



Molecular Ecology and Fisheries Genetics Laboratory

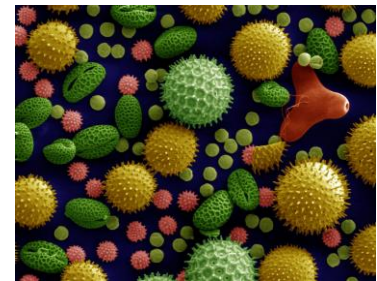


<http://mefgl.bangor.ac.uk/>

NERC ENVISION Studentship (£14,296pa) - Using environmental DNA (eDNA) analysis to explore aerial pollen communities and identify links to hay fever (Lead supervisor: Prof. Simon Creer).

We are currently advertising for a PhD opportunity to be hosted in the Molecular Ecology & Fisheries Genetics Laboratory (MEFGL), at Bangor University (<http://mefgl.bangor.ac.uk/>) to **commence in October 2017**. The PhD is part of the NERC ENVISION Doctoral Training Programme (<http://www.envision-dtp.org/>), a PhD consortium partnership between Bangor, Nottingham and Lancaster Universities, alongside numerous environmental bodies, aimed at equipping the next generation of Environmental Biologists with advanced skills.

Project rationale: Bioaerosols consist of biota such as pollen, fungal spores, bacteria and viruses and include plant allergens that negatively affect human health. Approximately 20% of people display allergic reactions to combinations of tree and grass pollen causing symptoms ranging from discomfort (e.g. hay fever) to respiratory complications (e.g. asthma), with associated costs to society and health services. Identifying pollen from different species of tree can be achieved using labour-intensive microscopy, but the process is challenging and can be subjective. Nevertheless, since most grass pollens look the same, an outstanding challenge is to understand which species of grass contribute to the allergic response.



Aims: This studentship has three components. The first aims to use different combinations of molecular genetic tools to see how effectively we can assess aerial tree pollen mixtures. Secondly, to use modelling approaches to compare and contrast the aerial transit of tree and grass pollens and finally, to use a molecular ecology/environmental epidemiology approach to identify which species of grass pollen are most closely associated with hay fever symptoms. The PhD will form a distinct, but highly complementary component within a larger £1.2M NERC funded study ([PollerGEN](#)) and provides an opportunity to work with a leading team of interdisciplinary molecular ecologists, aerobiological modellers and environmental epidemiologists from a range of UK Universities and the UK Met Office. **Co-supervision will be provided by Natasha DeVere/Gareth Griffith (Aberystwyth), Carsten Skjøth (Worcester), Ben Wheeler/Nick Osborne (Exeter/Sydney).**

Training will be provided in the main areas of **molecular ecology, genomics, taxonomy, bioinformatics, modelling; multidisciplinary skills and science communication**, complemented by a host of additional opportunities for postgraduate development. Fieldwork will occur within the UK, with opportunities for travel/collaborations in Europe and Australia.

Applicants should hold a minimum of a UK Honours Degree at 2:1 level or equivalent in subjects such as Environmental or Natural Sciences, with a strong motivation to study eDNA biodiversity-environment effects. The ENVISION link is here: <http://www.envision-dtp.org/portal/projects/002884/using-environmental-dna-edna-analysis-to-explore-aerial-pollen-communities-and-identify-links-to-hay-fever> and the ENVISION DTP features on www.jobs.ac.uk (<https://www.findaphd.com/search/PhDDetails.aspx?CAID=2350>). In the meantime, informal enquiries should be sent to Dr S. Creer, email s.creer@bangor.ac.uk; <http://mefgl.bangor.ac.uk/staff/si.php>; @spideycreer or members of the broader team where appropriate and we will be able to assist with your enquiries, to enhance chances of success.

Closing date for applications: date 6th of January 2016 with interviews predicted to take place in the 2nd half of January 2016 and look forward to hearing from you!