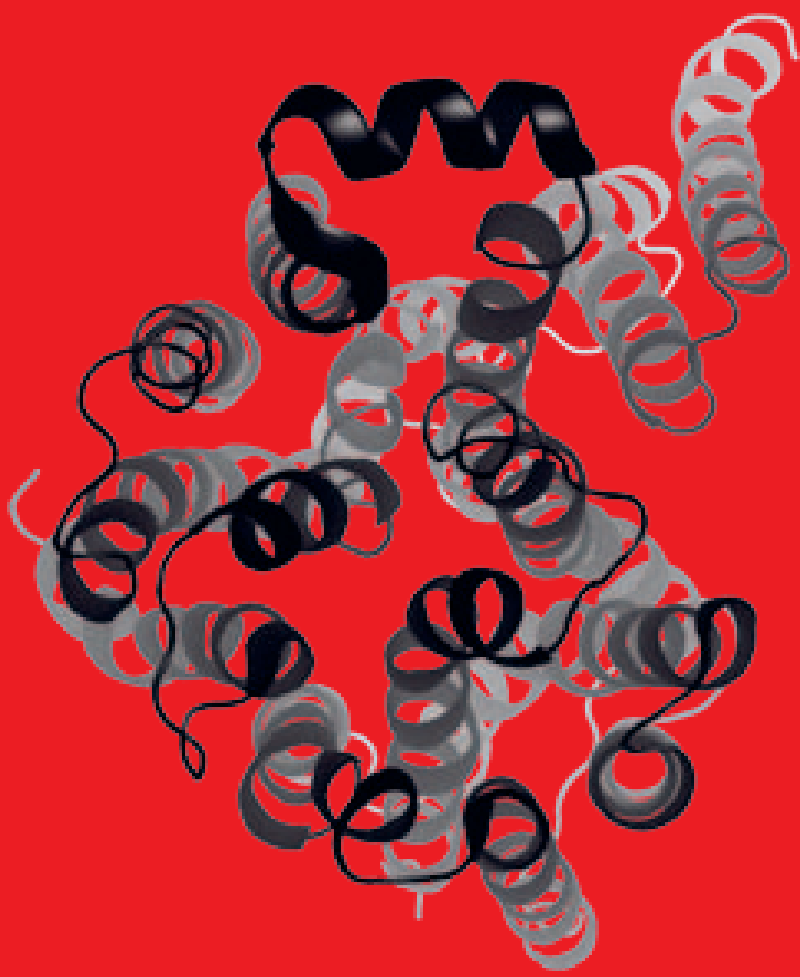


Bilbao Advanced Courses on Biophysics 2011
at the Unidad de Biofísica (CSIC - UPV/EHU)

EXPRESSION, PURIFICATION, CRYSTALLIZATION AND STRUCTURE OF MEMBRANE PROTEINS

A PRACTICAL COURSE
DIRECTOR: SO IWATA



Aim:

The aim of this course is to introduce students to the topic of structural biology of membrane proteins. The course is mainly for PhD students and postdocs in the field of structural biology with a special interest in membrane proteins.

Background:

Membrane proteins represent one of the best examples where more efforts needed in structural biology. More than a quarter of ORFs in all sequenced genomes code for membrane proteins and nearly 50% of the drug molecules in the market, including many of the 200 best selling drugs, target membrane proteins. In spite of their abundance and importance, only around 200 of more than 60,000 protein structures in the Protein Data Bank represent unique membrane proteins. Membrane proteins are difficult to express, purify and crystallize because of their hydrophobic properties and flexibility. In order to introduce students to the topic of structural biology of membrane proteins, the course will include theoretical lectures, practical sessions and demonstrations.

The topics:

- Target identification and selection (one versus many homologues)
- Membrane protein solubility, stabilization (detergent screen)
- Membrane protein purification and characterization
- Thermostability assays
- High-throughput crystallization including lipidic cubic phases
- Data collection using synchrotron radiation
- Structure determination

Date: September 12 - 18, 2011

Registration: Free registration and accommodation for 20 participants.

Travel grants will be offered

Application deadline: July 20, 2011

Venue: Unidad de Biofísica (CSIC-UPV/EHU)

Barrio Sarriena s/n 48940, Leioa, Vizcaya SPAIN

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Speakers:

- **David DREW**, Imperial College London, UK
(Expression and Purification)
- **Arne ELOFSSON**, Stockholm University, Sweden
(Bioinformatics)
- **So IWATA**, Imperial College London, UK
(Structure Determination)
- **Linda JOHANSSON**, University of Gothenburg, Sweden
(Crystallization in Cubic Phase)
- **Isabel de MORAES**, Imperial College London, UK
(Data Collection and Structure Determination)
- **Simon NEWSTEAD**, Oxford University, UK
(Protein Stabilization and Crystallization)

Organisers: Marcelo E. GUERIN
Diego M. A. GUERIN
Isabel de MORAES

Courses coordinator: Jose REQUEJO-ISIDRO

