



International Training Course Fungi: Biology, Pathogenesis and Genomics

Training Course Host Institution: Faculty of Sciences, Universidad de Chile (UCH), Las Palmeras 3425, Ñuñoa, Santiago, Chile.

Training Course Coordinators:

The course will be jointly-coordinated by:

1. **Dr Michael Handford** (Associate Professor, mhandfor@uchile.cl, Ph: +562-29787263).
2. **Dr Jennifer Alcaíno** (Associate Professor, jalcainog@uchile.cl, Ph: +562-29787312).
3. **Dr Julieta Orlando** (Assistant Professor, jorlando@u.uchile.cl, Ph: +562-29787401).

All are full-time researchers in the Faculty of Sciences, Universidad de Chile.

Commencement and termination Dates: Monday 2nd to Saturday 7th October 2017

Objectives of the Training: Fungi are a group of eukaryotic organisms widely distributed on Earth and are of great environmental and medical importance. Some fungi are beneficial; for example, some are involved in decomposition and nutrient recycling, others are used in industrial processes, and others are important components of the human microbiome. However, there are also pathogenic fungi that may cause diseases in plants, animals and humans.

The **aim of this course** is to provide the participants with a broad overview of the biology, pathogenesis and genomics of fungi, introducing some of the new massive technologies and approximations used to study these microorganisms. The topics covered include sessions to understand the biology of a range of pathogenic fungi, and how the challenges of tackling the diseases they cause in plants, animals and humans are being faced, especially at the genomic level.

To accomplish this goal, we have gathered nationally and internationally recognised research leaders in different aspects of fungal studies. Apart from giving lectures in this course, they will share their own research experiences and motivations with students from different countries in Latin America.



Course Description: The target audience is postgraduate students from Latin America, with a keen interest in biology, pathogenesis and genomics of fungi. **No registration fees will be charged.** Lectures will be given by recognised leaders in different aspects of fungal studies. The coordinators of the course have deliberately incorporated a mix of scientific sessions and informal periods, during which it is expected that the student participants from the different nations will interact with each other and with the national and international speakers. The sessions consider 5.5 days, with approximately 7 hours of activities each day (40 hours in total). At the end of the course, certificates will be given to all participants.

Speakers and the corresponding topics to be covered are:

Dr Gustavo Goldman (Brazil):

Professor. Faculdade de Ciências Farmacêuticas de Ribeirão Preto, Universidade de São Paulo (USP), Brazil. email: ggoldman@usp.br

Area of research: Host and environment sensing by *Aspergillus fumigatus* and *A. nidulans*.

- 1) Introduction to the biology of fungi. The main features that characterise fungi as a specific kingdom; differences between yeast, fungal and pleomorphic mode of growth.
- 2) Fungi as agents of animal and plant massive extinctions. The importance of fungi as ecological agents and their role in the modern extinction of bees, lizards, frogs, bats, ornamental and forest plants, etc.
- 3) Pathobiology of *Candida albicans*.
- 4) Pathobiology of *Aspergillus fumigatus*.
- 5) Pathobiology of *Cryptococcus neoformans*.
- 6) Fungal immunology.

Dr Lilia Cavaglieri (Argentina):

Independent Researcher CONICET / Head of practical work

Facultad de Ciencias Exactas, Físico-Químicas y Naturales, Universidad Nacional de Río Cuarto (UNRC), Argentina. email: lcavaglieri@exa.unrc.edu.ar

Area of research: Biological control of toxicogenic fungi

- 1) Mycotoxins and mycotoxicosis.
- 2) Biocontrol of toxicogenic fungi.

Dr Francisco Cubillos (Chile):

Associate Researcher. Centro de Estudios en Ciencia y Tecnología de Alimentos (CECTA), Universidad de Santiago de Chile (USACH), Chile. email: francisco.cubillos.r@usach.cl

Area of research: Quantitative genetics in yeasts

- 1) *S. cerevisiae*, a model yeast for re-sequencing projects.



Dr Luis Larrondo (Chile):

Associate Professor. Pontificia Universidad Católica de Chile (PUC), Chile. email: larrondo@bio.puc.cl

Area of research: Fungal functional genomics and synthetic biology

- 1) Fungal functional genomics and synthetic biology.

Dr Marcelo Baeza (Chile):

Associate Professor. Facultad de Ciencias, Universidad de Chile (UCH). email: mbaeza@u.uchile.cl

Area of research: OMICs applied to the study of yeasts in cold environments

- 1) OMICs applied to the study of yeasts isolated from cold environments.

Course Calendar

	Mon 2/10/17	Tues 3/10/17	Wed 4/10/17	Thurs 5/10/17	Fri 6/10/17	Sat 7/10/17
9:00-11:00	Welcome	Goldman (USP)	Goldman (USP)	Goldman (USP)	Larrondo (PUC)	Visit to labs in PUC, USACH
11:00-11:30	Coffee	Coffee	Coffee	Coffee	Coffee	
11:30-13:30	Goldman (USP)	Goldman (USP)	Goldman (USP)	Goldman (USP)	Larrondo (PUC)	
13:30-15:00	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
15:00-16:30	Cavaglieri (UNRC)	Cavaglieri (UNRC)	Cubillos (USACH)	Goldman (USP)	Baeza (UCH)	
16:30-17:00	Coffee	Coffee	Coffee	Coffee	Coffee	
17:00-18:30	Cavaglieri (UNRC)	Cavaglieri (UNRC)	Cubillos (USACH)	Goldman (USP)	Visit to labs in UCH	

Abbreviations: **USP**, Universidade de São Paulo, Brazil; **UNRC**, Universidad Nacional de Río Cuarto, Argentina; **PUC**, Pontificia Universidad Católica de Chile, Chile; **USACH**, Universidad de Santiago de Chile, Chile; **UCH**, Universidad de Chile, Chile.

Organization of training: The majority of the activities will take place in the Faculty of Sciences, Universidad de Chile. The first session of the course (Monday morning), will be a general welcome in which the course coordinators, international and national speakers and participating students will be invited to give a very short presentation, introducing themselves to the other participants (ice-breaker). After this, the course will be composed of numerous dynamic and interactive lectures in different areas of the biology, pathogenesis and genomics of fungi by national and international speakers. In addition, there will be opportunities to visit the labs of professors performing such research in the three Universities participating in Chile (UCH, PUC, USACH). Spanish will be the language of the majority of the course, except for the interactive lectures by Dr Goldman (English).

International Training Course
FUNG: BIOLOGY, PATHOGENESIS AND GENOMICS
October 2-7, 2017. Universidad de Chile.
Santiago, Chile

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