

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF SCIENCE & ENGINEERING
SCHOOL OF CHEMISTRY

**RESEARCH ASSOCIATE - NUCLEATION OF ORGANIC CRYSTALS STUDIED BY NEAR-FIELD
RAMAN SPECTROSCOPY**

VACANCY REF: S&E-10438

Salary: Grade 6 £31,076 to £38,183 per annum according to experience

Hours: Full time

Duration: Fixed term from 1 September 2017 for two years, with a possible extension of one year

Location: Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:

Name: Professor Cinzia Casiraghi

Email: cinzia.casiraghi@manchester.ac.uk

BACKGROUND

Professor Casiraghi's Group, based in the School of Chemistry, at The University of Manchester, invites applications for one postdoctoral research position to work on her ERC project dedicated to the study of the nucleation process of organic crystals in solutions.

More info here: <http://casiraghi.weebly.com/noc2d-erc.html>

Overall Purpose of the Job

You will join a large and dynamic graphene research group in Manchester.

<http://www.graphene.manchester.ac.uk/>

Working in a team, you will need good communication skills, exchanging technical information with scientists from different disciplines. You will need to possess relevant computer skills (word processing / spreadsheets / e-mail) and have strong analytical and problem-solving abilities. The role requires a well-organised, yet flexible, approach to working.

The projects will focus on synthesis of the use of near-field raman spectroscopy to the study of a very challenging problem related to the interaction of molecules in solution, giving rise to the nucleation of crystals. We aim at detecting a small cluster of molecules in order to achieve some fundamental understanding of the nucleation process.

Key Responsibilities, Accountabilities or Duties

The range of duties will include:

- Be involved in the assessment of student knowledge and supervision of projects.
- Assist in the development of student research skills.
- Develop research objectives and proposals for own or joint research, with the assistance of a mentor if required.
- Conduct individual and collaborative research projects.
- Write up research work for publication.
- Continually update knowledge and understanding in field or specialism.
- Translate knowledge of advances in the subject area into research activity.
- Deal with routine communication using a range of media.
- Communicate complex information, orally, in writing and electronically.
- Prepare proposals and applications to external bodies, e.g. for funding and contractual purposes.
- Communicate material of a specialist or highly technical nature.
- Liaise with colleagues and students.
- Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
- Join external networks to share information and identify potential sources of funds.
- Work with colleagues on joint projects, as required
- Collaborate with academic colleagues on areas of shared research interest.
- Attend and contribute to relevant meetings.
- Use creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Use research resources, laboratories and workshops as appropriate.
- Plan and manage own research activity in collaboration with others.
- Be aware of the risks in the work environment and their potential impact on their own work and that of others.

PERSON SPECIFICATION

Essential:

- Have, or be about to obtain, a relevant PhD (or equivalent)
- **Strong publication record** in internationally peer-reviewed journals in the area of near-field Raman spectroscopy
- Specialist knowledge in the discipline: **Strong experience in the use of near-field Raman spectroscopy based techniques, in particular TERS. Preference will be given to candidates with experience on TERS of molecules interacting with surfaces, in particular 2D materials**

- 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 on areas of research content.

Desirable:

- Experience with CVD graphene (processing and optical characterization)
- Experience on nucleation and crystallization of organic molecules from solution
- Experience with scanning probe microscopy (AFM, STM, etc)