



Taxonomic skills and field techniques for freshwater ecology and quality



The Natural History Museum, London is offering a one week course **Taxonomic skills and field techniques for freshwater ecology and quality** funded by NERC, 21-25 May 2018. This training initiative will be run entirely by NHM scientists and will benefit a wide range of PhD students and early-career environmental sciences researchers who wish to acquire or enhance their taxonomic expertise, practical identification and field work skills.

Summary: This course will deliver training in taxonomic skills and field techniques for freshwater sciences, ecology and water quality with training in practical identification skills tailored to the requirements of the participants. The course is delivered by NHM experts in freshwater biology (aquatic invertebrates, algae, lichens, ciliates) and biodiversity research. The course will entail two days of lectures, a one-day field excursion to the New Forest and two days of extensive hands-on practical sessions of microscopy, lab-based and herbaria work. The course is delivered by NHM taxonomic specialists, and by working closely with NHM scientists, participants will gain expertise to meet the needs and challenges of their current and future careers.

Venue : The [Natural History Museum](http://www.nhm.ac.uk), Cromwell Road, South Kensington, London: Life Sciences Department lecture rooms, laboratories and collections, and one-day field excursion to the New Forest.

Eligibility: The course is available to all environmental sciences students, postgraduate researchers and early-career scientists. Priority will be given to those with NERC funding or whose PhD award was NERC funded. There is a maximum of 15 places available. The course is sponsored by NERC, all course costs, travel and accommodation costs are covered. Lunch and light refreshments will be provided each day. Travel and accommodation arrangements will be made for participants by our administration team.

How to apply: please download the application form provided and return a CV and application form by the **CLOSING DATE: 16 March 2018**. For further information please contact: Anne D. Jungblut (a.jungblut@nhm.ac.uk).

Topics to be covered:

- Introduction to taxonomy and identification of major freshwater groups.
- Practical training in the use of keys and existing handbooks.
- Microscopy techniques.
- Field work.
- Overview of freshwater habitats and appropriate sampling techniques according to habitat characteristics.
- Hands-on training in sampling techniques, recording protocols for species lists, community assessment, monitoring.
- Data analysis methods, quantitative methodologies and experimental field design.
- Approaches to integrate taxonomic data and physical and chemical properties of freshwater aquatic habitats.
- Preservation of different aquatic freshwater groups for voucher specimens and long-term storage.

Course outcomes: *after completing the course participants will* 1) know how to use handbooks and keys for taxonomic identification and microscopy, 2) have acquired field technique skills; 3) understand best practice in collecting, preparing and preserving specimens, 4) know principles of experimental design, quantitative methodologies and statistical data analysis; 5) have confidence to take the techniques back to their lab and research work.

Course lecturers and expertise:

This training initiative will be run entirely by NHM scientists and will utilise experts from across the NHM [Life Sciences Department](#).

Aquatic invertebrates: [Steve Brooks](#): Taxonomy and ecology of freshwater insects (especially Chironomidae, Odonata, Ephemeroptera, Plecoptera, Coleoptera). Responses of freshwater insects to environmental change, statistical analyses, palaeoecology, quantitative inference models.

Protists (ciliates): [Dr Allan Warren](#): Systematics, diversity and ecology of ciliated protists (ciliates) in aquatic ecosystems, including wastewater treatment processes; application of microscopy, isolation and cultivation, and the use of ciliates as bioindicators of water quality .

Aquatic lichens: Dr Gothamie Weerakoon: Senior Curator of Lichens & Myxogastria; taxonomic diversity and ecology of lichens.

Freshwater microalgae: [Dr Eileen Cox](#): Taxonomy and systematics of microalgae (especially, green, yellow-green algae, chrysophytes and dinoflagellates), application of microscopy and field identification. [Dr David Williams](#): Taxonomy, systematics and biogeography of freshwater diatoms. [Dr Anne D. Jungblut](#): Taxonomic diversity and ecology of cyanobacteria, toxic bloom-forming cyanobacteria, benthic cyanobacterial biofilms; application of microscopy, and next generation sequencing.

