

9 Early-Stage Researcher positions (PhD student positions) – FP7 Initial Training Network (ITN) on Dynamic Molecular Nanostructures.

Nine Early Stage Researcher (ESR) positions are offered in the FP7 Marie Curie Initial Training Network (ITN) DYNAMOL – Dynamic Molecular Structures.

The DYNAMOL ITN is a research-training European network aimed to train a new generation of highly skilled chemists in dynamic covalent chemistry and push this emerging field of research into applications at the cutting-edge of nanotechnology. Expertise of all partners (9 from the academic sector and 2 from the private sector) encompasses the general areas of supramolecular chemistry and dynamic covalent chemistry, but individual research competences are quite diverse focussing on molecularly defined nanostructures, analysis of nanostructures, and novel applications.

Nanotechnology and nanoscience have become tremendously important in a short period of time. Yet, general methods for the preparation of nano-sized materials in a bottom-up approach from low molecular weight building blocks are still in very short supply. The ITN DYNAMOL will establish a powerful new approach for the preparation of nanostructures based on dynamic covalent chemistry. Dynamic covalent chemistry combines the advantages of covalent synthesis (robustness of the bonds) with those of non-covalent synthesis (error correction, responsiveness) without any of the disadvantages (lability in the case of non-covalent chemistry and synthetic difficulty in accessing large structures through traditional covalent synthesis). This method therefore has the potential to provide unique solutions for several important challenges in the preparation of molecular nanostructures that still need to be addressed, such as the creation of low symmetry nano-sized assemblies and molecular nanostructures with specific functions or the use of orthogonal chemical reactions to increase structural complexity.

The training program is aimed to improve theoretical, practical and complementary skills of the recruited ESRs. To this end, it includes state-of-the-art local training activities and network-wide courses and workshops as well as secondments in partner laboratories.

PhD Positions are available in the following research groups:

University of Technology Kaiserslautern

Germany

Dr. S. Kubik

Project: Template-directed Thiol Exchange on Gold Nanoparticle Surfaces

The candidate should have experience in synthetic organic chemistry and standard analytical techniques (NMR, IR, MS, UV/vis, fluorescence, etc.) Familiarity with the general approaches and underlying principles of supramolecular chemistry is beneficial. Knowledge/understanding of the German language is helpful, but not required.

University of Twente
The Netherlands
Dr. A. Velders

Project: Dynamic Ligand Exchange on Cyclodextrin Decorated Nanoparticles
Desired skills/background/interests: synthetic organic -, coordination -, physical- and/or supramolecular chemistry. The fellow will work in strong collaboration with the fellow positioned in Micronit Microfluidics with preferred starting day May 2011.

CAU Kiel - Christian-Albrechts-Universitaet zu Kiel
Germany
Dr. U. Lüning
Project: Boron-based Dendrimers

University of Cambridge
United Kingdom
Dr. J. Nitschke
Project: Dynamic Nanocage Assembly
Desired skills/background: synthetic organic chemistry, polymers, physical organic chemistry or supramolecular chemistry.

Université Bordeaux 1
France
Dr. I. Huc
Project: Dynamic Foldamer Assembly: multiple helices from synthetic oligomers
Desired skills/background: synthetic organic chemistry and/or supramolecular chemistry

KTH Royal Institute of Technology
Sweden
Dr. O. Ramström
Project: Assembly of Synthetic Capsides
Desired skills/background: synthetic organic chemistry, materials chemistry, supramolecular chemistry"

Weizmann Institute of Science
Israel
Dr. M. Van der Boom
Project: Self-Propagating Assembly of Molecular-based Materials

Micronit Microfluidics
The Netherlands
Dr. E. Vrouwe
Project: Localised Surface Functionalization within Microfluidic Channels
Micronit Microfluidics produces innovative and custom based microfluidic components for academic and industrial customers all over the world. At Micronit Microfluidics 1 PhD position is available for the duration of four years. The candidate will join the R&D department and investigate surface functionalization localised to defined positions inside (glass) microfluidic channels. These surfaces will be used to study dynamic covalent interactions and will lead for example to the development of new sensing surfaces. The research will be conducted in close collaboration with the group of Dr. A.

Velders at the University of Twente ensuring that there is a solid academic component in the conducted research. Also there will be a strong interaction with the corresponding DYNAMOL ITN PhD in this group. The candidate should have a background in organic chemistry and affinity for microtechnology. Preferably the candidate should be available to start at the beginning of May 2011.

Global Phasing (Cambridge)
United Kingdom
Dr. G. Bricogne
Supramolecular Chemistry and Macromolecular Crystallography

These positions are open to suitable qualified researchers in the first four years of their research career. Please, refer to the Marie Curie Web site for eligibility details: http://cordis.europa.eu/fp7/mariecurieactions/glossary_en.html. Fellowships for Early Stage Researcher (ESRs) are fundable for three-year periods; additional funding will be made available in countries where PhD training lasts longer than three years.

Candidates should send their CV to Shirley Allen at sa605@cam.ac.uk. Please include a copy of your University degree and a cover letter outlining your specific qualifications, including contact information for at least two referees and indicate your preferred host group and willingness to be considered for other posts in the network.

Closing date: April 30