



AIMed – Early Stage Researchers Job advert

BASIC INFORMATION

Title:

Development of novel antibacterial peptides based on human defensins domains for biomaterials functionalisation

Offer description:

The LMCPA (Laboratoire des Matériaux Céramiques et Procédés associés) has an opening for a three years position from October 2020 (Université Polytechnique des Hauts-de-France, Cambrai, France). This position take place within an ITN Marie Curie project in the team for the development of new antibacterial surfaces for biomaterials used in surgery, including the design of new antibacterial peptides and their functionalization of surfaces. The work will take place mainly in Cambrai (France) with some stages in other labs of the Aimed project (Birmingham, Porto, Trieste, Toulouse, ...).

Goal of the team project: The increase of antibiotic-resistant bacteria infections during the last decade prompted the search of new antimicrobial molecules. Moreover, these nosocomial infections occur especially in surgical orthopaedic procedures where the bone sites are of restricted access for antibacterial treatments. Recent developments focus to develop non-antibiotics antibacterial agents directly on the replacement materials used in orthopaedics surgery as metallic, ceramic and polymeric materials. Human antibacterial defensins are natural peptides synthesised by human body to counteract bacterial infections. Studies have shown that the use of small specific defensins domains can inhibit bacterial growth. Then, the goal is to develop a new way of synthesis of these defensins peptides that is less expensive and easier than the chemical route, to functionalise different materials and to evaluate the biocidal effects over time.

Then, the project is aimed to : 1) Design sequences of plasmid and defensin domains DNA ideal for biomaterials functionalisation. 2) Produce antibacterial peptides by recombinant protein technology; 3) Fully characterise the structure and antibacterial efficacy of peptides before and after materials functionalisation; 4) Compare antimicrobial activity according to their method of synthesis.

We are looking for a motivated candidate who can work independently and with an international consortium. This position is particularly suited for applicants with background in recombinant peptides synthesis and microbiology studies.

Research field

Main research field

Biochemistry

Sub research field (optionally)

Peptide Synthesis, Molecular biology, Microbiology



Type of contract	Job status	Hours Per Week
PhD Contract	PhD	39.4h (1607h/year)
Application deadline	Time zone	Envisaged job starting date
15-08-2020	CET	1 st October 2020

Is the job funded through a EU research framework programme?

H2020 / Marie Skłodowska-Curie Actions

Reference Number	Marie Skłodowska-Curie Grant Agreement Number
	861138

How to Apply

Website: <https://www.uphf.fr/LMCPA/offres-demploi-de-stage-ou-de-these>
<http://aimed-itn.eu/>
Email: esr06.aimedproject@gmail.com



HIRING INFO AND WORK LOCATION

Hiring Organisation & Offer Posting Contact Details

Organisation/Company

Université Polytechnique des Hauts-de-France

Organisation type

University

Department

Laboratoire des Matériaux Céramiques et Procédés associés (LMCPA)

Country

France

Street

City

Maubeuge

State

Postal Code

59600

Website

<https://www.uphf.fr/LMCPA/offres-demploi-de-stage-ou-de-these>

Contact Person Email

Edwige Meurice or Anne Leriche
esr06.aimedproject@gmail.com

Phone

+33 3 27 53 16 60

Mobile phone

Fax

+33 3 27 53 16 67

Work Locations

same as hiring organisation information

Number of positions available

1

Company/Institute

LMCPA

Country

France

Street

6 rue de Rambouillet

City

Cambrai

State/Province

Postal Code

59400



REQUIREMENTS

Education

Main Research Field	Level
Biochemistry	Master degree or equivalent
Main Research Field	Level
Microbiology	Master degree or equivalent

Skills/Qualifications

- Strong collaborative skills, independent and analytic
- Results-oriented and with a strong motivation for the project
- Availability and willingness to travel and work in different places in the world
- Languages: excellent working knowledge (written and oral) of English, french (oral) would be appreciated

Research experience

- Molecular biology: PCR, cloning, bacteria transformation,...
- Protein purification and characterisation: Chromatography (ion exchange, affinity, ...),
- Cell culture : bacteria growth measurement, MIC, ...

Languages

Language	Level
English	Advanced
Language	Level
French	Optional



ADDITIONAL INFO

Website for additional job details

<http://aimed-itn.eu>

Benefits

The successful candidates will receive an attractive salary in accordance with the MSCA regulations for early stage researchers. The exact salary will be confirmed upon appointment and is dependent on the country correction factor (to allow for the difference in cost of living in different EU Member States). The salary includes a living allowance, a mobility allowance and a family allowance (if married or with children). The guaranteed PhD funding is for 36 months (i.e. EC funding, additional funding is possible depending on local research group). In addition to their individual scientific projects, all fellows will benefit from further continuing education, which includes internships and secondments, a variety of training modules as well as transferable skill courses and active participation in workshops and conferences.

Eligibility criteria

Early-stage researchers (ESR) are those who are, at the time of recruitment by the host, in the first four years (full-time equivalent) of their research careers. This is measured from the date when they obtained the degree which formally entitles them to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the research training is provided, irrespective of whether or not a doctorate was envisaged. That means typically, for European (or Worldwide) applicants, in the first four years after their Master's degree.

Conditions of international mobility of researchers: Researchers are required to undertake trans-national mobility (i.e. move from one country to another) when taking up the appointment. At the time of selection by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation for more than 12 months in the 3 years immediately prior to their recruitment. Short stays, such as holidays, are not taken into account.

English language: Network fellows (ESRs) must demonstrate that their ability to understand and express themselves in both written and spoken English is sufficiently high for them to derive the full benefit from the network training.

Selection process

First, all complete candidatures will be examined by the selection committee and a shortlisting of applicants will then be interviewed by the committee.



Additional comments

The application should contain the following documents (all provided in English language):

- AIMed ESR Application Form to be completed

-Curriculum Vitae

-Cover letter: Refer to AIMed project and ESRs Recruitment procedure, indicate clearly the ESR positions to which you are applying in order of priority (maximum of three). Explain what your motivation is and why you would like to apply for these specific ESR position(s). List your skills that would fit closer to the requirements of the chosen projects, and provide the following supporting evidence:

- Certificate of Master's Degree (or equivalent) with transcripts of records
- Proof of English proficiency
- Recommendation letter(s) from previous supervisors or employers
- List of publications, if applicable
- Work experience certificates, if applicable
- Manuscripts of the listed publications, if applicable

All official certificates should be provided in their original European language or with an associated official English translation for non-European documents.