



Job title	Research Associate/Fellow	Job family and level	Research and Teaching Level 4 (Appointment will be Level 4 Career training grade where an appointment is made before PhD has been completed)
School/ Department	Mathematical Sciences	Location	Jubilee Campus

Purpose of role

The Observatory for Mathematical Education will generate state-of-the-art, evidence-driven, and policy-relevant research to improve mathematics education, learner outcomes and longer-term benefits for individuals and society. Its remit stretches through primary and secondary education, to undergraduate study and postgraduate research in mathematics.

Within the Observatory, one strand of the Data Lab's research will comprise analyses of secondary datasets: the National Pupil Database (NPD), Higher Education Statistics Agency (HESA) and panel surveys such as the Millennium Cohort Study (MCS). Another strand of the Data Lab's work will include analysis of primary data generated by the Observatory's longitudinal cohort studies. Combined, the Data Lab will explore how learner pathways and outcomes in mathematics education are impacted by social background, institutions, locations, policies, interventions, time, curriculum, teaching, parents and peer groups. The development of good data visualisations will be important as well as fitting appropriate statistical models.

This role will involve the management, cleaning, descriptive analysis and statistical modelling of large data sets, in collaboration with other members of the Data Lab team and senior researchers. This will require working with the Office for National Statistics' secure research service, accessed through a safe environment. The role holder will support other Observatory projects as required.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time
1	Research and data analysis <ul style="list-style-type: none">Analyse, interpret and evaluate research findings based on secondary data sources (e.g. NPD, HESA) and primary data generated by the Observatory.Support the delivery of original research of international excellence as part of the Observatory team and contribute to the achievement of the Observatory's research objectives.Plan and manage own research activity, in collaboration with Observatory colleagues, to meet Observatory deadlines for quantitative analyses.Assist in the delivery of the Observatory's research objectives and the Observatory's bids for research grant applications.	75%
2	Engagement, Communication and Dissemination <ul style="list-style-type: none">Draft papers for publication in leading peer-reviewed journals and assist in the drafting of formal project reports for Observatory stakeholders.	15%

	<ul style="list-style-type: none"> Contribute to the dissemination of the Observatory's findings at national/international conferences. Support the Observatory's other researchers through writing internal reports and participation in regular Observatory-wide research meetings. 	
3	Administration and Personal Development <ul style="list-style-type: none"> Contribute to the management and cleaning of the Observatory's primary and secondary data. Contribute to collaborative decision making with Observatory colleagues. Contribute to organising the Observatory's resources and facilities, and arrange meetings and workshops as appropriate. Engage with appropriate training and network with other quantitative researchers using official statistics and education data. 	10%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> Ability to assess and organise resource requirements and deploy effectively. Ability to apply relevant data management, models, techniques and methods. Ability to interpret data and reports to bring new insights. Excellent communication skills, including the ability to clearly communicate complex information such as statistical analyses in academic writing and presentations. Excellent organisational, time-management and multi-tasking skills. The ability to work independently and as part of a multidisciplinary team. 	<ul style="list-style-type: none"> Ability to foster a research team culture.
Knowledge and experience	<ul style="list-style-type: none"> Expert knowledge of statistical methods. Proven ability to produce research of high quality. Experience of working with large and complex datasets. Experience of appropriate statistical computing software (e.g. R, Python). Networking, actively engaging with and valuing other areas and diverse groups. 	<ul style="list-style-type: none"> Background knowledge of mathematics education in England. Knowledge of approaches to dealing with missing data and multi-level modelling. Published papers in relevant academic journals. Experience of working as part of a research team. Knowledge of relevant literatures.
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> PhD or equivalent in statistics, quantitative research methods or similar (or close to completion). 	<ul style="list-style-type: none"> ONS approved researcher status.



Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
Taking ownership	Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
Forward thinking	Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
Professional pride	Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
Always inclusive	Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others



