

Phylogenetic methods made easier: Phylogenetic Workshops under CTHB

Phylogenetics is a field in biology that studies the evolutionary relatedness among extant and extinct organisms. These studies provide researchers with insight to, for example, the place of origin, time of origin and taxonomy of organisms. The relationships are determined based on DNA sequences, amino acid sequences or morphological data using various phylogenetic methods and computer software.

The Introductory Phylogenetics workshops run by Dr Jane Wright are aimed at giving attendees a basic understanding of various phylogenetic techniques and covering the steps required from checking a sequence to constructing a tree. The aim is not to cover absolutely everything there is "to know" or every piece of phylogenetic software ever written. The first Introductory workshop was held from 21-23 May and the second is planned for 1-3 October.

The Advanced Phylogenetic Workshops presented under the auspices of CTHB focuses on the theoretical and applied aspects of the majority of methods used in inferring phylogenetic relationships amongst organisms. Within the CTHB context, understanding phylogenetic relationships is an essential aspect of pest and pathogen identification and management. These workshops were initiated after the realization that most researchers have limited experience in the practical application of evolutionary models and tree building algorithms as well as the execution of computer software used for the analyses. A major objective for the workshops is to provide "hands on" experience in the use of databases available on the world-wide-web and the different software, both commercial and freeware, currently available for evolutionary biologists. The workshops cater for researchers from various research backgrounds. Dr Martin Coetzee, a UP Research Fellow, is the driving force behind the workshops. He has been assisted by Dr Jane Wright, Prof Fourie Joubert from the Bioinformatics and Computational Biology Unit (UP) and Heid Roos who is working in the CTHB.

The workshops have been a huge success since commencing in 2004, and have achieved the aim of providing a platform for students and researchers within the TPCP to improve their skills applying the different phylogenetic models. In addition, the workshops have become extremely popular with other research programmes at UP as well as from other parts of the country. These phylogenetic workshops are therefore providing an essential service to the research community in South Africa.

Two Advanced level workshops are planned for 2008. The first took place between 26-30 May and was attended by researchers from FABI, Department of Medical Virology (UP) and Department of Veterinary Tropical Disease (UP). The second workshop will take place from 2-6 October. More information about the workshops is available on the CTHB web-page (http://www.fabinet.up.ac.za/cthb/Phylogenetics_workshops).



Participants and assistants of the Advanced Phylogenetics Workshop held during May 2008: 1st row, left to right: Dr Marianne Wolfaardt (Dept. Medical Virology, UP), Vuledzani Muthelo (CTHB), Dr Mariam Florence Olga (Dept. Veterinary Tropical Diseases, UP), Marcele Vermeulen (CTHB). 2nd row: Heidi Roos (Assistant), Dr Antoinette van Schalkwyk (FABI), Donald Chungu (CTHB), Simon Martin. 3^d row: Dr Marietjie Venter (Dept. Medical Virology, UP), Ali Al-Adawi (TPCP), Dr Mesfin Bogale (CTHB). Last row: Dr Jane Wright (Assistant).