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**Post Title:** Postdoctoral Research Fellow - 3D genome organization in DNA repair

**School/department:** School of Life Sciences, Genome Damage and Stability Centre

**Hours:** Full time or part time hours considered up to a maximum of 1.0 FTE. Requests for flexible working options will be considered (subject to business need).

**Contract:** fixed term for 3 years

**Reference:** 2751

**Salary:** starting at £33,797 and rising to £40,322 per annum

**Closing date:** 02 December 2019. Applications must be received by midnight of the closing date.

**Expected Interview date:** December 2019

**Expected start date:** 06 January 2020

The School of Life Sciences is at the forefront of research in the biological sciences in the UK, coming in the top 10 in the REF 2014.

Applicants are invited to apply for a AMS-funded postdoctoral position to study the impact of 3 genome folding in genome integrity. The aim of this project is to study how DNA damage response is organized in the context of 3D genome organization and whether the later impacts on DNA repair pathway choice. Applicants must have extensive experience in microscopy, *in situ* hybridization techniques like chromosome painting and DNA FISH methods in cultured cells as well tissue sections or organoids.

Based in the School of Life Sciences, the Genome Damage and Stability Centre ([http://www.sussex.ac.uk/gdsc/index](http://www.sussex.ac.uk/gdsc/index)), is an internationally renowned Institute carrying out research on the response of cells to DNA damage, genome instability and its relationship to disease. We provide a stimulating and supportive environment and our expertise covers a range of experimental systems.

**Required qualifications for this position:**

- Several first author publications in a reputable journal.
- Proven track record working on chromosome painting and DNA FISH
- Highly motivated to develop novel microscopy techniques and apply super resolution methods.
- Commitment to work in a highly competitive field.
- Ability to independently drive a research project and analyse data.
- Fluent in written /spoken English and writing scientific reports/papers.

Potential candidates are strongly encouraged to contact Prof. Evi Soutoglou before applying. E-mail: [E.Soutoglou@sussex.ac.uk](mailto:E.Soutoglou@sussex.ac.uk);

Applications should be accompanied by a full CV, a statement of research interests and aspirations, and the names of two academic referees.
The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

The School is committed to equality and valuing diversity, and currently holds an Athena SWAN Silver Award. 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. The School of Life Sciences welcomes applications to academic posts from candidates who wish to work part-time or as job-sharers.

The University offers various schemes to provide real benefits to parents, these can be found at Family Friendly Policies.

For full details and how to apply see our vacancies page.
2. The School/Division

The School of Life Sciences is the largest School in the University in terms of research activity with an annual research income of over £13m, and one of the largest in terms of student and staff population. The School has a teaching and research faculty of nearly 80, over 150 research fellows and technicians, and a small professional services team. Life Sciences have played a major role in the research and teaching of the University of Sussex since 1961. The original School of Biological Sciences (BIOLS), founded by John Maynard Smith FRS, trained some of the world’s leading biologists and biomedical scientists, and was a beacon of innovation and creativity in its integrated approach to research and teaching.

The current School of Life Sciences was formed in 2009 when Professor Laurence Pearl FRS was appointed as founding Head of the new School. Under his leadership the School adopted a unified structure with no formal departments. Instead there are six research Subject Groups – Neuroscience; Evolution, Behaviour and Environment; Genome Damage and Stability; Biochemistry and Biomedicine; Chemistry and the Sussex Drug Discovery Centre. Each research subject group is chaired by a prominent scientist, who is responsible for research leadership in their subject. The School currently has six Fellows of the Royal Society (FRS) and seven Fellows of the Academy of Medical Sciences (FMedSci) on its Faculty.

Professor Sarah Guthrie was appointed Head of School in September 2017, and the School will continue to develop under her leadership.

The School admits nearly 600 undergraduates each year on to a range of BSc and MSci degrees, with around 75 students on post-graduate taught degrees in Genetic Manipulation and Cell Biology, Cancer Cell Biology and Neuroscience. Taught programmes are firmly based on our research excellence, and offer students substantial opportunities for personal research experience along with conventional lecture, seminar and tutorial teaching. We offer 3-year BSc and 4-year integrated Masters degrees (MSci) in Biochemistry, Biomedical Science, Biology, Ecology, Genetics, Neurosciences, and Zoology, and Royal Society of Chemistry accredited BSc and MChem degrees in Chemistry and Drug Design. We also offer a Foundation Year in Biological Sciences which is ideally suited for students whose A-level (or equivalent) qualifications don’t meet the requirements for direct entry on to our BSc/Masters degrees.

We have a large and vigorous post graduate research community with over 170 PhD students undertaking cutting-edge research across all our areas of interest. As well as standard PhD programmes in all the Subject Groups, we also offer a highly interdisciplinary 4-year Neurosciences PhD incorporating a first year with laboratory rotations, run in partnership with the Schools of Psychology and Engineering and Informatics, and the Brighton and Sussex Medical School.

