



Postdoc and PhD opportunities in the Murrell Lab

One 3-Year postdoc position and **two 4-Year PhD positions** are available to work on an ERC Advanced grant: **Bacterial isoprene metabolism: a missing link in a key global biogeochemical cycle**. Isoprene is a very important climate-active biogenic volatile organic compound with both global warming and cooling effects. Globally, terrestrial plants emit around 600 million tonnes of isoprene per year (approximately the same quantity as methane released to the atmosphere) yet little is known about its biogeochemical cycle. Microbes are a sink for isoprene and through their activity in soils and on leaves of isoprene-emitting plants, they will be important in removal of isoprene in the biosphere before it gets released to the atmosphere.

Our aim is to obtain a fundamental understanding of the metabolism and ecological importance of biological isoprene degradation and to test the hypothesis that bacteria play a crucial role in the biogeochemical isoprene cycle, thus helping to mitigate the effects of this important but neglected climate-active gas. **Key goals are to elucidate the biological mechanisms by which isoprene is metabolised and to understand at the mechanistic level how isoprene cycling by microbes is regulated in the environment.** Isoprene degrading bacteria will be characterised using a multidisciplinary approach and a wide range of cutting edge techniques. We will elucidate the pathways of isoprene metabolism and their regulation and characterise the genes and enzymes responsible, use innovative molecular ecology methods to determine distribution, diversity and activity of isoprene degraders and assess the contribution that microbes make in the removal of isoprene from the biosphere. **The postdoc will focus on the biochemistry of isoprene monooxygenase and molecular physiology/biochemistry of the pathways of isoprene degradation while the PhD students will study either bacterial metabolism of isoprene or the ecology of isoprene degraders respectively.**

For further information on the Postdoc position, start date 1st May 2017 (negotiable) see:

<http://www.jobs.ac.uk/job/AXK992/senior-research-associate/>

For PhD positions (Start Date 1st October 2017 and open to EU residents only) see:

http://www.jobs.ac.uk/job/AXF368/molecular-ecology-of-isoprene-degrading-bacteria-key-players-in-the-global-isoprene-cycle-murrell_u16erc4/

http://www.jobs.ac.uk/job/AXF358/bacterial-degradation-of-isoprene-a-much-neglected-climate-active-gas-murrell_u17erc3/

Informal enquiries and further information: E-mail Colin Murrell on j.c.murrell@uea.ac.uk

See www.jcmurrell.co.uk for further information on research activities in the Murrell Lab.