



# ImplantSens

European Training Network for development of implantable biosensors

## Early stage researcher position at Centre National de la Recherche Scientifique, Bordeaux

Institut des Sciences Moléculaires (ISM)

Centre de Recherche Paul Pascal (CRPP)

### **ESR2: Highly organized porous and hierarchical electrodes for the immobilization of tailored enzymes**

The fellow will elaborate biofunctionalized electrodes with a high structural control over several length scales in combination with engineered enzymes and characterize their electrocatalytic behavior in terms of charge transfer and mass transport properties in order to optimize the performance of the sensor. A strong background in electrochemistry is mandatory.

Several secondments at different other partners of the consortium are possible:

- Ruhr-University Bochum - Design of redox polymers and development of enzyme switching protocols
- CSIC - Institute of Catalysis Madrid - Covalent immobilization of redox enzymes to electrodes.
- Southampton University - Covalent modification of electrode surfaces.
- Nanoflex Daresbury - Electrochemical sensor development.

Employment: The fellow will be employed in a full-time contract established by CNRS according to the current rules.

### **About the Employer**

CNRS is a public organization under the responsibility of the French Ministry of Education and Research and the largest fundamental research organization in Europe. It is constituted of many institutes and is the head organization of two partner laboratories from Bordeaux: a) Centre de Recherche Paul Pascal (CRPP) with expertise in bioelectrochemistry, biocatalysis and molecular biology b) The group of Analytical Nanosystems of the Institute of Molecular Science (ISM) with expertise in electrodeposition, electroanalysis, bioelectrochemistry and nanostructuring of electrodes. CRPP is one of the leading research centers in France in the field of physical-chemistry of soft condensed matter with > 140 persons and ISM is one of the biggest chemistry laboratories in France (>250 persons).

The work will be supervised by Dr. Nicolas Mano (<http://www.crpp-bordeaux.cnrs.fr/>) and Prof. Alexander Kuhn (<http://nsysa.ism.u-bordeaux.fr/>). Both groups are equipped with top-level instrumentation for the elaboration and characterization of nanostructured surfaces, their modification with designed enzymes and the related electrochemical testing.

The candidate will also benefit from training in extra-scientific skills (language courses, management, communication etc..) provided by the University of Bordeaux via the doctoral school of chemistry.



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