June, 2014

SYNTHECELL
Architecture and Evolution of eukaryotic genetic circuits

Post-doctoral positions available
Complexity and Variability in Cell Proliferation

Two three-year post-doctoral positions supported by a starting grant from the European Research Council (ERC) are available in the group of Dr. Damien Coudreuse (www.synthecell.org) at the Institute of Genetics and Development of Rennes (IGDR), France (http://igdr.univ-rennes1.fr/english/). Research in this laboratory takes a synthetic biology approach in fission yeast to study the architecture and evolution of cell cycle regulation. The proposed projects aim at understanding fundamental aspects of the control of cell proliferation, from the buffering of variability in the different mechanisms driving cell cycle progression to the evolution of complexity in cell cycle control. The first project will rely on the design and study of synthetic cell cycle control circuits with specific properties that can be externally controlled to reveal the main modules that are essential for building a robust network at the population level. The second project will focus on the importance of multi-layered regulation of cell proliferation through the assessment of the long-term limitations of cells operating with minimal circuits, thereby revealing the mechanisms that have likely been under strong selective pressure and that have therefore shaped cell cycle control as we know it.

We are seeking candidates who are highly motivated and ready to take on innovative projects in a collegial and interactive environment. Candidates with a background in genetics, molecular and cell biology, as well as those with an interest in microfluidics and mathematical modeling are encouraged to apply. Skills in high-resolution microscopy and image analysis will also be useful for these projects.

Research at the Institute of Genetics and Development of Rennes covers a wide range of subjects in cell biology, taking advantage of most classical model systems while strongly promoting interdisciplinary approaches. The institute also benefits from state-of-the-art core facilities, such as excellent microscopy and genomics centers. The IGDR is dynamic and expanding, with 20 teams representing 200 international researchers and staff, including several recently established young groups. The working language of the laboratory and the institute is English.

The IGDR is located in the city of Rennes, the capital of Brittany in northwestern France. With its rich tradition of cultural, musical, and artistic events as well as its close proximity to the coast, Rennes is a very welcoming and pleasant place to live. It is also easily and directly accessible from Paris (around 2 hours by train).

Candidates should contact Dr. Damien Coudreuse at damien.coudreuse@univ-rennes1.fr and send a Curriculum Vitae, including past research experiences and publication records, as well as a letter detailing their motivation and interest in our work. Applicants should also request recommendation letters to be directly sent by two or three references.

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