



## Job Description

<b>College/Management Unit</b>	UCD College of Science
<b>School/Unit</b>	UCD School of Mathematical Sciences & Systems Biology Ireland
<b>Post Title &amp; Subject Area (if relevant)</b>	Lecturer in Statistics (above the bar)
<b>Post Duration</b>	Temporary 3 years
<b>Reports to</b>	Head of School & Director of SBI (or nominee)
<b>HR Reference No.</b>	006335
<b>HR Administrator</b>	Mark Leonard

### Position Summary

This is a research and lecturing position with Systems Biology Ireland and the UCD School of Mathematical Sciences.

Systems Biology Ireland (SBI; <http://www.ucd.ie/sbi/>) focuses on elucidating the design principles of signal transduction networks in mammalian cells and applying this knowledge to important questions in biology and biomedicine, such as cell fate decisions (differentiation, proliferation and apoptosis), and disease relevant functional behaviour, such as cell migration. A main aim of SBI's research is to develop and apply mathematical, statistical and computational models that open new avenues for the understanding and treatment of human diseases. Particular areas of interest are stem cell differentiation and the control of stem cell fate decisions. This will require gaining a deep understanding of both gene regulatory networks and cytoplasmic signalling networks. SBI is using modern imaging, transcriptomics and proteomics technologies to experimentally address these questions.

In order to enhance modelling capacities in this area SBI wants to recruit a statistician with expertise in modelling large scale high-dimensional data sets. Priority will be given to applicants who have documented experience in using statistical methods to analyse biological systems. A focus will be on the analysis of large datasets as obtained from transcriptomics, proteomics and high-throughput biochemical assays, and the inference of regulatory networks and network behaviour. These data are generated in house and also through a large European Union Framework 7 Project that commenced in November 2010.

This appointee will be an integral part of both the Statistics group within the School of Mathematical Sciences and Systems Biology Ireland and will have expertise in areas such as computer intensive statistics methodology and statistical modelling of high-dimensional data. It is the intention of these two groups to foster stronger research links and the person appointed to this position will take a key role in the liaison between the two groups. It is hoped that future collaborations between the two groups will expand into research in the fields of medical statistics and clinical trials and further appointments may be made to establish a new cross disciplinary team that will involve the appointee in a central role. The appointee will be a lecturer in the School of Mathematical Sciences and as such will have responsibility for developing new courses in Statistical and Mathematical Biology at undergraduate and masters' level to develop a cohort of students trained in quantitative methods applied to the biological sciences.

**2010 Lecturer (above the bar) Salary Scale:** €50,807 – €76,936 p.a.

**2011 Lecturer (above the bar) Salary Scale:** €45,726 - €69,275 p.a.\*

*\*Subject to all new entrants to public sector as of 01 January 2011*

Appointment will be made on scale and in accordance with the Department of Finance guidelines

## Principal Duties and Responsibilities

- The post-holder will be based in SBI and will have a research focused role.
- The post-holder will be a lecturer in the School of Mathematical Sciences with duties as directed by the Head of School, including teaching, supervision of dissertations and some administration.
- The appointee will be expected to participate in on-going SBI programmes (reverse engineering of signalling networks and gene regulatory networks, cell fate decisions) and contribute to SBI's overall research goals, but will have substantial freedom to develop a research programme in systems biology.
- The post-holder will be expected to contribute to the development of the School's statistical and computational teaching programme in the biological sciences.
- The appointee will be responsible for statistical analysis needed for mathematical modelling and data analysis within the SBI team. The appointee will work in a highly interdisciplinary environment and contribute to a world class research programme.
- While the emphasis of this post is on theoretical modelling, the post-holder will have a strong interest and experience in collaborating with biological scientists

## 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

- A PhD in Statistics before commencement of contract.
- Research experience in the use of probabilistic, statistical or data driven approaches to the modelling and analysis of biological systems.
- A record of scientific contributions to the field, such as publications and conference contributions.
- A strong ability to work in and actively contribute to an interdisciplinary research environment.
- Successful third level teaching experience.
- Excellent interpersonal and communication skills, and a strong collaborative spirit.

### Desirable

- Experience in establishing and managing meaningful and productive partner relationships across boundaries between scientific disciplines and cultures, and academia and industry.
- Good IT skills.

## Further Information for Candidates

### Supplementary information

The University:	<a href="http://www.ucd.ie/aboutucd.htm">http://www.ucd.ie/aboutucd.htm</a>
The College/Management Unit:	<a href="http://www.ucd.ie/science/">http://www.ucd.ie/science/</a>
The School/Programme Office/Unit:	<a href="http://www.ucd.ie/sbi">http://www.ucd.ie/sbi</a> <a href="http://mathsci.ucd.ie">http://mathsci.ucd.ie</a>
Other (Please specify):	n/a

### Relocation Expenses

- Will not apply
- Will be applied in accordance with the UCD policy  
<http://www.ucd.ie/hr/html/manual/remvexp.pdf>

### Informal Enquiries ONLY to:

Name:	Prof Walter Kolch & Dr Patrick Murphy
Title:	Director SBI and Head of School of Mathematical Sciences
Email address:	<a href="mailto:systemsbiology@ucd.ie">systemsbiology@ucd.ie</a> ; <a href="mailto:Patrick.Murphy@ucd.ie">Patrick.Murphy@ucd.ie</a>