Two post-doctoral positions in malaria modelling

We are seeking two post-doctoral researchers to contribute to research projects on *Plasmodium vivax* malaria in the Pathogenesis and Control of Chronic and Emerging Infections (PCCEI) research unit at the University of Montpellier, southern France. Control of *P. vivax* is a major public health challenge due to uncertainty in the efficacy and safety of treatment regimens, and a difficulty in identifying patients carrying *P. vivax* parasites for targeted treatment. The postdocs will work on recently started research projects including (1) analysing the efficacy and safety of *P. vivax* treatment regimens, and (2) quantifying the impact of targeted public health interventions on *P. vivax* incidence and prevalence. This work is central to improving our understanding of the treatment and control of *P. vivax* malaria, with the potential to shape global malaria treatment guidelines.

Successful candidates will be supervised by Dr. Constanze Ciavarella and collaborate with researchers at national and international partner institutions.

Key responsibilities

- Developing and applying state-of-the-art mathematical and statistical methods/models to analyse data
- Collaborating with experts from different fields (e.g. modellers, infectious disease experts, epidemiologists, clinicians)
- Fitting models to (epidemiological) data using Bayesian inference methods
- Collating and describing datasets used for model fitting
- Presenting and interpreting research findings for specialist and non-specialist audiences
- Disseminating research results in open access peer-reviewed academic journals and at (national and international) scientific conferences

Essential requirements

- A PhD in a quantitative field such as applied mathematics/physics, statistics, infectious disease modelling, computational epidemiology, computer science
- Solid coding skills in a scientific programming language (ideally R, Python and/or C/C++)
- An interest in infectious disease dynamics, epidemiology and public health
- Strong communication and writing skills
- Ability to work independently but also as part of a team
- Fluency in English (written and spoken)

Desirable skills

- Research experience in mathematical modelling of infectious diseases
- Familiarity with Bayesian inference methods
- Familiarity with high-performance computing

What we offer

- Fixed term contract, 27 months in the first instance (for contracts starting on 1 September 2026)
- Monthly gross salary of 2740 to 2963 €, depending on education and experience
- Full time position: 38.5 h per week and 45 days of leave per year
- Remote work (eligible after 6 months): 1 fixed day per week and/or 20 days per year
- Interdisciplinary research environment (dry lab, wet lab, clinical expertise)
- National and international collaborations
- Funding for scientific development and training

Research environment

PCCEI is a highly interdisciplinary research unit combining dry lab, wet lab and clinical expertise. Counting over 80 members, PCCEI is affiliated to University of Montpellier, INSERM (French National Institute of Health and Medical Research) and Université des Antilles.

The Modelling & Quantitative Epidemiology group within PCCEI, jointly coordinated by Dr. Mircea T. Sofonea and Dr. Constanze Ciavarella, currently comprises 9 members at different stages of their career.

About Montpellier

Montpellier is one of France's major cities, with more than 300k inhabitants. Students make up over 25% of its population contributing to the city's lively atmosphere. Located in southern France, less than 10 km from the Mediterranean, the city enjoys a pleasant climate while its surroundings are ideal for outdoor activities. High-speed trains connect Montpellier to other major French cities. The city is also home to the historic University of Montpellier, one of the world's oldest universities, and hosts more than 100 public research units.

How to apply

Submit your application to constanze.ciavarella(at)umontpellier.fr including:

- your CV (max. 2 pages)
- a cover letter (max. 1 page)
- up to 3 relevant publications/preprints (in pdf format)
- the contact details of two academic referees

Applications will be reviewed on a rolling basis until the position is filled.