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## PhD course: Phylogeographic methods

14 – 22 September, University of Tromsø

**ECTS: 5**

**Language of instruction:** *English*

**Course materials:** *Curriculum/reading list ca. 10-12 papers*

**Course contact person:** *Inger Greve Alsos, [inger.g.alsos@uit.no](mailto:inger.g.alsos@uit.no)*

**Teachers:** Dorothee Ehrich (University of Tromsø, [dorothee.ehrich@uit.no](mailto:dorothee.ehrich@uit.no)) and Andreas Tribsch (University of Salzburg, Austria, [andreas.tribsch@sbg.ac.at](mailto:andreas.tribsch@sbg.ac.at))

**Course costs:** No course fee. Travel and accommodation is refunded for members of the Norwegian-Swedish Research School in Biosystematics (Christiane Todt, [christiane.todt@bm.uib.no](mailto:christiane.todt@bm.uib.no))

**Course code:** BIO-8004 Biosystematic methods and biodiversity and BIO-3006 Biosystematic methods and biodiversity for master students

**Application deadline:** 1<sup>st</sup> of June 2011

Phylogeography literally combines phylogeny with biogeography and investigates the geographic distribution of intra- or interspecific genetic variation. Observed patterns reflect the biogeographical and evolutionary history of a species or a species complex. Phylogeographic studies address questions about colonization pattern, historical range contractions or expansions in reaction to past climate change or other environmental influences, ice age refugia or hybridization. The phylogeographic approach has become increasingly important in taxonomic research as well as in the field of conservation biology. Methodologically, phylogeography combines elements of population genetics, phylogeny and historical biogeography. Despite its original focus on genetic lineages and sequence data, also allele frequencies and other types of genetic data are frequently used.

### **Course focus and activities:**

In this course we will introduce the theoretical basis of phylogeography, genetic markers used, and data analysis. The main part will be a computer course in analysing and interpreting phylogeographic data based on model datasets and/or data sets of participants. We will start with basic analyses such as estimating diversity and differentiation and introduce a few more advanced methods such as Isolation with migration models or historical demography later. The course is also meant to be a workshop, where it will be possible to discuss concepts, ideas and analyses of the participants own data sets.

### **General information:**

Course participants are expected to have basic knowledge in evolutionary biology and population genetics. Some knowledge of biogeography is an advantage. Participants will receive a number of scientific articles (10-12) on the topic to study before the course. Evaluation will be based on a project report to be delivered after

the course. There is no exam and successful course participation will be certified as "passed". The number of participants is limited to 22 in total (10 ForBio participants, not including ForBio members at UiT). The course is free of charge for ForBio members and accommodation will be organized for ForBio members and associates. ForBio supports only master students who are clearly qualified and need the course for their thesis work.

### **Required previous knowledge/course specific requirements**

Master degree in biology for BIO-8004 and bachelor degree in biology for BIO-3006.

### **Assessment**

Project report.

### **Compulsory assignment**

Approved report and participation in course activities. Grade pass/fail.

**Course start: 14.9. 12:00**

**Course end: 22.9. 17:00**

### **Accommodation**

Rooms (2-3 persons per room) are reserved at Sydspissen Hotell, <http://www.sydspissenhotell.no/EN/index.html>. Do not book directly yourself, but contact Christiane Todt for booking.

### **Application:**

The course is now open for ForBio registration with deadline Friday, 1st of June 2011. Please use the course application form posted on

<http://www.nhm.uio.no/english/research/forbio/forbio-courses/>

In addition, PhD students should fill in the form "Admission to PhD courses (8000-courses):

[http://www2.uit.no/ikbViewer/page/ansatte/organisasjon/artikkel?p\\_menu=42428&p\\_document\\_id=199684&p\\_lang=2&p\\_dimension\\_id=88199](http://www2.uit.no/ikbViewer/page/ansatte/organisasjon/artikkel?p_menu=42428&p_document_id=199684&p_lang=2&p_dimension_id=88199)

and master students should fill in the online form:

[http://www2.uit.no/ikbViewer/page/studiesokere/studier\\_opptak/artikkel?p\\_document\\_id=160521](http://www2.uit.no/ikbViewer/page/studiesokere/studier_opptak/artikkel?p_document_id=160521)

Application forms and documentation of PhD uptake should be sent to [inger.g.alsos@uit.no](mailto:inger.g.alsos@uit.no)