In the REF2014 more than 96% of the School’s research was rated as ‘world leading’, ‘internationally excellent’, or ‘internationally recognised’. Our Biological Sciences research in particular was ranked 10th in the UK overall, and 8th on quality of our research outputs – putting us comfortably above the majority of Russell Group institutions.
CORE JOB DESCRIPTION

Job Title: Research Fellow in 3D genome organization in DNA repair

Grade: Research Fellow I, Grade 7

School: School of Life Sciences

Location: Genome Damage and Stability Centre (GDSC)

Responsible to: Principal Investigator through to Head of School

Direct reports: n/a

Key contacts: Members of research group, members of faculty within the School and University.

Role description: Research Fellow I is an advanced career-grade research position. Post-holders will be expected to contribute to the work of the research team, support the members of the team with their expertise and train early stage researchers.

PRINCIPAL ACCOUNTABILITIES

1. To engage in individual and/or collaborative research activity resulting in high-quality publications; and to develop research funding and knowledge exchange income individually or in collaboration with others, as appropriate, depending on the size and scope of the bid.

2. To contribute to School teaching activities.

KEY RESPONSIBILITIES

2. Research, Scholarship & Enterprise

1.1 Develop research objectives and proposals for own or joint research, at acceptable levels, with assistance if required.

1.2 Conduct research projects individually and in collaboration with others.

1.3 Analyse and interpret research findings and draw conclusions on the outcomes.

1.4 Produce high-quality research outputs for publication in monographs or recognised high-quality journals, or performance/exhibition, as appropriate, and contribute to the School’s REF submission at acceptable levels of volume and academic excellence.
1.5 Contribute to the preparation of proposals and applications to external bodies, for example for funding purposes.

1.6 Individually or with colleagues, explore opportunities for enterprise activity, knowledge exchange income and/or consultancy, where permissible.

1.7 Build internal contacts and participate in internal networks and relevant external networks in order to form relationships and collaborations.

1.8 Continually update knowledge and understanding in field or specialism, and engage in continuous professional development.

2. **Teaching & Student Support**

2.1 Undertake teaching duties, if required.

2.2 Assist in the assessment of student knowledge and supervision of student projects if required.

2.3 Assist in the development of student research skills, for example as part of a postgraduate supervision team.

3. **Contribution to School & University**

3.1 Attend and contribute to relevant School and project meetings.

3.2 Undertake additional duties, as required by the Principal Investigator and/or Head of School.

4. **Role-specific duties**

4.1 Characterization of special arrangement of DNA repair proteins by super resolution microscopy in relation with different chromatin states

4.2 Apply DNA FISH and chromosome painting techniques for characterization of 3D genome and chromosome folding in the presence of DNA damage

4.3 Set up of expansion microscopy and other new techniques for analysis of spatial distribution of DNA repair proteins around the break.

4.4 Keeping accurate and complete records of lab work

4.5 Supervision of younger members of the lab and organize lab reagents databases.

4.6 Keeping up with relevant scientific literature

4.7 Presenting results in lab meetings, internal seminars and, if appropriate, external seminars, and aiding new/junior members of the laboratory where appropriate with preparation of presentations and scientific writing

4.8 Contributing to annual science outreach activity
This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or level of responsibility entailed.

INDICATIVE PERFORMANCE CRITERIA

- A PhD or equivalent scholarly or relevant professional activity
- Pursuing a line of independent research within a research group.
- Publishing research (either from a recently completed PhD or new original research).
- Other forms of externally recognised professional practice of creative output of a standing equivalent to regular publication of original research.
- Initiating, developing or participating in links between the University and external bodies such as business and industry, the professions, community organisations and policy-makers.
- Evidence of successful engagement in teaching or supervision.

PERSON SPECIFICATION

ESSENTIAL CRITERIA

1. Normally educated to doctoral level, or other equivalent qualification, or appropriate level of experience, as appropriate to the discipline (see role-specific criteria below).
2. Evidence of engagement in high-quality research activity.
3. Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues and external audiences.
4. Ability to work individually on own initiative and without close supervision, and as part of a team.
5. Ability to exercise a degree of innovation and creative problem-solving.
6. Excellent organisational and administrative skills.
7. Ability to prioritise and meet deadlines.
8. Excellent IT skills.

ESSENTIAL ROLE-SPECIFIC CRITERIA

1. Extensive and in depth knowledge of spatial genome organization in cancer
2. Extensive experience in In situ Hybridization (DNA FISH, whole chromosome paint, RNA FISH, RASER FISH) techniques
3. Extensive experience in microscopy

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4. Experience in cell culture, tissue samples and organoid cultures
5. Experience of basic microbiology skills
6. Excellent oral and written communication skills
7. Professional presentation of data
8. Honesty, motivation, demonstrable independence and commitment
9. Proven ability to develop new skills and set up new techniques
10. Demonstrable ability to work co-operatively as a member of a research team and lead a research project
11. A track-record of lead (first) author, high-quality, publications in well cited journals
12. A demonstrated ability to write scientific papers and grants

**DESIRABLE CRITERIA**

1. Emerging track record of high-quality publications in reputable journals and other appropriate media of similar standing.
2. Experience of generating research or knowledge exchange income.