

Course

MOLECULAR TECHNIQUES IN ALGAE

11-13 January 2012
Concepción

Victoria
UNIVERSITY OF WELLINGTON
*Te Whare Wānanga
o te Upoko o te Ika a Māui*

UNIVERSIDAD CATOLICA
DE LA SANTISIMA CONCEPCION

Universidad de Concepción

Description:

This course introduces a variety of molecular methods including: Molecular markers, DNA extraction, PCR, DNA sequences and bioinformatics analysis. The course is led by Dr. Joe Zuccarello from Victoria University of Wellington, New Zealand, who has extensive experience in using molecular methods to understand population structure and speciation of marine algae. Local lectures include Dr. Erasmo Macaya from Universidad de Concepción and Dr. Florence Tellier from Universidad Católica de la Santísima Concepción, both with experience in phylogeography and evolution of Chilean kelps. This comprises a mix of lectures and practical sessions.

The course comprises a mix of lectures and practical sessions (Practical sessions involve computer based and articles discussion) and focuses on particular aspects of molecular analysis relevant to algal research. The course is suitable for laboratory technicians, undergraduate/post graduate students and early researchers. The course begins at 09:00 on Wednesday 11th January and finishes at 16.00 on Friday 13th January 2012.

Note: Participants must bring their own laptop.

Location:

Centro de Biotecnología
Universidad de Concepción
Concepción
Chile

Date:

11-13 January 2012

Course Fee:

50 USD (coffee breaks are included)

Maximum number of participants:

20

Application deadline:

4th December 2011

Main Lecturer:

Dr. Giuseppe C. Zuccarello, Victoria University of Wellington, New Zealand.

Lectures:

Dr. Erasmo Macaya, Universidad de Concepción, Chile.

Dr. Florence Tellier, Universidad Católica de la Santísima Concepción, Chile.

Coordinator:

Dr. Camilo Werlinger, Universidad de Concepción, Chile.

Contact:

Dr. Erasmo Macaya emacaya@oceanografia.udec.cl

Tentative Schedule:

Date	Time*	Content
11 Jan 2012	9 am-5 pm.	<p>Introduction on molecular method</p> <ul style="list-style-type: none"> - Briefly introduce the method of DNA extraction and PCR - How to check quality and size of DNA - How to get the DNA sequences <p>Molecular approaches and application. What are they good for? Are they easy to use? DNA sequencing (production and editing)</p> <p>Evolutionary Genetics (making and interpreting trees)- using MEGA 5.0 (or 4.0) (http://www.megasoftware.net/)</p> <p>Alignment and software</p> <ul style="list-style-type: none"> - Clustal X - Genbank
12 Jan 2012	9-12 am.	<p>Analysis and understand programme</p> <ul style="list-style-type: none"> - Distance Methods - Maximum parsimony - Bayesian - Maximum likelihood - Haplotype networks
	1-5 pm.	<p>The use of molecular technique in population studies.</p> <ul style="list-style-type: none"> - What do you need? What can you address? <p>Study cases: <i>Lessonia</i> and <i>Macrocystis</i></p> <ul style="list-style-type: none"> - Barcoding - Speciation
13Jan 2012	9-12 am.	<p>PCR primer design</p> <ul style="list-style-type: none"> - Primer 3 <p>Future directions ESTs, variable markers</p>
	1-5 pm.	Student's presentations.

* Morning break at 10.30 am.
Afternoon break at 12.30 pm.