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Research Associate or Research Fellow in Computational Health Policy Modelling

Department/Division/Faculty:	Centre for Health Economics & Policy Innovation (CHEPI), Department of Economics and Public Policy (EPP), Imperial Business School
Campus/Location:	South Kensington Campus
Job Family/Level:	Research Job Family, Research Associate / Fellow (Salary Scales)
Responsible to:	Prof. Franco Sassi
Line management for:	None
Key working Relationships (Internal):	CHEPI Faculty, Researchers and Management; Business School Faculty; CHEPI project partners and collaborators across Imperial College
Key Working Relationships (External):	CHEPI external collaborators, in particular the teams involved in JA Prevent NCD, JACARDI, and other European Commission-funded projects
Contract type:	Full Time, Fixed Term (24 months)

Purpose of the Post

The **Centre for Health Economics & Policy Innovation (CHEPI)** at Imperial Business School conducts applied research to understand how policies and environments shape human behaviour and health outcomes.

A central pillar to CHEPI's work is [Health-GPS](#) – a non-communicable disease (NCD) policy simulation model designed to project how changes in diet, physical activity, and related determinants affect long-term population health and economic outcomes. Unlike infectious-disease models, Health-GPS simulates the accumulation and interaction of individual-level risk factors (such as BMI, diet, and income) over time, enabling us to estimate the impact of policies that target chronic disease.

We are seeking a **Research Associate / Research Fellow** to take a central role in a multi-disciplinary team built to develop and use Health-GPS in a variety of research projects. The post holder will make substantial

contributions to the Health-GPS architecture and codebase, from model design to detailed implementation. They will play a key role in the development and application of Health-GPS across CHEPI's growing research portfolio, involving projects such as:

- **GOLDFINCH** – an NIHR-funded project looking at how fiscal levers can influence the consumption of ultra-processed foods in the UK
- **JACARDI** – a European Joint Action focusing on reducing cardiovascular disease and diabetes risk
- **JA Prevent NCD** – a European collaboration looking at integrated strategies for preventing NCDs

The postholder will be embedded within our multidisciplinary team, working alongside modellers, economists, public health experts and data scientists. They will help design, implement, and analyse policy simulations, generating robust evidence to inform national and international health decision-making.

The exact profile of the successful candidate may vary. Appointment will be made at Research Associate or Research Fellow level depending on experience, as set out in the person specification below. We welcome applicants with **strong quantitative or computational skills** who are eager to work with and further develop policy simulation tools such as Health-GPS. Strong programming skills and experience of contributing to a shared codebase are essential. Health-GPS is written in C++: experience in C++ is highly desirable, but we also welcome applicants proficient in other relevant languages (e.g. Python, R, or MATLAB) who are willing to work in C++ and have a strong interest in quantitative policy analysis.

Key Responsibilities

- Contribute substantially to the development, optimisation, and maintenance of the Health-GPS microsimulation model, writing, testing and reviewing code in its C++ code base and ensuring the model meets CHEPI's current and future research needs.
- Follow and help maintain good software engineering practice within the team, including version control, code review, testing and documentation.
- Work with colleagues to plan and deliver modelling work across multiple projects, ensuring the timely delivery of high-quality outputs.
- Help extend the modelling framework by incorporating new methodologies, including the potential use of artificial intelligence (AI) and machine learning (ML) techniques.
- Design and conduct quantitative analyses of policy interventions using Health-GPS, estimating their long-term health and economic impacts.
- Identify, manage, and integrate relevant data sources in collaboration with CHEPI researchers and external project partners.
- Prepare reports, policy briefs, and academic publications, communicating complex technical work to both expert and non-technical audiences.
- Contribute to the development of research proposals and grant applications to sustain and expand CHEPI's modelling activities.
- Engage with policy makers, project partners, and other stakeholders to ensure that model outputs are relevant and actionable for decision-making.

