Position Summary

Systems Biology Ireland (SBI; http://www.ucd.ie/sbi/) focuses on elucidating the design principles of regulatory networks in mammalian cells and applying this knowledge to important questions in biology and biomedicine, such as cell fate decisions. A main aim of SBI's research is to develop and apply computational models based on biological data to open new avenues for understanding and treatment of human diseases. Ongoing projects include the spatiotemporal dynamics and statistical analysis of signalling and transcriptional networks that govern cell proliferation, differentiation and motility.

This project will develop computational models to determine how signalling networks, transcription factors and immediate early genes control cell fate decisions. In particular, the postholder will investigate the links between growth factor signalling and transcription factor phosphorylation and protein stability; and the gene regulatory networks governed by immediate early genes. The successful applicant will work closely with experimentalists at the interface between mathematics, engineering and biology in a multi-disciplinary research community at SBI. This presents a unique opportunity for creative individuals who want to work at the cutting-edge of systems biology.

This is a research focused role, where you will conduct a specified programme of research supported by research training and development under the supervision and direction of a Principal Investigator. The primary purpose of the role is to further develop your research skills and competences, including the processes of publication in peer-reviewed academic publications, the development of funding proposals, the mentorship of graduate students along with the opportunity to develop your skills in research led teaching.

In addition to the principal duties and responsibilities listed below

- You will be a part of an interdisciplinary team with national and international collaborations in the field of systems biology. While the emphasis of this post is on computational modelling, you will have a strong interest to collaborate with biologists.
- You will participate in ongoing SBI programmes (reverse engineering of signalling networks and gene regulatory networks, cell fate decisions) and contribute to SBI’s overall research goals.
- You will be an outstanding scientist conducting research which aspires to push the boundaries of our current knowledge.

Salary: €33,975 - €41,181 per annum

Appointment on range will commensurate with qualifications and experience
**Principal Duties and Responsibilities**

- Conduct a specified programme of research and scholarship under the supervision and direction of your Principal Investigator.
- Engage in appropriate training and professional development opportunities as required by your Principal Investigator, your School or Institute, or the University.
- Engage in the dissemination of the results of the research in which you are engaged as directed by and with the support of and under the supervision of your Principal Investigator.
- Engage in the wider research and scholarly activities of your research group, School and Institute.
- Mentor and assist, as appropriate and as directed, the research graduate students in your group, School and Institute.
- Carry out administrative work associated with your programme of research.

**Selection Criteria**

Selection criteria outline the qualifications, skills, knowledge and/or experience that the successful candidate would need to demonstrate for successful discharge of the responsibilities of the post. Applications will be assessed on the basis of how well candidates satisfy these criteria.

**Mandatory**

- PhD in computing science, mathematics, statistics, biophysics or related discipline.
- Experience of working closely with experimentalists and experimental data sets.
- Knowledge and experience of dynamic mathematical modeling techniques, including non-linear dynamics, to analyse biological systems.
- Basic knowledge of cell/molecular biology and transcriptional control.
- A demonstrated commitment to research and publications.
- An understanding of the operational requirements for a successful research project.
- Evidence of research activity (publications, conference presentations, awards) and future scholarly output (working papers, research proposals, and ability to outline a research project).
- Excellent communication skills (oral, written, presentation etc).
- Excellent organisational and administrative skills including a proven ability to work to deadlines.

The PD1 position is intended for early stage researchers, either just after completion of a PhD or for someone entering a new area for the first time. If you have already completed your PD1 stage in UCD or will soon complete a PD1, or you are an external applicant whose total Postdoctoral experience, inclusive of the duration of the advertised post, would exceed 4 years, you should not apply and should refer to PD2 posts instead.

**Desirable**

- Experience in parameter estimation and dynamic modelling of biological systems.
- Experience in working with transcriptional data and reverse engineering of transcriptional networks.
- Experience in setting own research agenda.
Further Information for Candidates

Supplementary information

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Relocation Expenses

☐ Will not apply

☐ Will be applied in accordance with the UCD policy

Informal Enquiries ONLY to:

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<tr>
<th>Name:</th>
<th>Boris Kholodenko</th>
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<tbody>
<tr>
<td>Title:</td>
<td>Prof</td>
</tr>
<tr>
<td>Email address:</td>
<td><a href="mailto:systemsbiology@ucd.ie">systemsbiology@ucd.ie</a></td>
</tr>
<tr>
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