



Early stage fellowship: Marine population genomics.

Advisors: Dr. Joe Hoffman (Bielefeld University, Germany)
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Funding is available for an early stage fellowship as part of a Marie Curie Initial Training Network. The fellow will be based in the Hoffman lab at Bielefeld University (www.thehoffmanlab.com) and will have the opportunity to register for a PhD. The fellowship will provide training in cutting-edge population genomic approaches and offers excellent opportunities for networking plus individually tailored training and industrial placements. The fellow should therefore be in a strong position afterwards to pursue a career in either academia or industry.

There is mounting concern over the acidification of the World's oceans. In the 250 years since the onset of the industrial revolution, atmospheric CO₂ levels have risen from 280 to 381 parts per million and average ocean pH has fallen from 8.16 to 8.05. Human-driven emissions of CO₂ continue to rise and have begun to outstrip even the most pessimistic of IPCC model scenarios. How will life in the oceans adapt to this changing environment? Particular concern has been expressed over organisms with heavily calcified shells such as molluscs, as their ability to extract carbonate ions from seawater and incorporate these into their skeletons may be compromised.

This position forms part of a Marie Curie Initial Training Network entitled CACHE: Calcium in a Changing Environment, funded by the EU (ref: 605051) and co-ordinated by the British Antarctic Survey. The aim of this network is to take a coordinated multidisciplinary approach to understanding calcium regulation and shell production in four commercially important shellfish species, the king scallop (*Pecten maximus*), the Pacific oyster, (*Crassostrea gigas*), the blue mussel (*Mytilus edulis*) and the soft shell clam (*Mya arenaria*). The network comprises 10 partners from 6 European countries, including research institutes, universities and commercial enterprises. As a member of the network, the fellow will be expected to work cooperatively within the network, participate in European training events and spend up to 30% of their training with another network partner. Full details of the network can be found at www.cache-ITN.eu.

The fellow will use population genomic approaches including RAD sequencing and transcriptomics to (i) conduct a comparative analysis of the population structure of the four species along a European latitudinal cline; (ii) explore how stocking practices, hybridization, oceanographic barriers and life-history interact to shape population structure; (iii) determine the relative contributions of genotype and phenotypic plasticity to shell morphology and ultrastructure; (iv) test for signatures of selection at candidate genes involved in calcium regulation and deposition. There will also be scope for the fellow to explore their own related interests within the framework of this project and in collaboration with the other partners.

We seek a bright and highly motivated candidate who holds an M.Sc. or equivalent in a relevant topic (e.g. marine biology, population or evolutionary genetics, bioinformatics). The ideal candidate will have strong quantitative skills and ideally some experience of programming, although training can be provided. Experience of RAD sequencing would also be advantageous but is not necessary. The candidate should also be able to work both independently and as part of a multidisciplinary team. A high standard of spoken and written English is required.

The fellow will join the Hoffman lab, a young and dynamic group comprising five PhD students and a postdoc. They will be based at the Department of Animal Behaviour at Bielefeld University (www.uni-bielefeld.de/biologie/animalbehaviour/home.html). The department currently hosts six principal investigators, seven postdocs and over thirty PhD students. It offers a stimulating

international environment and an excellent research infrastructure including brand new molecular laboratories and computing facilities. The working language of the Department is English.

Bielefeld is a city of 325,000 inhabitants with an attractive historical centre and easy access to the Teutoberger Wald for hiking and other outdoor pursuits. It offers a very high standard of living and is well connected to most major European cities.

This fellowship offers a generous stipend of at least €3700 per month, including a mobility allowance, for a period of 2.5 years. Funding is also available for the fellow to attend annual meetings and training workshops in Portugal and elsewhere. The fellow will be encouraged to register for a PhD at Bielefeld University.

To apply for the position, please provide: (i) a letter of motivation including a maximum 2-page statement of your research interests, relevant skills and experience; (ii) a CV including publication list; (iii) names and contact details of three referees willing to write confidential letters of recommendation; (iv) for monitoring purposes only, please clearly state your nationality, sex, and where you saw the advert. All materials should be emailed **as a single PDF** to: joseph.hoffman@uni-bielefeld.de with 'CACHE application' in the subject line.

The application deadline is March 27th 2015. Interviews will take place immediately afterwards. We would like the fellow to start as soon as possible, ideally in May 2015, although this depends on the timeframe of the most qualified applicant. For further information, please contact Joe Hoffman (e-mail: joseph.hoffman@uni-bielefeld.de; tel: +49(0)521 1062711).

Eligibility: Please note that this is an EU funded Marie Curie post and therefore certain eligibility criteria apply:

- The applicant must be in the first four years (full time equivalent research experience) of their research careers and not yet have a doctoral degree. This is measured from the date when they obtained the degree which would formally entitle them to embark on a doctorate.
- At the time of recruitment by the host organisation, researchers must not have resided or carried out their main activity (work, studies etc) in the country of their host organisation for more than 12 months in the 3 years immediately prior to the reference date.
- The candidate can be from any nationality, including non-EU.
- In order to register for a PhD at Bielefeld University, the applicant must hold a Masters degree or equivalent.

The University of Bielefeld is an equal opportunity employer. We particularly welcome applications from women. Given equal suitability, qualifications and professional achievement, women will be given preference, unless particular circumstances pertaining to a male applicant apply.

For relevant publications, please see: Hoffman *et al.* (2010) *Marine Biology*, 157: 765–778 and Hoffman *et al.* (2011) *Marine Biology*, 158: 287–296.