PARTICULARS OF APPOINTMENT

THE UNIVERSITY OF MANCHESTER

FACULTY OF SCIENCE & ENGINEERING

SCHOOL OF NATURAL SCIENCES

HENRY ROYCE INSTITUTE

Centre of Expertise for Advanced Materials and Sustainability (CEAMS)
Application Scientist or Senior Application Scientist in Polymer Composites

Vacancy ref: SAE-024332

Salary:	Application Scientist: Grade 6, £36.024 - 44,263 per annum Senior Application Scientist: Grade 7, £45,585 - £56,021 per annum Depending on relevant experience
Hours:	Full-time (35 hours per week /1.0 FTE), part-time considered
Duration:	as soon as possible until 31 March 2025
Location:	The University of Manchester, Oxford Road, Manchester
Responsible to:	Senior Application Scientist is responsible to the Principal Investigator on the project. Application Scientist is responsible to Senior Application Scientist and the Principal Investigator on the project.

Enquiries about the vacancy, shortlisting and interviews:

Name: Tony Horner, Chief Technology Officer, Henry Royce Institute

Email: To request an informal discussion about the role with the Chief Technology Officer please contact Jill Brown, Project Manager (jill.brown@manchester.ac.uk)

Background:

The Henry Royce Institute (Royce) is a UKRI-funded national institute that 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, foresighting 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

The Project

There is a major economic opportunity for Greater Manchester (GM) to fill the gap in companies able to provide sustainable materials for manufacturing supply chains, and reduce market failure in industries' ability to scale up and adopt sustainable materials in manufacturing applications. The Greater Manchester Combined Authority (GMCA) and Rochdale Development Agency (RDA) have plans to realise this ambition through the creation of the Sustainable Materials Translational Research Centre (SMTRC), which will be built in Atom valley/Rochdale.

The Centre of Expertise for Advanced Materials and Sustainability (CEAMS) is a multimillion InnovateUK funded programme, part of the two-year Innovation Accelerator pilot of £100m research funding from the government's Levelling Up plan across 3 regions: Greater Manchester, the West Midlands and the Glasgow city region (*ca.* £30-35m for GM). This programme will support the development of SMTRC leveraging GM's existing strength in materials research, alongside the UK's High Value Manufacturing Catapult's (HVMC's) competency in building supply chain capability. The consortium, comprised of Rochdale Development Agency (RDA), University of Manchester (UoM) Institutes (Royce, Graphene Engineering and Innovation Centre (GEIC), Sustainable Materials Innovation (SMI) Hub), National Physics Laboratory (NPL), Science and Technologies Facilities Council (UKRI-STFC), and the UK's High Value Manufacturing (HVM) Catapults, will exploit existing infrastructure within GM and nationally to catalyse cross-sector and cross-supply chain collaborations to drive commercialisation of developments from two of the three UK technology families in which GM has identified world-leading research positions:

- sustainable advanced materials
- AI, data and advanced computing

We seek to employ an Application Scientist or Senior Application Scientist with expertise in the materials science of structural and/or multifunctional composites.

Senior Application Scientist

Overall Purpose of the Role:

The Senior Application Scientist in Polymer Composites will lead and develop an interconnected diverse team of Application Scientists who, working with the Technology Platform Leads and Research and Business Engagement team, will engage with industry in the region (and the national RTO network), to identify, scope, and help deliver technical solutions in the area of materials science which cannot be supported by the existing national infrastructure. They will work closely with the wider University research Institutes and centres (i.e. Royce/GEIC/Sustainable Materials Innovation Hub) and consortium partners' technical and research teams to support businesses primarily SMEs throughout their journey.

