

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF SCIENCE & ENGINEERING
SCHOOL OF ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING AND MANAGEMENT
RESEARCH ASSOCIATE (SOCIALY RESPONSIBLE EARTH OBSERVATION)
VACANCY REF: SAE-032577

Salary: £37,694 - £42,254 per annum depending on relevant experience

Hours: Full time

Duration: Fixed term from early 2027 for an initial period of 24 months

Location: Manchester

Enquiries about the vacancy, shortlisting and interviews:

Name: Prof Tim Foster, Professor of Land and Water Informatics and Director of Manchester Environmental Research Institute (MERI)

Email: timothy.foster@manchester.ac.uk

About the Role

We are seeking to appoint a talented and enthusiastic Postdoctoral Research Associate (PDRA) to play a key role in delivering an exciting investment project (IrrEO) that will develop satellite-based irrigation mapping tools for governments and development actors in Sub-Saharan Africa (SSA). Earth Observation (EO) technologies are enabling agricultural mapping at increasingly large scales and fine resolutions. This brings exciting opportunities to understand complex farming systems, particularly in data-sparse smallholder farming regions. However, recent research has revealed the social risks of EO-based land monitoring. Examples include imperfect representations leading to poorly informed decision-making or biased investments, and marginalised people being made visible through EO in ways which may expose them to harm. There is an urgent need for improved social risk analysis and development of good practice guidance for EO-based agricultural mapping.

As part of the IrrEO project, the PDRA will lead on developing guidance for the socially responsible development and use of EO-based agricultural mapping tools in small-scale farming systems in Sub-

Saharan Africa. They will catalogue existing scholarship and frameworks on the ethical and equitable use of EO in agricultural mapping. They will also carry out document-based and qualitative interview research to identify potential risks of EO-based agricultural mapping in different socio-political and agricultural contexts, focusing particularly on risks to farmers and farming communities. Based on these two workstreams and consultation with the IrrEO partners, they will devise and share strategies for socially response EO-based agricultural monitoring.

The PDRA will be an integral member of the IrrEO project team, working closely with Principal Investigator Prof. Tim Foster (Department of Civil Engineering and Management) and Co-Investigators Dr. Rose Pritchard (Global Development Institute). They will also work closely with a wider team of investigators and postdoctoral researchers at the University of Manchester involved in the IrrEO project and other aligned research on socially-just use of Earth Observation including the Just Earth Observation for Conservation project (JEOC – <https://www.justearthobservation.org/>) which is co-led by Pritchard and Foster. The role will involve close collaboration with academic and non-academic partners in the project's case study countries (Kenya, Nigeria, and Ethiopia) and active engagement with UK and international partners including the World Bank and the Bill & Melinda Gates Foundation. The IrrEO project is funded by a four-year (2025-2029) investment from the Bill & Melinda Gates Foundation. Due to the nature of the funding, this post is available for a fixed term of up to 24 months with an end date of 31 August 2029. We are looking for a candidate to start in early 2027, with some flexibility over the exact start date.

Key Responsibilities, Accountabilities or Duties

The PDRA's range of duties will include:

- Lead the development of guidance on the socially responsible development and use of Earth Observation (EO)-based agricultural mapping tools in small-scale farming systems in Sub-Saharan Africa.
- Review and catalogue existing scholarship, frameworks and guidance on the ethical and equitable use of EO in agricultural mapping and monitoring.
- Design and conduct document-based and qualitative interview research to identify potential risks of EO-based agricultural mapping across different socio-political and agricultural contexts, focusing particularly on risks to farmers and farming communities.
- Synthesise research findings and consult with IrrEO partners to develop and share practical strategies for socially responsible EO-based agricultural monitoring.
- Contribute to a wider community of investigators and postdoctoral researchers at the University of Manchester working on IrrEO and related research on socially just EO, including the Just Earth Observation for Conservation (JEOC) project.
- Lead the writing and preparation of original research papers for publication in international excellent peer-reviewed journals.
- Disseminate research outputs through peer-reviewed publications, conference presentations, policy and practice-facing guidance, and project reports.
- Collaborate with academic and non-academic partners in the project's case study countries (Kenya, Nigeria and Ethiopia), and with international partners and stakeholders including the World Bank and the Gates Foundation.
- Pursue independent and original research ideas in related subject areas, including contributing to the development of funding proposals in collaboration with colleagues.
- Provide support to other research activities, including junior colleagues, project management and coordination, as required and based on your expertise.

PERSON SPECIFICATION

Essential

- PhD (completed or near-completion) in a relevant discipline, such as human geography, development studies, critical digital/data studies, agrarian studies, or other environmental/agricultural social science.
- An interest in the social equity issues raised by big data and in developing better data practices.
- Knowledge of qualitative social science research methodologies.
- Experience of working as part of an international team.
- Experience carrying out interdisciplinary research and/or working in an interdisciplinary research environment.
- Self-motivated with good time management and organisational skills, including the ability to coordinate project activities and reliably meet deadlines for deliverables.
- Ability to communicate research findings through articles and presentations for both academic and lay audiences.
- Willingness to travel and participate in events, meetings, and other activities related to the project internationally including within Africa.

Desirable

- Previous work experience on data/digital justice and ethics.
- Previous work experience in sub-Saharan Africa, particularly in Kenya, Nigeria or Ethiopia.
- Some understanding of geospatial data and data analysis methods, including Earth Observation.
- Experience working with non-academic partner organisations, particularly government and development agencies.