THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF HUMANITIES

ALLIANCE MANCHESTER BUSINESS SCHOOL

MANCHESTER INSTITUTE OF INNOVATION RESEARCH

RESEARCH ASSOCIATE: SCIENCE OF SCIENCE

VACANCY REF: HUM-022979

Salary:	Grade 6 £36,024 to £44,263 per annum depending on relevant experience
Hours:	Full time
Duration:	Fixed term from 16 October 2023 until 15 October 2025
Location:	Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:
Name: Dr Cornelia Lawson and Prof. Philip Shapira
Email: cornelia.lawson@manchester.ac.uk and pshapira@manchester.ac.uk

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Background

The Research Associate in the Science of Science will be a team member of the project "Innovations in the Lab: Leveraging Transformations in Science" and will be institutionally located in the Manchester Institute of Innovation Research (MIoIR), which is a research centre in the Alliance Manchester Business School in the Faculty of Humanities. Staff at the Manchester Institute of Innovation Research are engaged in a continually evolving, dynamic and stimulating portfolio of policy-relevant research activities associated with science policy, innovation studies, research and technology management, sustainability and technology management, technology foresight, and evaluation.

Overall Purpose of the Job

The Research Associate will work predominantly on research and related activities as part of a team project that is exploring how science is being affected by internal, institutional, and system-level transformations and how these developments interact with and influence research practices and innovations in methods and approaches in labs and their research teams. The Research Associate will be housed at MIoIR under the supervision of the project lead Dr Cornelia Lawson and project co-lead Professor Philip Shapira. The researcher will be associated with the Emerging

Technologies and Governance theme and the Science, Technology and Innovation Policy theme at MIoIR. The project is sponsored by a Faculty of Humanities Large Collaborative Grant at the University of Manchester and runs through to August 2026. The project combines extensive and intensive analyses by undertaking (a) large-scale advanced quantitative bibliometrics and modelling that can identify multiple dimensions of implications for scientific research performance at a global scale across multiple domains of science; and (b) detailed qualitative laboratory and institutional context case studies in the UK and internationally.

The Research Associate will undertake research that probes questions of scientific transformation and innovation using large-scale advanced quantitative bibliometrics, data analytics, and modelling. The successful candidate will primarily focus on a work package on metatrends and science. This includes bibliometric research on key patterns and trajectories of global science, including impacts of the pandemic and post-pandemic but also considering developments in global geopolitics and the emergence and use of AI, automation and big data in science and how this is influencing scientific research. The researcher will contribute to this theme and other project themes and have the option to put forward an additional research theme broadly within domain of the project.

The appointment will have a duration of 2 years, commencing October 1, 2023 (or at a subsequent date to be mutually agreed).

We welcome applicants from doctoral graduates, early career researchers, and others for whom this two-year full-time position is suitable.

Key Responsibilities, Accountabilities or Duties

- Contribute to and support the work of the principal investigator.
- Carry out relevant required research duties in relation to the project.
- Perform data-collection and analysis for the project, primarily focusing on key megatrends of global science, using large-scale publication datasets (e.g. OpenAlex, Scopus) and applying bibliometric techniques, text mining, and developing machine learning and large language model approaches.
- Perform supplementary analyses using secondary literature and sources.
- Lead or participate in the writing of journal articles and other publications.
- Participate in meetings at MIoIR at the University of Manchester and engage in project related-meetings, workshops and conferences off-campus as appropriate.
- Have regular meetings with the lead investigators and other project team members to report on the progress of the project and discuss the ongoing research

Person Specification

Essential Knowledge, Skills, Experience and Qualifications

1. Be educated to PhD level within a relevant field including public policy, management, economics, science and innovation studies, social science, information science, or computer science.

2. Excellent English language abilities (spoken/written).

3. Knowledge and experience of quantitative methodological research skills, for example statistics, econometrics, or other quantitative methods and skills.
4. Analytical skills.
5. Experience in writing journal articles and presenting at conferences.
6. Experience in writing technical reports.
7. Self-motivated and able to work flexibly, independently and as part of a multi-disciplinary team.
8. Ability to plan work and meet deadlines.
9. Ability and flexibility to travel to attend meetings, conferences and workshops in the UK and overseas.
10. Ability to work in an interdisciplinary research environment, build contacts and participate in networks for the exchange of information, and form relationships for collaboration.
11. Ability to develop and implement a research theme within the domain of the project.

Desirable requirements

1. Broad familiarity with science and innovation management and policy and research practices and systems.
2. Familiarity, or ability to develop familiarity, with AI, automation, and related approaches in the context of science.
3. Familiarity with on-line data and information access.
4. Familiarity with data mining, text mining, machine learning, large language models, statistical analysis software packages and/or coding and development environments (e.g., Python, R, Jupyter, APIs).
5. Experience of publishing in leading international journals.