The Senior Application Scientist is a leader in the wider team of Application Scientists - an experienced and versatile researcher who will apply their specialist technical expertise to engage directly with industry and research organisations developing and delivering projects at short notice across the Royce capabilities. They will have a key role in leading and mentoring the wider Application Scientist team, working with the Head of Research and Business Engagement and Royce CTO. They will focus on the development and delivery of short/sprint/pathfinder projects based around the

capabilities of Royce's world-leading infrastructure and national network of research expertise. In doing this they will leverage the capability across the Technology Platforms (facilities and people) within the Royce, draw on a wider network of expertise across the UK (where necessary), and build relationships across industry, RTOs and academia. In many cases, they will be a principal contact with the industry partner and guide the relevant Application Scientists in providing the necessary advice on the nature, scale and cost of the proposed project.

Key Relationships:

External

- Business engagement teams within RTOs and industry
- Technology leads/projects leads within RTOs and industry

Internal

- Principal Investigator on the CEAMS project
- Royce Chief Technology Officer
- Technology Platform Leads
- Facilities, research and business engagement teams
- Academics and Technical staff with experience relevant to specific short projects
- Research Area and Challenge Area Leads

Key Responsibilities, Accountabilities or Duties:

Royce is an evolving, dynamic organisation and the appointee 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:

Creation and Delivery of Short/Sprint Projects:

- Being pro-active and engaging strategically with companies and research technology organisations to identify potential projects
- Leading exploratory meetings with prospective clients and co-creating projects and technical plans, overseeing the development and costing proposals to win and deliver successful engagements, working with facilities and business engagement teams and industry technical leads
- Working with the wider Royce technical teams, Technology Platform Leads and Application scientists to ensure delivery of short projects with positive outcomes
- Mentoring the early career Application Scientists within the team, particularly in the delivery of more complex multidisciplinary projects
- Reviewing and approving substantial/complex proposals for work from the Application Scientist team, including deliverables, timelines, and costs
- Producing and reviewing complex customer-facing technical reports based on work undertaken on projects
- Ensuring the wider team manage projects efficiently and complete internal reporting to allow invoicing and tracking of key outputs

Developing Relationships and Delivering Impact

- Developing and implementing a sustainable business plan for continued funding of the Application Scientist team

- Establishing and developing ongoing collaborations between Royce, industry and the wider HEI community
- Working with the CTO, Head of Business Engagement and Communications to ensure the team capture and report impact from projects (for example by preparing case studies for website publication)
- Leading the wider Applications Scientist team in the sharing of information, best practice in the development and delivery of projects

General

- Line managing members of the Application Scientist Team
- Engaging in continuous personal and professional development in line with the demands of the role, including undertaking relevant training and development activities
- Undertaking the above duties in accordance with the requirements of the University's and Royce's equality & diversity policies, health & safety policies, and its financial regulations
- Maintaining confidentiality of information in line with data protection requirements and University policy and ensure information governance disciplines are embedded within working practice
- Undertaking any other duties commensurate with the grade

Essential Knowledge, Skills and Experience:

- A PhD (or equivalent) in Materials Science, Chemistry, or a related Scientific or Engineering discipline
- Evidence of expertise and delivery in Polymer Composites
- A successful track record in managing and leading a team of diverse technical staff, delivering complex research projects directly applicable to industry
- Excellent and efficient communication skills including presenting and writing technical reports – experience in a customer-facing role desirable
- Experience in mentoring and developing technical staff.
- Flexible to travel to partner organisations
- Experience in planning, undertaking and reporting on complex technical projects within a research environment
- A track record in innovative approaches to delivering research impact and managing a diverse group of stakeholders
- Excellent project management skills and the ability to identify and direct improvements to processes and systems
- Excellent planning, time management and organisation skills, the ability to balance conflicting deadlines and multiple priorities
- Excellent IT skills including effective use of the Microsoft Office and science & engineering specific software.

Desirable Knowledge, Skills and Experience:

- Experience of responding to external accountability requirements, coordinating input from multiple offices
- Experience of producing and reviewing complex high-level reports, guidance or policy documents, or designing training materials
- An excellent understanding of research context and the external funding environment
- Experience of working with small and medium sized enterprises and spin-outs

Application Scientist

Overall Purpose of the Role:

The Application Scientist in Polymer Composites will join an interconnected, diverse team and will work with other Application Scientists and the Research and Business Engagement team to engage with industry in the region to identify, scope, and help deliver technical solutions in the area of materials science, which cannot be supported by the existing national infrastructure. They will work closely with the wider University research Institutes and centres (*i.e.* Royce/GEIC/Sustainable Materials Innovation Hub) and consortium partners' technical and research teams to support businesses primarily SMEs throughout their journey.

