



Job Description

Research Fellow / Senior Research Fellow in Computational Cancer Biology x2

Department: Pathology

Location: Cancer Institute

Grade: UCL Grade 7 - 8

Grade 7: £35,965 - £43,470 per annum

Grade 8: £44,674 - £52,701 per annum

Salary scales are inclusive of London Allowance

Reports to

Professor Jasmin Fisher

This is a post in the Computational Cancer Biology group at the Cancer Institute in UCL. The UCL Cancer Institute is the hub for cancer research at University College London. The institute draws together over 400 talented scientists who are working together to study cancer and translate research discoveries into developing better, more effective treatments to improve outcomes for cancer patients.

We are seeking two highly motivated and qualified Research Fellow to join the Fisher laboratory which investigates the evolutionary dynamics of cancer (initiation, progression, response to therapy and emergence of resistance) using computational modelling. The Fisher laboratory is dedicated to understanding how cancers evolve through the identification of the molecular mechanisms that underpin cell-fate decision programs during both normal development and disease. Our mission is to develop better personalised treatment to improve the outcome for cancer patients.

The post holders will be expected to make significant contributions to the development of computational models for the cancers being studied in the Fisher lab (e.g., breast cancer, lung cancer, glioblastoma, melanoma). This will involve data discovery, data

analysis, computational modelling and experimental validation in partnership with our experimental collaborators.

For more details about the Fisher lab, please visit: www.ucl.ac.uk/cancer/fisher-lab

This post is funded for 3 years in the first instance, with a probationary period of 9 months.

Key requirements

Applicants will have a PhD degree in computational biology, computer science, engineering, physics, mathematics or bioinformatics, or a degree in biological science with substantial experience in computational work. Experience in formal verification methods (in particular, model checking, temporal logic, static analysis, SAT solving and program synthesis), logical modelling and statistical analysis is essential. Candidates should have excellent programming skills in Python, MATLAB and R. Experience in machine learning is desirable.

Applicants must have experience in presenting complex scientific concepts and content both in writing and verbally. They will show a strong commitment to the Fisher lab mission and embody its values through excellent collaborative interpersonal skills with an ability to work co-operatively in a multidisciplinary setting.

Excellent communication skills and the ability to work well in a multidisciplinary team are essential. The post-holder will be expected to have the ability to assist other

members of the Fisher lab, supervise MSc and PhD students, collaborate with external research groups, as well as contributing to the organisation and smooth operation of the Fisher lab.

Appointment at Grade 7 is dependent upon having been awarded a PhD; if this is not the case, initial appointment will be at research assistant Grade 6B (salary £31,479 - £33,194 per annum) with payment at Grade 7 being backdated to the date of final submission of the PhD thesis.

For Appointment at Grade 8 candidates must have a PhD and significant previous post doctoral experience prior to the appointment.

Duties and responsibilities

- Plan, develop and carry out original research
- Develop and refine computational modelling methods
- Ensure the validity and reliability of data at all times
- Research, curation and analysis of cancer data
- Carry out computational modelling using tools such as BioModelAnalyzer <https://biomodelanalyzer.org/>
- Oversee experimental validation through collaboration with experimental laboratory and clinical collaborators
- Independently drive projects, plan work flows and trouble shoot technical and other problems
- Keep up to date with the literature in the field, including new technological innovations
- Discuss experimental details, research projects and new articles with lab members
- Work in collaboration with other teams and scientists at the UCL CI, other departments in UCL and other universities
- Acquire sufficient expertise in bioinformatics to analyse experimental and clinical data
- Maintain detailed, accurate and up-to-date laboratory records
- Participate in weekly laboratory meetings
- Support and advise other projects in the lab
- Analyse and summarise research results and write reports and manuscripts
- Write up results for publication, and contribute to writing grant applications as appropriate
- Present research results at meetings and conferences

- Attend research seminars and other meetings both internal and external, as required
- Support other Fisher lab members to provide cover as required for annual leave and sick leave
- Communicate results and experimental details clearly, presenting regular progress reports
- Contribute to other projects of the lab as appropriate
- Participate in any laboratory and institute duties commensurate with the grade
- Assist with other various tasks related to lab management, if and when the need arises

In addition, be aware of and act upon:

- Disciplinary procedure and Disciplinary rules
- Grievance procedure
- Section 7 and 8 of the Health and Safety at Work Act
- Departmental Fire Guidelines
- Equal Opportunities Policy
- Comply with the Health & Safety regulations of the department.

