Imperial College London

Job Title:	Research Associate or Research Fellow (2 posts)
Centre/Department/School/Faculty:	MRC Centre for Global Infectious Disease Analysis / Infectious Disease Epidemiology / Public Health / Medicine
Campus location:	St Mary's Campus (Paddington) although working remotely in the first instance, due to COVID-19
Job Family/Level:	Academic and Research, Research Associate / Research Fellow
Responsible to:	VIMC Research Lead (Dr. Katy Gaythorpe)
Key Working Relationships (internal):	VIMC Research Lead, VIMC Consortium Director (Professor Neil Ferguson), lead investigators, other research and technical staff in the project, consortium members.
Key Working Relationships (external):	Representatives of funders, foundations and agencies.
Contract type:	Full-time until 31 March 2022. Part-time / flexible working will be considered and details can be discussed at interview

Purpose of the Post

We are seeking to recruit two posts at Research Associate or Fellow level to join the science team within the secretariat of the Vaccine Impact Modelling Consortium (VIMC, www.vaccineimpact.org). This major collaborative initiative directed by Prof Neil Ferguson, is based within the MRC Centre for Global Infectious Disease Analysis at Imperial College London and funded jointly by the Bill and Melinda Gates Foundation (BMGF) and Gavi, the Vaccine Alliance ($11 million over 2016-22). The MRC Centre has built upon a world-leading research group in the Department of Infectious Disease Epidemiology to undertake applied collaborative work with national and international agencies in support of policy planning for emerging and endemic infectious diseases.

Gavi, the Vaccine Alliance, finances vaccines for developing countries for several diseases including, for instance, Hepatitis B, Measles, Meningitis A and Yellow Fever. For communication to stakeholders, fundraising and planning of future investment strategies they rely critically on modelled vaccine impact estimates, generated by the consortium. Disease-specific estimates are currently generated by 21 research groups (the consortium modellers) for 12 diseases. The secretariat, based at Imperial College, coordinates activities across the consortium (including an ongoing model improvement programme), provides infrastructure to host the generated datasets, and aggregates and interprets the estimates for use by the funders and other stakeholders.

An opportunity has arisen to join the secretariat's science team of three full-time researchers (who are managed by a separate full-time VIMC Research Lead). The team collaborates closely on the analysis of vaccine impact estimates generated across the consortium and the refinement of the methods used for impact estimation. This research includes (a) improving methods for generating ensemble estimates of disease burden and vaccine impact that fully represent uncertainties in the underlying data sources, assumptions and alternative model structures; (b) refining estimates to allow for sub-national variation in vaccine coverage and disease burden; (c) assessing the effects of socio-economic and geographic clustering of vaccine coverage across different vaccines (i.e. the effect of 'hard-to-reach' groups with low coverage of all vaccines); (d) assisting key country partners with the refinement, interpretation and use of VIMC outputs.

The group also interacts closely with the technical team of five web and software developers building the infrastructure to host and share the estimates with a commitment to open access and reproducible research.

These exciting roles will also offer substantial opportunities to interact with the external modelling groups in VIMC, and to work with staff in Gavi, BMGF and other major global health bodies (notably the World Health Organization) and with public health policy-makers in low and middle-income countries.

We are looking for people with high potential who will fit well into the team.

Key Responsibilities

Research Duties:

- To review epidemiological models in use by the consortium
- To collate and analyse epidemiological and other datasets of relevance for the diseases covered in the consortium
- To contribute to the development of a platform to host the disease burden and vaccine impact estimates generated by the consortium, including interfaces for up- and download of model estimates and input data
- To contribute to the development of tools for aggregation and visualisation of model estimates
- To publish papers reporting the work in high-quality journals
- To assist consortium members with disease modelling and access to the platform
- To contribute to the development of statistical methods for aggregation of disease burden and vaccine impact estimates from different models
- To write reports for submission to research sponsors
- To maintain accurate and complete records of all findings
- Research Fellow only: Teach undergraduate and postgraduate courses within the regulations of the awarding body of the funder
- Research Fellow only: Assist in the administrative duties involved in teaching including examining and the development of learning and teaching in general

There is scope to adapt the specific responsibilities of this role to the aptitudes and interests of the successful candidate.

