UNIVERSITY OF SUSSEX

1 Advertisement

Post Title: Research Fellow in Bioinformatics for Plant Genome Biology
School/department: School of Life Sciences, Biochemistry and Biomedicine Subject Group.
Hours: Full time or part time hours considered up to a maximum of 1FTE
Requests for flexible working options will be considered (subject to business need).
Location: Brighton, United Kingdom
Contract: Fixed term for 3 years
Reference: 10609
Salary: starting at £36,333 to £43,155 per annum, pro rata if part time
Placed on: 17 January 2023
Closing date: 16 February 2023. Applications must be received by midnight of the closing date.
Expected interview date: spring 2023
Expected start date: spring/summer 2023

Applications are invited for a Postdoctoral Research Fellow in Bioinformatics based in the School of Life Sciences at the University of Sussex; one of the UK's most prestigious universities.

Undertaking research in a vibrant and diverse research environment with an excellent international reputation, you will work as a key member of a research team investigating the function and evolution of plant genomes and transposable elements (TEs). TEs represent the majority of eukaryotic DNA, for example they comprise 50% of the human genome and up to 80-90% of the genome of plants. TEs were originally regarded as selfish DNA, but their importance in genotypic and phenotypic evolution is now well established.

Our lab is interested in understanding the interactions between TEs and their host genomes in plants by focusing both on mechanistic and evolutionary perspectives. Having a very strong background in bioinformatics, and based on your interests, you will take the lead in projects that may include i) the co-option of cis-regulatory TE motifs by host regulatory networks in grasses, ii) the impact of TEs in the function and evolution of centromeres in *Arabidopsis thaliana* and related species, iii) the capture of gene fragments by TEs and how this affects gene function and genome evolution. These projects will take advantage of the large number of high-quality genome assemblies that are becoming available, including within a single species, allowing in depth comparative genomics. The post involves UK-based and international collaborators, e.g. Ian Henderson (Cambridge, UK), Detlef Weigel (Max Planck Institute, Germany) and Brandon Gaut (University of California Irvine, USA).

This is an excellent opportunity for a computational biologist wishing to apply their skills to exploring the role of TEs in fundamental processes of plant genomes. You will be an expert in handling and analysing large-scale genetic/epigenetic data, genome-wide comparisons, pattern discovery, and designing annotation or visualization tools (it is not necessary to be an expert in all of these at the same time!). You will be able to develop research objectives,

contribute to grant applications, supervise the work of others, present at conferences, and prepare scientific publications. The position is supported by a grant of The Royal Society.

Please contact Dr Alexandros Bousios alex.bousios@sussex.ac.uk for informal enquiries.

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

Please note that this position may be subject to ATAS clearance if you require visa sponsorship.

For full details and how to apply see our vacancies page

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

Please note: The University requires that work undertaken for the University is performed from the UK.

2.   The School / Division

Please find further information regarding the School at http://www.sussex.ac.uk/lifesci/

3.   Job Description

Job Description for the post of: Postdoctoral Research Fellow in bioinformatics for plant genome biology

Department: Biochemistry and Biomedicine

Section/Unit/School: Life Science

Location: John Maynard Smith Building

Grade: 7

Responsible to: Dr Alexandros Bousios

The post involves the large-scale *in silico* analysis of genomic and epigenomic data, and comparisons of such data between genomes of the same or different species. To perform these tasks, you will be required to find, install, and run appropriate tools that have been developed by the scientific community as packages in R or stand-alone software and programs. In depth analysis will require rounds of in-house scripts to parse the data, visualization, debugging etc. Critical thinking is very important to make sense of the data, test hypotheses, and ask new questions. You will be encouraged to explore the data in numerous ways, brainstorm, and share your thoughts with lab members and collaborators. You may design pipelines for pattern discovery (e.g. to build algorithms that can sensitively detect and analyse TEs) or for visualization (e.g. a novel tool that can show syntenic TE loci across genomes). You will be using both the lab's server (where you will also act as a system administrator) and the HPC facilities of the University when required. The post is highly collaborative in nature, with multiple partners working on the same project simultaneously, so you will often exchange data and ideas either via email or zoom. You are

expected to contribute to, or take the lead in, writing scientific publications. You will have the freedom and support to develop your intellectual interests and to work creatively to produce exciting research. The proposed projects of this post are the result of both ongoing and published work (see https://scholar.google.com/citations?user=A-6DgSYAAAAJ).

4.   Person Specification

ESSENTIAL CRITERIA
1.   PhD in Molecular Biology/Genetics/Bioinformatics/Informatics.
2.   Expert in computational biology and/or programming.
3.   Expert in research in any of the following areas: genetics/epigenetics, genome biology, transposable elements, computational biology, informatics.
4.   Evidence of high-quality research.
5.   Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues and external audiences.
6.   Ability to work individually on own initiative and without close supervision, and as part of a team.
7.   Ability to exercise innovation and creative problem-solving.
8.   Ability to prioritise and meet deadlines.

DESIRABLE CRITERIA
1.   Track record of high-quality publications.
2.   Experience of generating research income.
3.   Experience in lab work, e.g. producing NGS libraries.