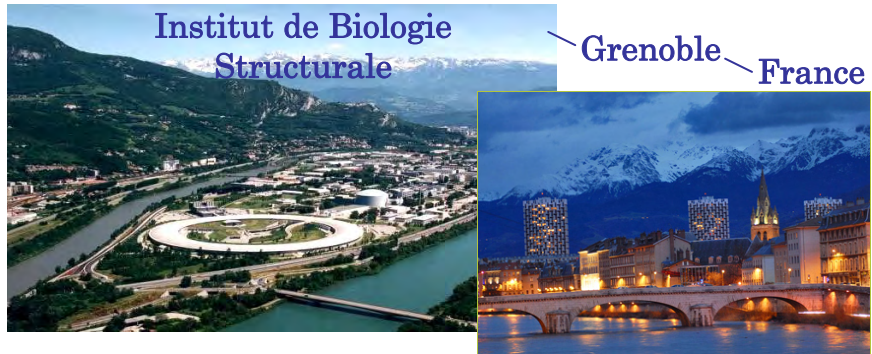


IBS



Postdoctoral Position Ion Channels, Receptors, and Biosensors

Institut de Biologie Structurale, Grenoble

A postdoctoral position is available in the Laboratory of Membrane Proteins of the Institute for Structural Biology (IBS) in Grenoble, France (www.ibs.fr)

We have devised a novel type of bio-inspired sensors, Ion-Channel Coupled Receptors (ICCR), based on the fusion of receptors with an ion channel. Binding of a ligand to the receptor triggers opening of the associated ion channel that is easily detectable using standard electrophysiological techniques. This concept was validated by the creation of ICCRs between a potassium channel and several G-protein coupled receptors (GPCR). In collaboration with biochemists, bioinformaticians, and computer scientists, we are now pursuing this work in several intertwined directions: structure-function study of receptor-channel interactions in existing ICCRs, design and construction of new ICCRs, mechanism of protein-protein interactions in natural ICCRs such as the K-ATP channel. Although the project has obvious biotechnological applications, the approach shall remain very fundamental with a strong focus on the structure and dynamics of membrane proteins and on their interactions.

References:

Moreau et al (2008) Nature Nanotech. 3:620-5

Vivaudou et al (2009) Structure and function of ATP-sensitive K⁺ channels In: Ion Channels: From Structure to Function, Ed. J Kew & C Davies, Oxford University Press

Hosy et al (2010) J Biol Chem (in press)

We are looking for a motivated individual with a demonstrated experience in molecular engineering and biophysics. A knowledge of electrophysiological recordings, bioinformatics and/or membrane proteins will be an asset. At least one peer-reviewed publication in a recognized international journal is absolutely required.

This position is available for 3 years starting as soon as possible, with possibility of a 1 year prolongation. Salary after tax ~2100€/month (~3000 US\$). The project is funded by the French Research Agency ANR.

Send CV with references to Dr Michel Vivaudou (e-mail: vivaudou@ibs.fr)