

**Automated Scheduling, Optimisation and Planning Research Group
School of Computer Science and Information Technology
University of Nottingham**

1 PhD Studentship is available under the supervision of Dr. N. Krasnogor:

With funding from the University of Nottingham, DTA and working within an EPSRC funded project called “*Realising the Concept of the Artificial Chemical Cell with Vesicles*”, the Ph.D. student will investigate new methods of computational analysis and modelling of pattern formation in chemical vesicles.

This interdisciplinary PhD position will also interact with “*CHELLnet: Unifying Investigation in Artificial Cellularity and Complexity*”, which is a large EPSRC sponsored initiative involving 10 Universities throughout the United Kingdom.

This project will be aimed at developing novel methods of *computational analysis* and *modelling of pattern formation*, especially *self-assembly*, in chemical vesicles. We will seek to extend the models, theories and algorithms that are being developed for biological membranes, particularly *P-systems*, to the realm of abiotic vesicles. We will investigate *computability* and *complexity* properties of abiotic vesicles and new methodologies will also be developed for the study of “*emergence*” in this chemical domain.

This project involve close collaborations with colleagues at the universities of Glasgow, Oxford, Leeds, Manchester, Imperial College, Southampton, Sheffield and Edinburgh. This is a high profile project with international collaborators at the European Center for Living Technology and ProtoLife, both based in Venice, Italy. The candidate will be expected to travel frequently both within the UK and to Venice to work with colleagues at those sites.

The applicants for this position must have an interest in the development of novel computational foundations for the study, design, specification and optimisation of complex systems. An essential attribute of candidates for these positions is a strong interest in working on an interdisciplinary field where gaining knowledge of new areas and techniques is a constant requirement.

Candidates should have at least an upper second-class honours degree (ideally a first class degree), or a combination of qualifications and/or experience equivalent to that level. Ideally they would have a BSc or MSc degree in Computer Science (but candidates with a mathematical, physical, chemical or biological background are also welcomed to apply). The studentships cover **home fees** (UK and EU students only) and a stipend (tax free): of approximate £12000 per annum.

Candidates should apply through the electronic application server located at <http://www.asap.cs.nott.ac.uk/asapvaca/index.php>

