



POSTDOC IN EVOLUTIONARY SYSTEMS BIOLOGY

The VIB/UGent Department of Plant Systems Biology (PSB, www.psb.vib-ugent.be) is a world-leading plant science institute with the mission to integrate genetics, genomics and computational biology to unravel the biology of plants and to further explore the potential of plants to build a sustainable world. The Evolutionary Systems Biology lab at PSB (<http://www.psb.vib-ugent.be/esb>) is looking for a talented and highly motivated postdoc to work on modeling the evolution of transcriptional systems from a mechanistic perspective (3 year position, extendable to 4 years, available immediately).

Project description

The goal of the Evolutionary Systems Biology lab is to understand how biological systems work and how they evolve. In this project, we will use fine-grained, sequence-based genotype-phenotype mapping models in combination with population-based evolutionary algorithms to study the evolution of molecular systems through gen(om)e duplication under stabilizing, directional and fluctuating selection. We will in particular study the mechanisms by which duplicates in gene regulatory networks may diverge, and the impact of duplications on the origin of emergent system properties such as robustness and evolvability. The framework to be developed will also be instrumental in investigating the impact of neutral versus adaptive evolutionary mechanisms on the origin of complexity in gene regulatory networks, an issue that has thus far remained understudied from a mechanistic modeling perspective.

Profile

- You have a PhD in Computational Biology, Mathematics, Physics, Engineering, Biological Engineering or Computer Science, from a non-Belgian university.
- You have a strong interest in molecular evolution; experience in the use of mathematical techniques to model the evolution of biological systems is a major plus.
- You have a passionate interest in pursuing fundamental research in a stimulating and competitive field of science.
- You have an outstanding publication record in peer-reviewed international journals.
- You found a good balance between working in a team and working independently.
- Experience in guiding MSc or PhD students is a plus.
- You are fluent in English (spoken and written) and at least one programming language.
- You are meticulous, well organized, responsible and self-critical.
- You take pride in delivering high-quality work.

- You can think outside the box.

We offer:

- An exciting work environment in a top research institute.
- The opportunity to be part of a dynamic, interdisciplinary and international team.
- An attractive salary that will be based on previous experience and skills.

Please e-mail your CV, a letter of motivation and the contact details of three referees to Prof. Dr. Ir. Steven Maere (steven.maere@psb.vib-ugent.be). More info about the lab can be found at <http://www.psb.ugent.be/esb/>. The position is available immediately. Applications are accepted until the position is filled.