Burnet Institute
Medical Research. Practical Action.

POSITION DESCRIPTION:

SECTION A: Position Context

Position Title	Mathematical Modeller in health (postdoc)
Classification	RO1-RO3 ($84,484 – $90,684)
Location	85 Commercial Road Melbourne
Effective Date	January 2020

Purpose:

The Mathematical Modeller will work on multidisciplinary projects, to develop and apply epidemiological and costing models to real world applications.

Working with the Modelling & Biostatistics team within the Burnet Institute, the position holder will:

- Develop and apply mathematical models to address major public health issues, predominantly viral hepatitis, but also other major infectious diseases including HIV, TB and malaria and other areas of public health;
- Work with a team of mathematical modellers, economists, health and policy experts, computer scientists and epidemiologists to refine epidemiological and costing models; and
- Provide modelling and analytical support to governments and other partners - notably the World Bank and international health agencies - to improve resource allocative efficiency within the heath sector.

Supervision Reporting Relationships:

This positions' supervisor/manager	Deputy Head, Modelling & Biostatistics
Other positions reporting to this position	

SECTION B: Key Responsibility Areas

The key responsibility areas (KRAs) are the major outputs for which the position is responsible and are not a comprehensive statement of the position activities.

	Key Responsibility Areas	
1.	Work with a modelling team to collaboratively develop and apply detailed mathematical models of key health and disease areas, using appropriate epidemiological, statistical, mathematical, and economic techniques	
2.	Communicate with epidemiologists, public health experts, government officials, and global health and international aid agencies	
3.	Oversee and contribute to the preparation of documentation required for project initiation, including scope of work and technical supporting documentation	
4.	Undertake research projects with a high degree of autonomy	
5.	Contribute to and produce scientific and technical papers	
6.	Coordinate and manage research projects with a high degree of autonomy	
7.	**Occupational Health & Safety**	Refer to the "Burnet OHS responsibilities and roles" document for full details on specific OHS obligations and responsibilities of employees
8.	**Training**	Responsible for completing all required training in line with the position / role.

Occupational Health and Safety

The Burnet has a commitment to providing a safe and healthy workplace in accordance with the Occupational Health and Safety Act 2004. All staff are obliged to take all reasonable care to ensure that their actions do not place themselves or others at risk.

SECTION C: Key Selection Criteria

	Qualifications	Essential/ Preferable
	Either: • PhD in modelling, statistics, physics, computer science, or a similar field OR • PhD in epidemiology, health sciences, biomedicine or a similar field plus experience in mathematics, statistics, physics, computer science or similar	Essential

	Experience / Knowledge / Attributes	
1.	Excellent written and oral communication skills	Essential
2.	Demonstrated project experience, including the ability to successfully complete projects, both independently and as part of a team	Essential
3.	Experience with scientific computing and/or mathematical modelling.	Essential
4.	Well-developed modelling skills, with proficiency in Python (preferable), Matlab or similar, as well as experience in code management.	Essential
5.	Experience in one or more of: • Disease epidemiology • health costing and economics • communicable diseases	Preferable
6.	A successful record of writing for peer-reviewed journals, technical papers and/or writing of reports for non-expert stakeholders	Preferable
7.	Evidence of effective mentoring of junior staff and students	Preferable

Other Requirements

The Burnet Institute is a child safe organisation. The incumbent of this position may be required to undergo a Police Check or Working with Children Check as a condition of their employment.

SECTION D: Burnet Overview

Burnet Institute is a leading Australian medical research and public health organisation focused on achieving better health for vulnerable communities in Australia and internationally by accelerating the translation of research, discovery and evidence into sustainable health solutions. The Institute is headquartered in Melbourne with programs that operate across Asia, the Pacific and in Africa.

Burnet's culture links innovative discovery-oriented research and implementation research with development and humanitarian action. World-class laboratory and field-based research is integrated into multidisciplinary programs aimed at the prevention, detection and treatment of diseases of global significance. This unique approach allows the Institute to make a tangible and sustainable impact on health in both developed and developing countries.

The Institute has three major thematic programs – Disease Elimination, Behaviours and Health Risk, and Maternal and Child Health, and two expansion programs – Healthy Ageing and Health

Security. Staff within these Programs are supported by cross-cutting communities of practice; the disciplines of Life Sciences, Public Health and International Development.

Modelling & Biostatistics Group Overview

Our modelling team works at the forefront of guiding resource allocation decisions for viral hepatitis, HIV, TB, malaria, and nutrition. In close partnership with the World Bank we have developed a collection of 'Optima' models to link interventions and their costs with their impact, perform scenario analyses, predict epidemiological trends and optimise spending. Optima tools have already been used by over 50 countries across Eastern Europe, Asia, South America, and Africa to guide resource allocation towards the most cost-effective mix of programs, and to assist with national strategic and operational planning.

We are now looking to bring on board an experienced modeller to assist in the formulation, development and refinement of these models, particularly to answer questions around viral hepatitis elimination in key affected populations, and to guide elimination strategies locally and internationally. We are looking for a keen and experienced individual who is comfortably able to work on a multidisciplinary project, and can innovate and improve existing epidemiological and costing models and use them in real world applications.

Further Information:

For further information, please contact Nick Scott.