Other Activities

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- To participate on the day-to-day research activities of CHEPI.
- To undertake appropriate administration tasks associated with working at Imperial Business School.
- To attend relevant meetings of the project.
- To undertake any necessary training to equip you with the tools to conduct the required research.
- To travel internationally for workshops, conference, and to visit project partners
- To comply with relevant College policies, including Financial Regulations, Equal Opportunities Policy, Promoting Race Equality Policy, Health and Safety Policy, Information Systems Security Policy and Intellectual Property Rights and Register of Interests Policies
- To maintain safe workplace practice and procedures in accordance with the requirements of Health and Safety legislation
- Any other duties commensurate with the grade of the post as directed by line manager / supervisor

Person Specification

Requirements	Research Associate	Research Fellow
Candidates/post holders will be expected to demonstrate the following (E = Essential, D = Desirable):		
Education		
A PhD (or equivalent) in health economics, epidemiology, computer science or related disciplines (or near completion) .	E	E
Experience		
Experience applying artificial intelligence (AI) or machine learning (ML) methods .	D	D
Experience working with large datasets , including exposure data, economic indicators, and health outcomes.	E	E
Experience of simulation or other quantitative modelling for policy analysis.	E	E
Building and using microsimulation models to describe disease dynamics .	D	E
Strong programming skills in at least one language (e.g. Python, R, or C++), and familiarity with statistical modelling techniques.	E	E
Experience contributing to a shared codebase using version control (e.g. git) and collaborative development practices such as code review.	E	E
Experience programming in C++ or another compiled language.	D	D
Software engineering practice, including testing, documentation and performance optimisation.	D	D

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Evidence of research outputs relevant to the post (e.g. peer-reviewed publications, preprints, reports or conference presentations).	E	E
Strong publication record in high-quality, peer-reviewed journals.	D	E
Experience of contributing to research proposals and funding applications.	D	E
Experience of designing, planning and delivering original research, including managing a project or workstream to agreed deliverables.	D	E
Experience presenting research findings at conferences and to policy or non-specialist audiences.	D	E
Experience of supervising or mentoring students or junior researchers.	D	D

Skills & Abilities

Ability to analyse complex data and produce clear, policy-relevant insights .	E	E
Strong quantitative and computational skills .	E	E
Excellent written and verbal communication skills, with the ability to disseminate research findings to diverse audiences .	E	E
Proven ability to work independently and as part of a multidisciplinary team .	E	E
Good organisational skills , including the ability to manage multiple work streams simultaneously.	E	E
Ability to formulate research questions and develop new research ideas independently.	D	E
Familiarity with econometric modelling techniques for policy evaluation.	D	D

Personal Attributes

Ability to work independently and take initiative in the development of research	E	E
Discipline and regard for confidentiality and security at all times	E	E
Flexible attitude towards work	E	E
Willingness to undertake any necessary training for the role	E	E
Willingness to travel both within the United Kingdom and abroad to conduct research and attend meetings and conferences	E	E

Further Information

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.

We are committed to equality of opportunity, to eliminating discrimination and to creating an inclusive working environment for all. We therefore encourage candidates to apply irrespective of age, disability,

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marriage or civil partnership status, pregnancy or maternity, race, religion and belief, gender reassignment, sex, or sexual orientation. We are an Athena SWAN Silver Award winner, a Disability Confident Leader and a Stonewall Diversity Champion.

Our values are at the root of everything we do and everyone in our community is expected to demonstrate Imperial:

- Respect
- Collaboration
- Excellence
- Integrity
- Innovation

Employees are also required to comply with all Imperial policies and regulations.

You can read more about our commitment [on our webpages](#).

Imperial 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/>

Imperial 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 which are ultimately aimed towards finding new treatments and making scientific and medical advances, and where there are no satisfactory or reasonably practical alternatives to their use. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in our care are treated with full respect, and that all staff involved with this work show due consideration at every level. [Find out more about animal research at Imperial](#).