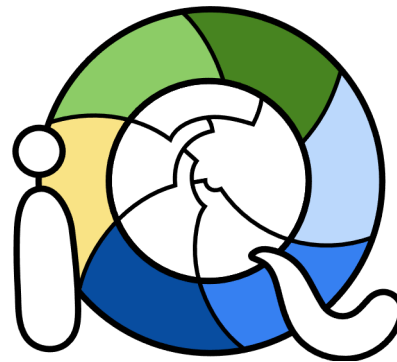


Thursday 29 – Friday 30 July 2021

Workshop overview

- Interpreting phylogenetic trees
- Phylogenetic methods
- Bayesian phylogenetic analysis
- Molecular dating
- Phylogenomics



Contributors

MOLECULAR ECOLOGY, EVOLUTION, & PHYLOGENETICS LABORATORY



Matt Phillips

Rob Lanfear

Matt Brandley

Martyna Molak

Nathan Lo

Sebastian Duchêne

Frank Jia

Daej Arab

Charles Foster

David Duchêne

Jun Tong

Luana Lins

Andrew Ritchie

Mark de Bruyn

Zoe Patterson Ross

Nik Mather

Cara Van Der Wal

Perry Beasley-Hall

Yi-Kai Tea

Fred Jaya

Minh Bui

Barbara Brito-Rodriguez

Yasmin Asar

Mezzalina Vankan

Programme – Day 1

- 11.00 – 11.10 Welcome
- 11.10 – 11.50 **Lecture 1.1:** Introduction to molecular phylogenetics
- *Break* –
- 12.00 – 12.45 **Lecture 1.2:** Evolutionary models
- 13.00 – 13.45 **Lecture 1.3:** Phylogenetic data
- *Break* –
- 14.00 – 14.45 **Lecture 1.4:** Phylogenetic methods
- 15.00 – 15.45 **Seminar:** Phylogenetic analysis with IQ-TREE
- 15.45 – 16.00 Additional time for questions

Programme – Day 2

11.00 – 12.00 **Lecture 2.1:** Bayesian phylogenetic analysis

– *Break* –

12.15 – 12.45 **Lecture 2.2:** Models and priors

13.00 – 13.45 **Lecture 2.3:** Molecular dating

– *Break* –

14.00 – 14.30 **Lecture 2.4:** Calibrating the molecular clock

14.45 – 15.15 **Lecture 2.5:** Phylogenomics

15.15 – 16.00 Additional time for questions

Lecture materials

- Lecture slides available on Github
github.com/simon-ho/SydneyPhyloWorkshop
- Recordings of talks will be available on Dropbox after the workshop

Practical exercises

Work through practical exercises in your own time

- Install software on your own computer
- Data files available on Github
- Brief video introduction provided (Dropbox)
- Answers to practical exercises provided (Dropbox)

Practical 1.1 Sequence alignment and phylogenetic analysis using *MEGA*

Practical 1.2 *IQ-TREE* workshop tutorial

Practical 2.1 Bayesian analysis and molecular dating using *BEAST*

Practical 2.2 Phylogenomic analysis using *ASTRAL*

Zoom webinar format

- Submit questions during webinar
 - Q&A function (questions not visible to attendees)
 - Chat function
- Answer to questions:
 - Typed responses during or after talks
 - Verbal responses after talks