

ESR 11: Development of live biotherapeutic microorganisms to prevent fungal infection

Host Institution: University of Aberdeen, UK

Founded in 1495, the University of Aberdeen is Scotland's third oldest University and the fifth oldest in the UK. Ranked within the world top 140 in the recent QS global league table, Aberdeen is the 'global University of the north'. Aberdeen is a broad-based, research intensive University, which puts students at the head of everything it does.

This project will be hosted in the Rowett Institute and the adjacent Institute of Medical Sciences, both of which are cutting edge biomedical research institutes, collectively housing over 400 scientists and support staff. Access is provided to state-of-the-art core facilities such as high throughput sequencing, anaerobic bacterial cultivation, qPCR, proteomics, metabolomics, flow cytometry, microscopy & imaging.

The current project is in the framework of FunHoMic: "Deciphering the fungus-host-microbiota interplay to improve the management of fungal infections" a MSCA European Innovative Training Network (ITN) that started on the 1st of January 2019. www.funhomic.eu

Project background – The human gut is home to an extremely numerous and diverse collection of microbes, collectively referred to as the intestinal microbiota. The vast majority of the intestinal microbiota is comprised of strictly anaerobic bacteria, which are known to play a number of key roles in human health. One of the main benefits of the intestinal microbiota is that it acts to prevent or suppress the colonisation of the gut by invading pathogens, which protects the host from infectious diseases.

The fungus *Candida albicans* is known to be a minority constituent of the human gut microbiota, and it often resides within the gastrointestinal tract asymptotically. However, *C. albicans* is also an opportunistic pathogen. It can cause vulvovaginal infections in women, and also life-threatening systemic infections in immunocompromised patients. It is thought that the gastrointestinal tract may act as a reservoir for *C. albicans*, from where it can move to other areas of the body and cause disease.

We are therefore interested in understanding the role that competing bacteria that are present within the human gut microbiota may play in preventing and/or suppressing colonisation of the intestines by *C. albicans*. This project will identify specific bacteria isolated from the gut of healthy individuals that can inhibit the growth of *Candida*, and define the mechanisms by which this inhibition occurs. It is anticipated that these proof-of-principle studies will reveal the potential applicability of human gut bacteria as novel live biotherapeutic products targeted towards reducing infections caused by *C. albicans*.

Eligibility criteria – Applicants can be of any nationality and must be Early-Stage Researchers in the first four years of their research career and must not have been awarded a PhD. They must not have resided or carried out their main activity (work, studies, etc.) in the UK for more than 12 months in the 3 years immediately prior to their recruitment.

Please note this post does not meet the minimum requirements as issued by UK Visas & Immigration (UKVI) to qualify for an employer-sponsored visa. We are therefore unable to consider applications from candidates for this post who require sponsorship to work in the UK.

Candidate's profile – The successful candidate will hold a Bachelor's or Master's degree in the Life Sciences (e.g. Microbiology, Biochemistry, Molecular Biology, or Biotechnology), and preferably have practical experience of successfully executing microbiological, biochemical, molecular, genomic, or immunological research. They will be adept at working independently, but will also have strong interpersonal and team-working skills.

We offer – The successful candidate will become an integral member of the Gut Health Group (GHG) at the Rowett Institute, University of Aberdeen. The GHG is a prominent centre for gut microbiota research, possessing a strain bank of hundreds of human gut bacteria, and is renowned for their work on intestinal microbes, diet and human health. The candidate will also work closely with the Aberdeen Fungal Group (AFG), which is internationally renowned for its work on fungal pathogenicity, genomics, immunology & systems biology. S/he will pursue an exciting cross-disciplinary project with translational aspirations at the forefront of microbiota research and medical mycology. They will gain in-depth interdisciplinary training through collaborations across our international network, inter-sectoral mentoring, summer schools and webinars. The project will also involve compulsory secondments to partnering academic and industrial laboratories in The Netherlands and Belgium. The enhanced training and networking afforded by the FunHoMic consortium therefore offer an outstanding opportunity for candidates.

This job opening covers a 3-year research position in the frame of a 3-year PhD doctoral programme. The position is fully funded for 36 months by the European Commission under the H2020 Marie Skłodowska-Curie Actions Innovative Training Network Programme FunHoMic.

The Early Stage Researcher (ESR) will be registered for a PhD at the University of Aberdeen and will receive a highly competitive salary of £35,866, plus a monthly living and mobility allowance and (if eligible) a monthly family allowance.

The University of Aberdeen is an equal opportunity employer. The salary of £35,866 will be paid according to the regulations of the [Marie Skłodowska-Curie Actions](#) and the successful candidate will benefit from a work contract in line with UK national regulations. For further information, please contact Dr Alan Walker (alan.walker@abdn.ac.uk; +44 (0) 1224 438739).

The project will be co-supervised by Professor Carol Munro, Professor Alistair Brown, (both Aberdeen Fungal Group) and Dr Adrien Nivoliez, biose®, France.

Terms of appointment - Any appointment will be made subject to satisfactory references and a 12 month probation period. For further information on various staff benefits and policies please visit <http://www.abdn.ac.uk/staffnet/working-here/>

Applications – Complete applications should include your full CV, a brief statement of your research experience and career intentions, plus the names of at least two academic referees. Applications should be submitted by 31/03/2019 at www.abdn.ac.uk/jobs.