

1 PhD position at Claude Bernard Lyon University to develop innovative chitosan-based nanoparticles to improve delivery of candidate RNA therapeutics in ischemic heart failure cardiac tissue.

RESEARCH FIELDS

Biological sciences › Biomedical Sciences, Cell Biology, Biochemistry, Biotechnology or Molecular Life Sciences.

Chemistry › Biochemistry or Nanotechnology.

RESEARCHER PROFILE

1 PhD student (≤ 4 years of research experience at time of recruitment).

APPLICATION DEADLINE

10 JUNE 2019 18:00h - Europe/Brussels

LOCATIONS

- Claude Bernard Lyon University (France).

TYPE OF CONTRACT

Temporary.

JOB STATUS

Full-time.

HOURS PER WEEK

40.

OFFER STARTING DATE

Flexible starting July – December 2019.

EU RESEARCH FRAMEWORK PROGRAMME

H2020 / Marie Skłodowska-Curie Actions / European Training Network.

MARIE CURIE GRANT AGREEMENT NUMBER

813617.

Claude Bernard Lyon University is looking for an Early Stage Researcher (ESR) who will develop innovative chitosan-based nanoparticles to improve delivery of candidate RNA therapeutics in ischemic heart failure cardiac tissue. This ESR position is part of the TRAIN-HEART consortium, a Marie-Sklodowska Curie Innovative Training Network that starts on the 1st of June 2019.

ABOUT CLAUDE BERNARD LYON UNIVERSITY

Claude Bernard Lyon University (UCBL) is a multidisciplinary university in the primary fields of physics, chemistry, technical and material sciences, medicine and pharmacy. UCBL has over 2,600 professors and assistant professors and 39,000 students, leading to more than 4,500 internationally published articles and 40 patents per year. UCBL was ranked first in the world by U-Multirank. The laboratory Ingénierie des Matériaux Polymères (IMP) (Ingénierie des Matériaux Polymères), that participates in the TRAIN-HEART consortium, is a joint research unit (UMR5223) belonging from the Centre National de la Recherche Scientifique (CNRS), University Claude Bernard Lyon 1, St Etienne University Jean Monnet and the National Institute of Applied Sciences in Lyon. The laboratory activities are managed by 220 people dedicated to both research and teaching/training. Prof. Thierry Delair will be supervising this ESR project at UCBL.

ABOUT TRAIN-HEART

The TRAIN-HEART consortium, funded by the European Commission (2019-2023), is made up to train the next-generation of innovation-minded researchers who are able to explore and translate pathogenic insights, accelerate the development of existing RNA therapeutics, and effectively implement innovative drug delivery systems to improve safety and therapeutic efficacy for the treatment of ischemic heart failure. Academic, clinical and industry partners, covering various disciplines ranging from cardiovascular biology to clinical pharmacology and functional genomics to drug development, have teamed up in the EU:

- Maastricht University (The Netherlands)
- Hannover Medical School (Germany)
- King's College London (United Kingdom)
- Claude Bernard Lyon University (France)
- Technical University Munich (Germany)
- Humanitas University (Milan, Italy)
- University Hospital Hamburg (Germany)
- University of Porto (Portugal)
- Mirabilis Therapeutics BV (Maastricht, The Netherlands)
- Miltenyi Biotec (Cologne, Germany).

TRAIN-HEART website url: <http://www.train-heart.eu>

ABOUT THE ESR PROJECT

The PhD student will be enrolled in the Materials Doctoral School of ED 34 Lyon Materials and guided by two accredited academic supervisors.

- **Main supervisor: Prof. Thierry Delair.**
- **Local co-supervisor: Dr Alexandra Montembault.**

This PhD student will develop innovative nanoparticles based on nano-sized complexes which remain stable in physiological conditions by adapting intrinsic parameters of chitosan, recently developed by the group of Prof. Delair. Using these new nanoparticles, existing antisense oligonucleotides and sense oligonucleotides (mimics) will be delivered to improve pharmacokinetic properties and a sustained therapeutic stimulus of the injured heart tissue. The main results of this project will be the generation of chitosan nanoparticles that improve delivery of candidate RNA therapeutics in ischemic heart failure cardiac tissue.

Secondments:

This PhD student will have the opportunity to spend 3 months at University of Porto, Portugal (group of Prof. Adelino Leite Moreira, Cardiothoracic Surgery to acquire skills in cardiac physiology, and phenotyping in large animal (porcine) models of ischemic heart failure.

Another non-academic secondment opportunity is proposed for 2 months at Mirabilis Therapeutics BV (The Netherlands). Mirabilis is a biotechnology start-up company that is dedicated to the early development of microRNA-based therapies for cardiovascular and metabolic disorders. The front running product is indicated against ischemic heart failure.

CANDIDATE REQUIREMENTS

REQUIRED EDUCATION LEVEL

A degree (MSc, or equivalent) in Chemistry (Biochemistry or Nanomedicine), Health or Life Sciences (Biomedical Sciences, Biotechnology or Molecular Life Sciences). Candidates in the final stages of obtaining their degree are eligible to apply.

REQUIRED LANGUAGES

ENGLISH: Excellent, both written and spoken.

SKILLS/QUALIFICATIONS

We expect a Master's degree (or equivalent) in Chemistry and/or Health and/or Life Sciences. Furthermore, the applicant should be able to perform team-oriented as well as independent work.

Desirable methodological skills: excellent background in chemical engineering and/or nanotechnology, and/or hands-on knowledge of advanced chemical methods.

ADDITIONAL INFORMATION

ELIGIBILITY

Applicants can be of any nationality and must be Early Stage Researchers and shall at the date of recruitment by Claude Bernard Lyon University, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. Furthermore, the applicant must not have resided or carried out his/her main activity (work, studies, etc) in the country of his/her host organisation for more than 12 months in the 3 years immediately prior to his/her recruitment.

RENUMERATION

The per annum MSCA PhD student living and mobility allowance (plus family allowance if applicable, family status is assessed at recruitment) is in line with EU-MSCA requirements. This amount will be subject to tax and employee's National insurance deductions and will be paid in EURO.

HOW TO APPLY

Complete applications in English should include the TRAIN-HEART Application Form and its mandatory attachments (<http://train-heart.eu/apply-for-a-train-heart-position>). Please note that applications that do not meet these requirements WILL NOT BE CONSIDERED.

Please send the complete package as 1 PDF file via email to info@train-heart.eu before 10 June 2019 18:00h - Europe/Brussels.

Please familiarize yourself also with the other 14 postings (PhD positions) within the TRAIN-HEART consortium (www.train-heart.eu). Selected applicants will be invited to a following face-to-face interview round (interviews will be held between 17 - 28 June 2019). Awarding decisions will be announced shortly thereafter, and candidates are expected to be available to start their projects between July and December 2019.

HOW YOUR DATA IS KEPT

The data submitted in the Application Form will be used for recruitment purposes only and shared by members of the TRAIN-HEART consortium. The data will be held securely at Maastricht University (network coordinator of TRAIN-HEART) and shared by secure cloud-based storage. Data is intended to be kept for a maximum of four years (the life-span of the project). Further information may be collected from the above-named institutes. Candidates can request deletion of their data by contacting info@train-heart.eu.