

School of Computer Science

Two Fully Funded PhD Studentship in Scientific Computing, Molecular Self-Assembly and Synthetic Biology

Principal supervisor: Professor Natalio Krasnogor (School of Computer Science)

Collaborators: These two studentships are part of a highly interdisciplinary research programme with collaborators in the Schools of Medical Molecular Sciences, Chemistry and Physics & Astronomy.

Highly sophisticated computer programs, theoretical studies and experimental approaches are the three pillars upon which XXI century science and technology rest. Computational sciences, and in particular, complex simulations, graphics and data analysis algorithms, are having a tremendous impact across multiple disciplines.

In this project, the student will work at the interface of computer science, biology & chemistry developing cutting-edge simulations, computer graphics algorithms and optimization methods for the *in silico* design of self-assembling and self-organizing molecular systems. The designs obtained through the computer simulations and optimization algorithms will be tested in the laboratory. State of the art facilities at the schools of Biology, Chemistry, and Physics & Astronomy will be available for this project. One of the studentships will be concerned with DNA/RNA origami while the other studentship will focus on porphyrins based self-assembly and self-organization. The applicants will have the opportunity to develop new computer science techniques as well as perform (wet) laboratory-based experimental validations.

The successful student will be based at The University of Nottingham ASAP's Interdisciplinary Optimisation Laboratory, please see: <http://www.infobiotic.org>. They will have opportunities to visit international collaborators and will become members of a very active community of interdisciplinary researchers at Nottingham. These studentships will be registered with the School of Computer Science (<http://www.nottingham.ac.uk/cs>)

Students should have a first class undergraduate or masters degree in computer science, mathematics, engineering, chemistry, physics or biology. They should be highly numerate, experienced programmers (distributed/parallel programming experience or computer graphics experience is a plus) and, ideally, have (wet)lab experience. Candidates should possess excellent communication skills, be keen to work as part of a multidisciplinary team, be self-driven and highly motivated.

These two fully-funded studentship (stipends + fees) are available for three years. **Due to funding restrictions this studentship is only open to UK candidates.**

Informal enquiries may be addressed to Professor Krasnogor, Email: natalio.krasnogor@nottingham.ac.uk. Please note that applications sent directly to this Email address will not be accepted. Additional information is available at www.cs.nott.ac.uk/~nxk

Students should send a **complete application** including all of the following: **(1)** covering letter, **(2)** full CV with transcripts (including expected or actual degree class), **(3)** the names and Email addresses of at least 2 (ideally 3 or more) academic referees. **Full applications** should be sent by Email to Nicholas Poxon, Email: nzp@cs.nott.ac.uk. **Please quote ref. SCI/EXISTENCE.**

Closing date: The positions will be filled when suitable students have been identified. Early application is strongly recommended.

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