Other Duties:

- To undertake appropriate administration tasks
- To attend relevant meetings, including travel to funders' headquarters and priority countries
- To undertake any necessary training and/or development
- To be responsible for ensuring that data is accurate, up-to-date and complete

Person Specification

Requirements
Candidates/post holders will be expected to demonstrate the following:

Essential (E)/ Desirable (D)

Education	
• At Research Assistant Level: Near completion of a PhD (or equivalent) in relevant scientific disciplines will be considered.	E
• At Research Associate / Fellow Level: a PhD in one of the following areas: infectious disease epidemiology, ecology, population biology, mathematics, statistics, theoretical physics, computer science or an alternative highly quantitative discipline	E
Experience	
• Research experience of working with mathematical or statistical models	E
• Programming experience in R or similar	E
• Experience in quantitative data analysis, visualisation and interpretation	E
• Experience in communicating research findings to a non-specialist audience	E

• Publications in leading scientific journals	E
• Experience of the supervision of research of undergraduate/postgraduate students or postdoctoral staff	D
• Experience of mathematical/statistical modelling of infectious diseases or similar systems in an applied context	D
• Experience in analysing epidemiological data	D
• Research experience in infectious disease epidemiology	D
• Experience of highly collaborative work	D
• Experience of working with external collaborators in the UK and overseas	D
• Experience of research relevant for public health policy	D
• Postdoctoral experience in a related discipline	D
• Evidence of teaching and teaching support	D (Research Fellow only)
Knowledge	
• Working knowledge of mathematical and statistical modelling relevant to the project	E

• Knowledge of the technologies employed in the project or similar technologies:
  • R programming (including reproducible reporting e.g. Rmarkdown)
  • Code sharing and version control using git/github
  • SQL
	E

• An interest in infectious disease epidemiology and control	E
• Knowledge of the epidemiology of vaccine preventable diseases	D
• An understanding of global health agencies	D
Skills & Abilities	
• Proven research skills	E
• Ability to work independently	E
• Proven ability to formulate and answer relevant research questions and deliver self-led papers	E (Fellow)/ D (Associate)
• Team working skills and the ability to integrate into a larger multidisciplinary research team	E
• Excellent verbal and written communication skills	E
• Ability to collate data, interpret and present results to a high standard using a range of specialised research techniques	E
• Excellent organisational skills	E
• Ability to deliver outcomes to sometimes tight deadlines	E
• Ability to present information effectively at meetings, and give positive input to discussions at meetings	E
• Initiative to shape and drive your own work to completion	E
Other	
• Willingness and ability to travel internationally, as required	E

Please note that job descriptions cannot be exhaustive and the post-holder may be required to undertake other duties, which are broadly in line with the above key responsibilities.

Imperial College is committed to equality of opportunity and to eliminating discrimination. All employees are expected to follow the 7 Imperial Expectations detailed below:

1) Champion a positive approach to change and opportunity
2) Communicate regularly and effectively within and across teams
3) Consider the thoughts and expectations of others
4) Deliver positive outcomes
5) Encourage inclusive participation and eliminate discrimination
6) Support and develop staff to optimise talent

7)   Work in a planned and managed way

Employees are also required to comply with all College policies and regulations paying special attention to:

- Confidentiality
- Conflict of Interest
- Data Protection
- Equal Opportunities

- Financial Regulations
- Health and Safety
- Information Technology
- Smoking

- Private Engagements and Register of Interests

They must also undertake specific training and assume responsibility for safety relevant to specific roles, as set out on the College Website Health and Safety Structure and Responsibilities page.

The College is a proud signatory to the San-Francisco Declaration on Research Assessment (DORA), which means that in hiring and promotion decisions, we evaluate applicants on the quality of their work, not the journal impact factor where it is published. For more information, see https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/

The College believes that the use of animals in research is vital to improve human and animal health and welfare. Animals may only be used in research programmes where their use is shown to be necessary for developing new treatments and making medical advances. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in the College's care are treated with full respect, and that all staff involved with this work show due consideration at every level. http://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-integrity/animal-research/

Committed to equality and valuing diversity, we are an Athena SWAN Silver Award winner, a Stonewall Diversity Champion, a Disability Confident Employer and work in partnership with GIRES to promote respect for trans people.

December 2020