

ImplantSens

11 Early Stage Researcher positions available

ImplantSens is a Marie Skłodowska Curie European Training Network running from 2019 to 2023 dealing with research on the development of long-term stable implantable biosensors. Applications are invited for highly qualified and motivated young researchers to work full time on projects under a three-year PhD program hosted across seven European countries.

What is ImplantSens?

ImplantSens will develop long-term stable implantable electrochemical biosensors by overcoming mass-transport limited sensing schemes. This is the major unsolved problem due to the formation of capsules by the foreign body response upon implantation of a sensor. ImplantSens will not only contribute to the painless long-term monitoring of glucose levels for diabetic patients but also to the development of future implantable sensors for the management of other chronic diseases. The 11 ESRs will be engaged in all tasks of this scientific chain, thus being trained in the fundamentals of bioelectrochemistry, enzyme engineering, electrode design as well as biocompatibility. Training of the fellows will be performed via an innovative program based on a blended learning concept and will take place at the host institutions, via secondments, workshops, schools and e-learning elements. The scientific training will be completed by training of complementary skills with respect to management, fund raising, IPR and scientific communication. The consortium consists of 7 leading scientists in Europe with the necessary expertise to target this ambitious goal supported by 4 SMEs. ImplantSens will improve the availability of a highly skilled workforce for European industries and research strongly needed at the beginning of the 4th industrial revolution.

Where are the ImplantSens positions?

ESR1: Ruhr-Universität Bochum (Germany), Supervisor – Prof. Dr. Wolfgang Schuhmann
Switchable glucose biosensors based on redox polymers, shields and multilayer architectures and transient electrochemical measurements

ESR2: CNRS - ISM Bordeaux (France), Supervisor – Prof. Dr. Alexander Kuhn & Dr. Nicolas Mano
Highly organized porous and hierarchical electrodes for the immobilization of tailored enzymes

ESR3: INSERM - BIOTIS Bordeaux (France), Supervisor – Dr. Claudine Boiziau
Biocompatibility

ESR4: CSIC - Institute of Catalysis Madrid (Spain), Supervisor – Prof. Miguel Alcalde & Prof. Antonio L. De Lacey
Directed evolution of galactose oxidase for implantable sensors

ESR5: National University of Ireland Galway (Ireland), Supervisor – Prof. Donal Leech
Oxygen-independent, switchable, mediated enzyme electrodes for glucose detection

ESR6: University Limerick (Ireland), Supervisor – Prof. Edmond Magner
Mesoporous electrodes for the immobilization of enzymes

ESR7: Southampton University (UK), Supervisor – Prof. Philip Bartlett
Enzyme immobilization and modelling

ESR8: **DirectSens Vienna** (Austria), Supervisor – Dr. Roman Kittl & Prof. Roland Ludwig
Switchable carbohydrate dehydrogenases

ESR9: **Eyown Madrid** (Spain), Supervisor – Dr. Juan Bautista Crespo
Library creation methods for genetic engineering of galactose oxidase under physiological conditions

ESR10: **NanoFlex Daresbury** (UK), Supervisor – Dr. Neville Freeman
Nanoband electrodes for switchable sensors

ESR11: **Aptusens Malmoe** (Sweden), Supervisor – Prof. Sergey Shleev
Biosensors operating in human physiological fluids under homeostatic conditions

Are you eligible?

- Master Degree in Chemistry or Biochemistry, Engineering, Physics or Biology
- Less than 4 year's research experience.
- Excellent spoken and written English and good communication skills.
- Candidates must not already have a PhD
- Candidates must not have lived in or carried out their main activity (work or study) in the hosting country for more than 12 months in the 3 years immediately prior to their recruitment start date.

What are the employment conditions?

- The successful candidates will be employed at a host institution.
- The contract will be full time and fixed term for 36 months.
- All candidates will be enrolled in a PhD programme of the host institution.
- The posts are available immediately after the selection procedure subject to fulfilment of contract and visa requirements. The latest starting date is 1st December 2019.

Are you interested?

Please submit your application in PDF format to ces@rub.de. You may apply to up to three vacancies under a separate application for each position and indicate a priority list, which will be considered in case of hiring.

The following documents should be attached:

- Your CV
- A statement about your research interests
- A copy of the certificate for your Master Degree
- Your full contact details.
- Your desired starting date.

The deadline for applications is 15th May 2019

Data collected from the candidates will be used for recruitment purposes only and will not be shared outside ImplantSens unless authorised by the applicant. The data will be kept for a period of five years after the end of the project for EU auditing purposes.



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