We unfortunately will not consider applications to work on a part-time, flexible and job share basis. The Fisher Lab expects members to attend during core hours, and working out of hours, if required, to meet with project and lab deadlines. From time-to-time it will be necessary to attend meetings with collaborators at other locations outside UCL.

Further details

For enquiries regarding the application process please contact Cancer Institute HR Office ci.hr-office@ucl.ac.uk

For informal enquiries about the role please contact Prof. Jasmin Fisher (email: jasmin.fisher@ucl.ac.uk).

Person Specification

| Criteria | Essential or Desirable | Assessment method (Application/Interview) |
|---|------------------------|---|
| Qualifications, experience and knowledge | | |
| PhD in a relevant subject | E | A |
| For appointment at Grade 7, be studying towards a PhD in a relevant subject. | | |
| Appointment at Grade 7 is dependent upon having been awarded a PhD; if this is not the case, initial appointment will be at research assistant Grade 6B (salary £31,479 - £33,194 per annum) with payment at Grade 7 being backdated to the date of final submission of the PhD thesis. | | |
| In order to be considered for a Grade 8 position candidates must have significant post doctoral experience prior to the appointment | E | A |
| BSc in relevant subject (First or Upper Second) | E | A |
| Proven track record of scientific publication and conference presentations. | E | A |
| Formal verification methods | E | A |
| Statistical analysis | D | A |
| Cancer biology | D | A |
| Programming in Python, MATLAB or R | E | A |
| Skills and abilities | | |
| Work well in a multidisciplinary team | E | A/I |
| Ability to work independently and under own initiative, self starter | E | A/I |
| Ability to design research studies and learn new skills | E | A/I |
| Experience in supervision (PhD and/or MSc students) | E | A/I |
| Analytical and critical thinking | E | A/I |
| Analysis of high dimensional data | D | A/I |
| Bioinformatics | D | A/I |
| Machine learning | D | A/I |
| Personal attributes | | |
| Hardworking, meticulous and thorough | E | I |
| Excellent writing and presentation skills | E | I |

| Criteria | Essential or Desirable | Assessment method (Application/Interview) |
|--|-----------------------------------|--|
| Excellent collaborative interpersonal skills | E | I |
| Excellent communication skills | E | I |
| Clear career intentions in science | D | I |
| Willing and able to work out of hours | D | I |
| Highly-motivated, enthusiastic and proactive | E | I |

Appendix

UCL Equal Opportunity Policy

UCL is committed to fostering a positive culture where all staff, students, and visitors can flourish, where none will feel compelled to conceal or play down elements of their identity for fear of being stigmatised. UCL aims to be a university where people are encouraged to be authentic and their unique perspective, experiences, and skills are seen as valuable assets. To view UCL Equality Policy Statement, please see <https://www.ucl.ac.uk/human-resources/policies/2017/dec/equal-opportunities>

Further Information;

If you are interested in finding more about any aspect of equality, diversity, and inclusion at UCL you can contact equalities@ucl.ac.uk

Departmental Equal Opportunity Liaison Officers (DEOLOs)

Most UCL departments have a DELO to assist with queries or concerns relating to equality, diversity and inclusion. To find your DEOLO please visit the DEOLO page on the UCL Equality, Diversity and Inclusion (EDI) website <https://www.ucl.ac.uk/equality-diversity-inclusion/>

Equality Areas and Support for Students, Staff and Manager

<https://www.ucl.ac.uk/equality-diversity-inclusion/equality-areas>

Working at UCL

Jobs information and information for new starters <https://www.ucl.ac.uk/human-resources/working-ucl>

Wellbeing at UCL

Wellbeing at UCL is the five year wellbeing strategy for the whole UCL community (staff and students). Please see <https://www.ucl.ac.uk/human-resources/health-wellbeing/wellbeingucl>

Environmental Statement

The staff has the responsibility to carry out their duties in a resource efficient way and actively support UCL's sustainability Policy with the remit of their role

<https://www.ucl.ac.uk/greenucl/ucls-sustainability-policy>