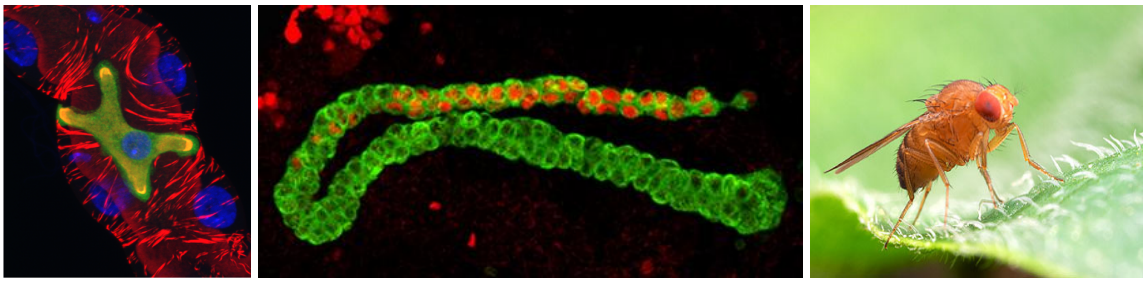
eastbio
the East of Scotland Bioscience Doctoral Training Partnership

BBSRC
bioscience for the future

Shaping bioscience research training in the East of Scotland

PhD Position:
Emergence of functional polarity in a tubular epithelium



Epithelial tubes often have a functional polarity written along their proximo-distal (P-D) axis, with different segments of specialised cell-types carrying out distinct physiological activities. With a handful of notable exceptions, we know very little about how P-D axes and segment-specific differentiation are regulated during organogenesis.

The major objective of this project is to explore the molecular and cellular mechanisms that pattern and maintain functional polarity along the P-D axis in a structurally simple, but functionally sophisticated epithelial tube: the insect renal tubule. Approaches will include: state-of-the-art imaging, single cell RNAseq, genetics, physiological assays and *in silico* modelling.

The project will be carried out in the laboratory of Barry Denholm (Biomedical Sciences, University of Edinburgh)

A recent example of our work from a related project:
Beaven, R. and Denholm, B (2018) Release and spread of Wingless is required to pattern the proximo-distal axis of *Drosophila* renal tubules ***eLife*** 2018;7:e35373
https://elifesciences.org/articles/35373

About the lab and department:
https://www.ed.ac.uk/discovery-brain-sciences/our-staff/research-groups/barry-denholm
https://denholmlab.wordpress.com
https://twitter.com/denholmlab

Further information about the project and details of how to apply:
https://www.findaphd.com/phds/project/eastbio-emergence-of-functional-polarity-in-a-tubular-epithelium/?p114665
http://www.eastscotbiodtp.ac.uk/how-apply-0

Please contact me if you'd like further information (Barry.Denholm@ed.ac.uk)

Closing Date: 5th January 2020

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