

Ph.D. position: Exploring regulatory mechanisms from single genes up to large genetic networks

Laboratory of Biosystem Dynamics
Faculty of Medicine and Health Technology, Tampere University, Finland

Applications are invited for a Ph.D. position at the [Laboratory of Biosystem Dynamics \(LBD\)](#) of the [Faculty of Medicine and Health Technology](#) of [Tampere University](#), Finland.

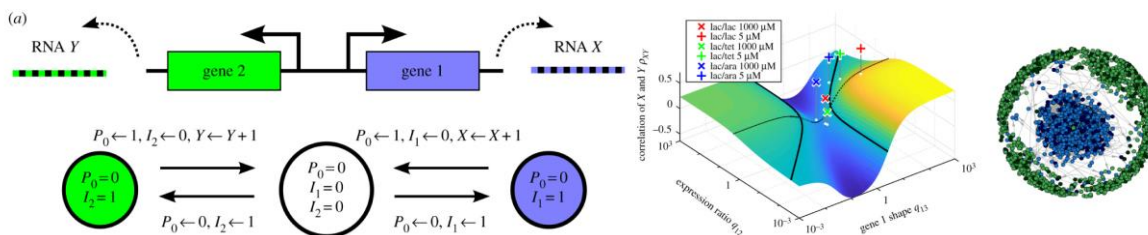
The position **starts from February 2021**, onward. **Application deadline: October 15, 2020**. Starting date is flexible. We offer a competitive salary, in accordance with Tampere University regulations. Appointment time: the PhD period is 4 years with possible extension (renewed every year).



Project: Gene networks perform continuous, semi-parallel, information processing while being robust to fluctuations. From this emerge decision-making processes that timely activate cellular responses. Understanding how this is achieved remains a fundamental goal of Life Sciences. This project will study information propagation in bacterial Gene Networks. We will use Biophysics, Signal Processing, Computational Biology and Bioinformatics techniques, and will be supported by Single-Cell and Omics laboratory techniques.

Understanding how information flows between the genes should provide insight into how to disrupt bacterial antibiotic resistance, and assist in producing new synthetic genetic circuits that will adapt microbial genomes to perform new combinations of metabolic tasks to improve the yield and sustainability of bioindustrial processes.

Theoretical predictions will be experimentally validated. The work is expected to be published in high level scientific journals.



Qualifications: The successful applicant should have a Masters' in Biophysics, Computational or Systems Biology, Signal Processing, Biostatistics, Biotechnology or Biomedical Engineering, etc.

Research Environment: We are an interdisciplinary, international group with expertise in biophysics, signal and image processing, molecular and computational biology, bioinformatics, and single-cell biology. We are involved in national and international collaborations. Former Ph.D. students are now in Harvard University, Oxford University, Boston University, École Normale Supérieure in Paris, Google (NY), etc. We do theoretical and experimental research, and our lab has state-of-the-art technology for live, single-cell biology studies.

The laboratory is in the Kauppi Campus of the Faculty of Medicine and Health Technology of Tampere University (www.tuni.fi/en/about-us/kauppi-campus-home-base-medicine-and-life-sciences#switcher-trigger--overview). This research center has all state-of-the-art technology necessary for the project and many other world-level research teams, creating the perfect research environment.

For further information, visit our web page: <https://sites.google.com/view/andreribeirolab/home/open-positions>.

Information about our Faculty and its PhD program can be found at:

<https://www.tuni.fi/en/study-with-us/doctoral-programme-medicine-biosciences-and-biomedical-engineering>

To apply: please send the following docs to Andre Ribeiro (Email: andre.sanchesribeiro@tuni.fi):

- CV
- Cover letter (describing your skills, research interests, and motivation for applying to this position)
- Diplomas and transcripts of records (BSc and MSc degrees). Students who will finish MSc until the end of 2020 are also invited to apply.
- Contact details of 1-2 persons for professional references

Andre S. Ribeiro, Professor (tenured). PI, Laboratory of Biosystem Dynamics
Faculty of Medicine and Health Technology, Tampere University.

Webpage: <https://sites.google.com/view/andreribeirolab/home>

Scholar: <https://scholar.google.fi/citations?user=crgkkrYAAAAJ&hl=en>

RG: https://www.researchgate.net/profile/Andre_Ribeiro43

Twitter: [@AndreSR_Tampere](https://twitter.com/AndreSR_Tampere)

YouTube channel: <https://www.youtube.com/channel/UC-VNiWXOS6qp0SbNHqijeMA>