

Postdoctoral Research Assistant (Quantitative Cell Biology of Mitosis)

Grade 7: (£31,604 - £38,833)

Applications are invited for a Postdoctoral researcher to study the regulation of chromosome segregation in the laboratory of Dr Adrian Saurin at the Jacqui Wood Cancer Centre, University of Dundee. This is a CRUK-funded position that is available for 3 years in the first instance.

Background

Kinases and phosphatases orchestrate a vast array of intracellular responses by toggling phosphorylation sites on and off. Although these enzymes work antagonistically on individual molecules, they also work together to define how these molecules behave collectively in time and space. This “cooperativity” is something we know little about and yet it can determine critical features of a signalling response (1,2). For example, we showed previously how the mitotic checkpoint integrates the activities of two kinases and two phosphatases to generate a localised signal that can turn on and off rapidly (3). This postdoctoral position is to examine the importance of kinase-phosphatase coupling at the kinetochore, and in particular, how dynamic phosphorylation cycles can underlie important signalling behaviours (2,4).

For further information about this position please contact **Dr Adrian Saurin** at a.saurin@dundee.ac.uk. To find out more about the lab please visit www.saurinlab.com.

- (1) Gelens L, Qian J, Bollen M and Saurin AT. The Importance of Kinase-Phosphatase Integration: Lessons from Mitosis. *Trends in Cell Biology*. 2017.
- (2) Gelens L and Saurin AT. Exploring the function of dynamic phosphorylation-dephosphorylation cycles. *Developmental Cell*. 2018.
- (3) Nijenhuis W, Vallardi G, Teixeira A, Kops GJ, Saurin AT. Negative feedback at kinetochores underlies a responsive spindle checkpoint signal. *Nature Cell Biology*. 2014.
- (4) Saurin AT. Kinase and Phosphatase Cross-Talk at the Kinetochore. *Front Cell Dev Biol*. 2018 Jun 19;6:62

The successful applicant will:

- Examine the role that kinetochore phosphatases and kinases play in chromosome segregation.
- Use a wide range of cell biology and biochemical approaches, including quantitative live-cell microscopy (FRET/FLIM/FRAP), which will be combined with mathematical modelling (in collaboration).
- Work exclusively in mammalian cell types, which will be genetically modified using CRISPR/Cas9.

Person specification:

- PhD with an excellent track record and at least one first author publication.
- Experience of working within the mitosis field, using relevant microscopy techniques, and/or using mathematical modelling would be highly advantageous.
- The most important requirement is a highly-motivated and ambitious Postdoctoral researcher with a passion for science. If you lack technical experience but can demonstrate real drive and past success, then please still apply.

The diversity of our staff and students helps to make the University of Dundee one of the top universities in the UK. Family friendly policies, staff support networks for BME and LGBT staff, membership of Athena Swan and Stonewall, as well a full range of disability services, create an enjoyable and inclusive place to work.