

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF SCIENCE & ENGINEERING
FSE RESEARCH INSTITUTES

HENRY ROYCE INSTITUTE FOR ADVANCED MATERIALS

DATA CURATOR (2 Posts Available)

VACANCY REF: SAE-018937

Salary:	£33,309 to £40,927 per annum, depending on relevant experience
Hours:	Full-time
Duration:	Fixed Term starting as soon as possible until 31 March 2023
Location:	Royce Hub Building, Manchester

Enquiries about vacancy shortlisting and interviews:

Name: Christopher Race

Email: Christopher.race@manchester.ac.uk

Background:

The [Henry Royce Institute](#) (Royce), a UKRI-funded national institute, supports advanced materials research and innovation. With its Hub at The University of Manchester, the Institute has spokes at ten Partner and Associate organisations: the Universities of Sheffield, Leeds, Liverpool, Cambridge, Cranfield, Oxford and Imperial College London, as well as at the UK Atomic Energy Authority, the National Nuclear Laboratory and the Advanced Forming Research Centre Catapult. Royce's vision of 'advanced materials for a sustainable society' is delivered through:

- Enabling national materials research, collaboration, fore-sighting and strategy
- Providing access to world-leading facilities and research expertise
- Catalysing industrial collaboration and accelerating translation
- Fostering materials science skills development, innovation, training and outreach

Materials science is at the beginning of a necessary cultural shift that will see increasing use of materials informatics approaches. Critical to this is wider availability of the research data, stored in accordance with modern principles of open and reproducible research. This will require new data infrastructures (both hardware and software) and a change in the way that people work. Royce has a key role to play in driving this change in culture and practice and in advocating for support from government. We have recently completed a series of short (four-month) pilot projects funded by a grant from the Engineering and Physical Sciences Research Council (EPSRC) and set aside funding to start to establish processes and systems for the long-term storage of, and

access to, materials research data. To implement, develop and promote a data infrastructure we have procured funding to support two 'Data Curators' for 12 months in the first instance, with an ambition to continue this project into the longer term.

Overall Purpose of the Role:

The two Data Curators may have complementary skills. Together they will form a team to achieve two tasks:

1. To act as a bridge between the academic and the data repository project
2. To help develop the data archiving and retrieval infrastructure, its functionality and capability

The Curators will also be required to engage with national and international materials research data infrastructure initiatives. As such, one of the roles may suit a Research Software Engineer, while the other might suit a Materials Scientist who is committed to engaging with the community and promoting materials informatics approaches, or an experienced Data Manager. They will be expected to act as advocates for these new ways of working – helping those of us who are enthusiastic for a change in culture, encouraging those who are suspicious of the benefits of storing their data for wider consumption to take part, and helping to find ways to lower barriers to adoption of best practice.

Key Responsibilities, Accountabilities and Duties:

Royce is an evolving, dynamic organisation and the appointees will therefore be expected to demonstrate flexibility and adaptability to meet its developing needs. The indicative range of duties is expected to include, but is not limited to, the following:

Materials Data Project Management and Delivery:

- To have an understanding of materials science and its associated diversity of data, leading to an appreciation of the complexity and challenges of the data produced and how it is consumed
- To own and deliver specific projects, alone or as part of a team, applying knowledge, skills and experience to successfully deliver against agreed objectives
- To demonstrate an understanding of the issues of interest to materials scientists and propose viable solutions, taking into account their needs and requirements
- To lead the design and implement meta-data templates for the diverse range of data produced by the materials community
- To investigate and report on the current barriers to full compliance with funders' requirements on data sharing and retention
- To propose ways to overcome these barriers to data storage (such as new infrastructure, software tools, policies, processes and educational activities) and implement these solutions
- To work with software providers to help create, maintain and develop a practical prototype data research infrastructure able to retrieve and collate data from a wide range of sources
- To collaborate with the Royce team and academic leaders (at all career stages) to find ways to drive the required culture change

Stakeholder engagement and community development:

- To establish and nurture relationships with stakeholders across the wider materials community to comprehend experiences and identify their requirements, both current and future
- To develop and inhabit the role of "Materials data advocate", becoming an ambassador for proper, compliant open-data practice
- To lead on developing, and then delivering strategies and business cases for future Royce activities in this area
- To seek to expand upon the current programme of engagement with new and varied activities and events to promote materials informatics
- To contribute to the team's wider programme of activities that will broaden interest in the data curation within both Royce and the wider materials science community
- To track the growth of the community and report on key developments

Person Specification**General:**

- Develop strong working relationships with colleagues across the Royce Partners and at The University of Manchester
- Undertake the above duties in accordance with the requirements of the University's and Royce's equality & diversity policies, health & safety policies, and their financial regulations
- Maintain confidentiality of information in line with data protection requirements and University policy and ensure information governance disciplines are embedded within working practice
- Engage in continuous personal and professional development in line with the demands of the role, including undertaking relevant training and development activities
- Undertake any other duties commensurate with the grade

Essential Knowledge, Skills and Experience:

- Degree (or an equivalent qualification) in a physical sciences, engineering or related discipline
- Postgraduate degree in a physical sciences, engineering or related discipline or equivalent industry/research experience
- A good understanding of scientific and academic training and career pathways
- Proven ability both to work strategically and to solve operational problems in a timely and balanced manner using initiative and creativity working within a team or individually
- Excellent numeracy and IT skills, including the ability to evaluate and analyse quantitative data
- Excellent planning and organisation – determining a course of action by breaking it down into smaller steps and by planning and resourcing each of these, making allowance for potential problems
- Demonstrated experience of community engagement and moderation activities
- Demonstration of networking, collaboration and relationship building with those of similar interests
- Project management skills, with the ability to manage multiple events simultaneously, resolve problems and ensure optimal use of time and resources
- Outstanding presentation skills, both oral and written, in delivery of complex and conceptual ideas
- Effective communication and interpersonal skills (both orally and written), with the ability to adapt styles to suit different stakeholders and audiences
- Ability to act on own initiative and with autonomy to make independent decisions

- Time management skills to effectively and efficiently plan activities, and to work accurately and precisely under pressure to strict deadlines
- Knowledge of equality, diversity and inclusion, including of widening participation, and the issues that need to be considered in relation to training, skills and outreach

Desirable Knowledge, Skills and Experience:

- Experience of budget management and the ability to interpret financial information
- Experience of handling confidential information and communications sensitively
- Prior experience in community engagement or management work