PhD position at CHERRY BIOTECH to design and validate a gut-on-a-chip microfluidic system.

RESEARCH FIELDS
Biological sciences › Biology, Biomedical Sciences, Biotechnology or Molecular Life Sciences
Chemistry › Biochemistry
Engineering › Biomedical Engineering
RESEARCHER PROFILE
Early Stage Researcher (≤ 4 years of research experience at time of recruitment)
APPLICATION DEADLINE
30 April 2019 18:00h - Europe/Brussels
LOCATION
- CHERRY BIOTECH (Rennes, France)
- Academic Medical Center (Amsterdam, The Netherlands)

TYPE OF CONTRACT
Temporary, 36 months.
JOB STATUS
Full-time
HOURS PER WEEK
40
OFFER STARTING DATE
Flexible starting June – October 2019
EU RESEARCH FRAMEWORK PROGRAMME
H2020 / Marie Skłodowska-Curie Actions / European Industrial Doctorates
MARIE CURIE GRANT AGREEMENT NUMBER
814168

CHERRY BIOTECH is looking for an Early Stage Researcher (ESR) with a focus on developing a gut-on-a-chip microfluidic system and study the mechanisms of action of aryl hydrocarbon (AhR) producing bacteria and AhR ligands in gut development. This ESR project is part of the GROWTH consortium, a Marie-Sklodowska Curie Innovative Training Network (European Industrial Doctorates) that starts on the 1st of June 2019.

About CHERRY BIOTECH

CHERRY BIOTECH develops and commercializes high performance, precise and user-friendly platforms to fully control the cell environment during live cell microscopy. Cherry Biotech has developed cutting edge universal imaging control platforms that ensure smooth integration and are compatible with any microscope. Our R&D activities are focused on developing new and breakthrough devices to control the micro-environment (Flow rate, temperature, gas pressure, pH...) during live cell imaging apply to on-chip technologies. CHERRY BIOTECH now counts 15 fulltime employees among of which 9 are fully dedicated to R&D.

ABOUT GROWTH

The GROWTH consortium, funded by the European Commission (2019-2023), is made up to train a new generation of researchers working on new pathological insights, biomarker diagnostics and personalized nutritional interventions for intestinal failure in neonates and preterm infants. Academic and industry partners, covering various disciplines ranging from

fundamental research to clinical paediatrics and analytical chemistry to organoid and gut-on-chip applications, have teamed up in the EU:

- Gut Research BV (The Netherlands)
- University Hospital Bonn (Germany)
- Imperial College London (United Kingdom)
- Reckitt Benckiser (United Kingdom)
- Academic Medical Center (The Netherlands)
- Cherry Biotech (France)
- VU Medical Center (The Netherlands)
- TNO Research (The Netherlands)
- Radboud University Medical Center (The Netherlands)

GROWTH is a European Industrial Doctorate programme that requires PhD students to spend at least 50% of their time (18 months) in the non-academic sector.

GROWTH website url: http://www.growth-horizon2020.eu/

ABOUT THE ESR PROJECT

The PhD student will be enrolled in the AMC Graduate School and supervised by an academic and non-academic supervisor, equally exposing the candidate to the academic and non-academic sector.

The PhD student will design and validate a gut-on-a-chip microfluidic system by (1) defining the chip specifications based on identified end users and outcomes requirements, (2) test and determine most suited materials, (3) design and prototype the chip, (4) characterize the chip (optically, thermally) and perform quality assurance, and (5) validate the gut-on-a-chip system by testing in wet lab conditions and compare it with 2D and 3D organoid cultures. The second part of this project entails the investigation of AhR ligands and IL-22 in feces of preterm infants in relation to delivery mode and nutrition. He/she will also characterize the microbial intestinal ecology in feces of preterm infants and study the role of AhR and IL-22 in gut development in preterm and neonates. Lastly, the mechanisms of action of AhR producing bacteria and AhR ligands will be assessed in gut development using the newly established gut-on-a-chip system.

COLLABORATORS IN THIS ESR PROJECT:

- Academic Medical Center (Amsterdam, The Netherlands)
  - Microbiota Center Amsterdam
- VU Medical Center (Amsterdam, The Netherlands)
- Saint Antoine Hospital (Paris, France)
- Rennes University (France)

SECONDMENTS

During the first 36 months of the ESR project, the candidate will have the opportunity to spend 18 months at Academic Medical Center (Amsterdam, The Netherlands) to study the mechanisms of action of AhR producing bacteria and AhR ligands in gut development under supervision of Dr Bruno Sovran and Prof. Wouter de Jonge.

CANDIDATE REQUIREMENTS

REQUIRED EDUCATION LEVEL
A degree (MSc, or equivalent) in Health and/or Life Sciences (Biology, Microbiology, Molecular Biology, Immunology, Biomedical Sciences, Biochemistry or closely related fields) or Biomedical Engineering. 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 Health and/or Life Sciences or Data Sciences. Furthermore, the applicant should be able to perform team-oriented as well as independent work. Desirable methodological skills: excellent background in molecular biology, biochemistry, cell biology, immunology and/or microbiology, hands-on knowledge of analytical methods, engineering.

ADDITIONAL INFORMATION

ELIGIBILITY
Applicants can be of any nationality and must be Early Stage Researchers and shall at the date of recruitment by CHERRY BIOTECH, 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 GROWTH Application Form and its mandatory attachments (http://growth-horizon2020.eu/apply-for-a-growth-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@growth-horizon2020.eu before 30 April 2019 18:00h - Europe/Brussels.

Please familiarize yourself also with the other 7 ESR postings (PhD positions) within the GROWTH consortium (www.growth-horizon2020.eu). Selected applicants will be invited to an Onsite Recruitment Event in Amsterdam on 13 May 2019. Awarding decisions will be announced shortly thereafter, and candidates are expected to be available to start their projects between June and October 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 GROWTH consortium. The data will be held securely at Gut Research BV (network coordinator of GROWTH) 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@growth-horizon2020.eu.