

Particulars of Appointment

FACULTY OF SCIENCE & ENGINEERING

School of Natural Sciences

Department of Chemistry

Research Associate In Synthetic Chemistry in The Goodwin Group

Vacancy ref: SAE-XXXXXX

Salary:	£36,024 to £44,263 per annum depending on experience (Grade 6)
Hours:	Full-time – 35 hours per week
Start/duration:	Fixed-term Contract, 12 months starting 04/2024
Based at:	Department of Chemistry, Oxford Road, Manchester
Informal enquiries:	Email: conrad.goodwin@manchester.ac.uk

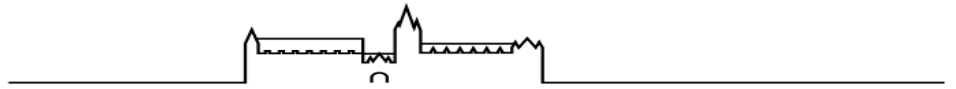
BACKGROUND

An EPSRC-funded Postdoctoral Research Associate position is available for an outstanding and ambitious synthetic chemist to research f-element nonaqueous synthetic inorganic chemistry. This post is part of a multidisciplinary project which seeks to define the role of oxidation state and ligand donor-properties (i.e. hard / soft) on the bonding and electronic structure of lanthanide and actinide ions.

Overall Purpose of the Role

The role holder is expected to prepare and fully characterise a series of organometallic complexes to a standard suitable for publication and to supervise other researchers in the laboratory. Candidates should have or expect to obtain a PhD qualification in organometallic chemistry or a closely related field and possess experience in handling highly air-sensitive compounds with excellent knowledge of Schlenk line and glove box techniques.

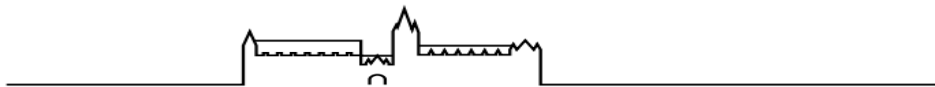
Experience in synthetic organometallic chemistry, including the synthesis of paramagnetic complexes and an understanding of heteronuclear NMR spectroscopy, is essential, whilst expertise in f-element chemistry, cyclopentadienyl and/or related heterocycle chemistry, characterisation of paramagnetic complexes, and performing calculations are all highly desirable, as is a demonstrable track record of scientific writing in high-profile multidisciplinary or specialist journals is also highly desirable. The successful candidate will be a highly capable, motivated, and independent researcher who can manage a small but growing group of PhD and project students working on various synthetic organometallic projects. You will work on the synthetic portion of several larger collaborative projects and facilitate spectroscopic measurements through compound synthesis, characterisation, and preparation as needed. You will be expected to take a leading role in the research group, including laboratory management, organising group meetings and presenting findings at international conferences.



Key Responsibilities, Accountabilities and Duties

The range of duties will include:

- Administer your own research and organizational tasks, seeking guidance as necessary.
- Balance research projects against administrative responsibilities and deadlines effectively.
- Execute individual and collaborative research projects aligned with well-defined objectives.
- Compose scholarly articles and research papers suitable for publication.
- Employ creativity and innovative research techniques/methodologies to advance the research area.
- Collaborate on joint research projects with colleagues as overarching research goals dictate.
- Analyse and interpret research data creatively, drawing evidence-based conclusions from the results.
- Exercise initiative and creativity in identifying new research avenues, developing novel methodologies, and expanding the overall research portfolio.
- Maintain an up-to-date understanding of advancements within your specific field or specialization.
- Transform advancements in the subject area into actionable research initiatives.
- Plan, coordinate, and manage research collaboratively, ensuring timely and quality outputs.
- Formulate research objectives and proposals independently and/or collaboratively, with the support of a mentor as needed.
- Engage in collaborative research-oriented decision-making processes with colleagues.
- Draft and submit proposals and applications to external entities for purposes such as research funding and contractual agreements.
- Participate in the assessment of undergraduate and postgraduate student knowledge and supervise related research projects.
- Facilitate the growth of students' research skills through focused development programs.
- Use all appropriate resources, including laboratories and workshops, to facilitate academic work.
- Participate in external networks to disseminate knowledge and identify funding opportunities.
- Cultivate internal networks to facilitate the exchange of information and establish foundations for future research collaborations.
- Articulate complex information coherently through oral, written, and electronic means.
- Communicate specialized or highly technical material clearly to relevant stakeholders.
- Attend and actively contribute to relevant academic and organizational meetings.
- Engage collaboratively with colleagues and students to foster an enriching academic environment.
- Manage routine communication effectively through a variety of channels.
- Remain cognizant of workplace risks and their implications, taking proactive measures to mitigate the impact on your work and others.



PERSON SPECIFICATION

Essential Knowledge, Skills and Experience:

- Have, or be about to obtain, a relevant PhD (or equivalent).
- Specialist knowledge in synthetic organometallic chemistry and the use of Schlenk and glove box techniques to synthesise, purify and manipulate air-sensitive paramagnetic complexes and precursors.
- Experience in research methods and techniques to work within established research programmes. These techniques include (but are not limited to) the collection and interpretation of: single crystal and powder XRD data of air-sensitive samples; FTIR, UV-vis-NIR and multinuclear NMR spectroscopy; elemental analysis.
- Excellent communication and interpersonal skills.
- Excellent time management and organisational skills.
- Ability to work independently and as part of a team.
- Ability to liaise confidently and effectively with a range of individuals.
- Flexible approach to dealing with research problems as they arise.
- Willingness to learn and develop.
- Ability to present in both written and oral publications.
- Ability to meet deadlines.
- Strong journal publication record.
- The ability to evaluate complex data.
- Ability to contribute to broader management and administrative processes.
- Ability to assess and organise resources.
- Understand equal opportunity issues as they may impact areas of research content

Desirable Knowledge, Skills and Experience:

- Experience with synthetic organometallic actinide chemistry using Schlenk and glove box techniques.
- Familiarity with multi-step air-sensitive ligand syntheses using organic and inorganic reagents.
- Ability to interpret characterisation data of paramagnetic complexes.
- An interest in working with transuranium elements, and an ability to meet relevant security demands of this work.

WORKING FOR THE UNIVERSITY OF MANCHESTER

The University of Manchester strives to make our community a welcoming, caring and enthusiastic one, fuelling ambition with opportunities and support to help us all achieve our personal and professional goals.

Our diverse job opportunities include an attractive [benefits package](#) with family-friendly policies that provide for flexible working. We care deeply about career and personal development, offering a structured induction programme for new staff, an annual performance and development review, staff training for all career stages and mentoring opportunities to support your career development. We are committed to [equality of opportunity](#) for our staff and students and are proud to employ a workforce that reflects the diverse community we serve. As a global institution at the heart of a lively, [culturally diverse city](#), we welcome applicants of all nationalities. To help international job applicants plan for life in the UK, we have compiled useful [information on passports and visas](#), travel to the UK, accommodation and several other practical considerations.