The Application Scientist will be a hands-on, versatile researcher who will apply their specialist technical expertise to conduct projects at short notice, providing the capability/resource to react quickly and flexibly to short-term projects. They will join a team with the opportunity to identify and respond to clear demand from corporates and SMEs, through direct contact and via other national research infrastructure, such as the HVM Catapult network. They will focus on the development and delivery of short/sprint/pathfinder projects based around the capabilities of Royce's world-leading infrastructure and national network of research expertise. In doing this they will leverage the capability across the Technology Platforms (facilities and people) within Royce, draw on a wider network of expertise across the UK (where necessary), and build relationships both across industry and academia. In many cases, they will be the lead contact with industrial partners and provide advice on the nature, scale and costs of proposed projects.

Key Relationships:

External

- Business engagement teams within RTOs and industry
- Technology leads/projects leads within RTOs and industry

Internal

- Principal Investigator on the CEAMS project
- Royce Chief Technology Officer
- Technology Platform Leads
- Facilities, research and business engagement teams
- Academics and Technical staff with experience relevant to specific short projects
- Research Area and Challenge Area Leads

Key Responsibilities, Accountabilities or Duties:

Royce is an evolving, dynamic organisation and the appointee 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:

Creation and Delivery of Short/Sprint Projects:

- Actively engage with companies and research technology organisations to identify potential projects
- Participate in exploratory meetings with prospective clients and contribute to the co-creation of projects and technical plans, develop costings and pricing suitable for quotes and proposals to win and deliver successful engagements, working with facilities and business engagement teams and industry technical leads

- Act as the key point of contact for many companies running or looking to run short term projects
- Work with the wider technical teams and Technology Platform Leads as the technical lead to deliver short projects with positive outcomes
- Collaborate with other Application Scientists in the delivery of more complex multidisciplinary projects
- Issue proposals for work, including deliverables, timelines, and costs
- Undertake data analysis to support the project work from partners and clients, produce customer-facing technical reports and answer any follow-up questions
- Close projects and complete internal reporting to allow invoicing and tracking of key outputs

Developing Relationships and Delivering Impact:

- Support ongoing collaborations between Royce, companies and the wider HEI community
- Work with Business Engagement and Communications teams to capture and report impact from projects (for example by preparing case studies for website publication)
- Work with the other Application Scientists to share information, best practice and potential projects

General:

- Undertake the above duties in accordance with the requirements of the University's and Royce's equality & diversity policies, health & safety policies, and its 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:

- A PhD (or equivalent) in Materials Science, Chemistry, or a related Scientific or Engineering discipline
- Evidence of expertise and delivery in Polymer Composites
- Strong communication skills including presenting and writing technical reports
- Experience in planning, undertaking and reporting on technical projects within a research laboratory environment
- Flexible, with an eagerness and ability to learn new experimental or computational techniques
- Flexible to travel to partner organisations
- Excellent communication and interpersonal skills including delivering presentations, the ability to act as a single point of specialist expertise within a broad remit team and to communicate complex information clearly and concisely to a wide range of audiences
- Excellent project management skills and the ability to identify and implement improvements to processes and systems
- Excellent planning, time management and organisation skills, the ability to balance conflicting deadlines and multiple priorities

- Excellent IT skills including effective use of Microsoft Office and science & engineering specific software.

Desirable Knowledge, Skills and Experience:

- Experience of responding to external accountability requirements, coordinating input from multiple offices
- Experience of producing high-level reports, guidance or policy documents, or designing training materials
- An excellent understanding of research context and the external funding environment
- Experience of working with small and medium sized enterprises and spin-outs
- Experience in a customer-facing role