

ECODIM-VIII - Austral Summer Institute, University of Concepción, Chile
ECOLOGY & DIVERSITY OF MARINE MICROORGANISMS at Dichato
Programación de Curso - Enero 6 - 25, 2014

Semana 1 Enero 05-12	Actividades		
	Mañana	Tarde	Noche
Domingo, 05	TAs and instructors set up labs and lecture room at the Estacion de Biología Marina at Dichato	Students arrive at the Estacion de Biología Marina at Dichato and at the Cabañas El Mirador (Monica Sorondo, course coordinator, phone (+56) (0)9-6821550, cell phone)	19.30 Get together. Pizza and drinks will be served at the Cabañas El Mirador
Lunes, 06	08.30 Welcome (OU, KH). 08.40 Presentation of participants and staff. Assignment to groups A, B, C and D (KH). 09.00 Course organization. Introduction to the course goals, overview of course program (KH) 09.30 Introductory Lecture, L 1: Introduction to chemical Microbiology (KH) 11.00 L 2: Introduction to Virology (MS)	14.00 Laboratory facilities and equipment (AP, AL, ND, RI, NT). Introduction to experimental possibilities and suggestions for investigations in groups A, B, C and D (ALL). 16.00 Individual study time, preparation of evening presentations	19.00 Dinner 20.00 Student presentations: P1: FRANCISCO GALVIS P2: JOSEFA VERDUGO P3: RAQUEL RODRIGUEZ P4: VALERIA GUINDER P5: NATASCHA MENEZES BERGO
Martes, 07	08.30 L 3: Microbial Oceanography of oxygen-deficient Waters I (OU) 10.30 L 4: Concepts in Microbial Ecology (RI)	14.00 L 5: Metabolic Reconstruction and coupled Cycles in a seasonal OMZ: What we can learn from OMICs analysis. Introduction to and Background about the Course Study Area (AM) 15.00 Defining Research Projects (ALL). 15.30 Defining sampling scheme, agreeing on sample processing and preparing of equipment for sampling cruise (AP, AM, AL, RI, NT)	19.00 Dinner 20.00 Student presentations: P6: SABINA MESA P7: NADIA GALINDO P8: FRANCISCO DIAZ P9: JUAN PABLO ESPINOZA
Miércoles, 08	06.00 Groups A + C: Sampling Cruise. KayKay departs from Dichato harbor for water column sampling and sediment coring at time series station. Partial sample preparation and fixation on board the vessel (AM, RI) 8.30 Groups B + D: Last preparation for sample collection, then instructions and literature searches for proposal (AP & All) 11.30 Groups B + D: Sampling Cruise. KayKay departs from Dichato harbor for water column sampling and sediment coring at time series station. Partial sample preparation and fixation on board the vessel (AM, AL) 11.00 Groups A + C: Sample processing for group projects (AP, RI, NT)	13.00 Groups B + D: Return from cruise; sample processing for group projects (AP, RI, NT, AM, AL) 14.00 Groups A + C: instructions and literature searches for proposal (AP & All) 16.00 Individual work and study time Installing Microscope	19.00 Dinner 20.00 Continue sample processing for group projects or individual study time.
Juves, 09	08.30 L 6: Photosynthesis in the Ocean: Controls and Players (DV) 10.30 L 7: Amplicon sequencing using next-generation sequencing (NT)	14.00 Project work in groups: Sample storage, microscopy, sample processing (DNA extraction, PCR, Gel electrophoresis). Preparing culture media and setting up cultures (ALL)	19.00 Dinner 20.00 Student presentations: P10: ANGELINA ESTRADA P11: JORGE ROBERTO PALACIOS P12: DERLY ANDRADE P13: CONSUELO GAZITUA P14: ANGEL RAIN
Viernes, 10	07.00 Bus leaves the Estacion de Biología Marina at Dichato for Concepción (MS) 09.00 - 18.00 Minisymposium on "The Microbial Tree of Life and Beyond: The Legacy of Carl Woese", offered by ECODIM. Auditorio "Claudio Gay" – Facultad de Ciencias Naturales y Oceanográficas, Campus Universidad de Concepción (special program).	12.30 Sandwiches for lunch and drinks at the symposium site 18.30 Bus leaves from main campus at Concepción for Dichato	20.00 Reception with course students, symposium speakers and guests at Dichato 23.30 Van leaves with guests who are returning to Concepción

Sábado, 11	11.30 Short presentations and discussions with Symposium Speakers: Matthew Sullivan (Viruses in the ocean), Linda Amaral Zettler (Plastisphere) and Carlos Pedrós Alió (About giving a good lecture). Daniel Vaultot's and Norman Pace's contributions will be integrated into the program of week 2.	Continue discussions with Symposium Speakers. 16.00 Work on group research proposal and projects.	19.00 Summary of achievements, week 1. Planning week 2 (ALL) 20.00 Dinner
Domingo, 12	Free day. Relax and catch up		20.00 Dinner

Actividades			
Semana 2 Enero, 13-19	Mañana	Tarde	Noche
Lunes, 13	08.30 L08:Virology: Who infects whom and the Unknown (MS) 10.30 L09:Determining and Interpreting the Tree of Life (NP)	All Groups: Project work in the lab and preparation of proposal	20.00 Dinner Evening: Individual study time
Martes, 14	08.30 L10: "Gradients" and the Distribution of microbial Diversity (NP) 10.30 L11: Phytoplankton Diversity (DV)	All Groups: Project work in the lab and preparation of proposal	20.00 Dinner Evening: Individual study time
Miércoles, 15	08.30 L12: Microbial Oceanography of oxygen-deficient Waters II (OU) 10.30 L13: Chemical Microbiology I: Designing biogeochemical Cycles (KH)	All Groups: Project work in the lab and preparation of proposal	20.00 Dinner Evening: Individual study time
Juves, 16	08.30 L14: Green Phytoplankton : "What is a green Ball in the Ocean?" (AL) 10.30 T15: Groups B+C: Introduction on Basic Sequence Processing. Tutorial (DV & AL) 10.30 Groups A+D: Project work in the lab and preparation of proposal	14.00 T15: Groups A+D: Introduction on Basic Sequence Processing. Tutorial (DV & AL) 14.00 Groups B+C: Project work in the lab and preparation of proposal 16.00 ALL: Project work in the lab and preparation of proposal	20.00 Dinner Evening: Individual study time
Viernes, 17	08.30 L16: How Microbes behave in different Environments (RI) 10.30 L17: Chemical Microbiology II: Thermodynamic Predictions of geochemical Pathway Processes (KH)	14.00 T18: Groups A+D: Thermodynamic Calculations with Thermodyn. Tutorial (KH) 14.00 Groups B+C: Project work in the lab and preparation of proposal	20.00 Dinner Evening: Individual study time
Sábado, 18	08.30 L19: How Metagenomics can be used to resolve symbiotic Relationships (NT) 10.30 T18: Groups B+C: Thermodynamic Calculations with Thermodyn. Tutorial (KH) 10.30 Groups A+D: Project work in the lab and preparation of proposal	All Groups: Preparation for proposal presentation 17.00 Final Presentation of research proposal including some preliminary research results and outlook (10 min per student). Each student must present.	19.00 Achievements week 2 and planning week 3 (ALL). (Collection of special student requests. Please submit suggestions to Kurt by Sunday noon) 20.00 Dinner
Domingo, 19	Free day. Relax and catch up		20.00 Dinner

Actividades			
Semana 3 Enero 20-25	Mañana	Tarde	Noche
Lunes, 20	08.30 L 20: Flow Cytometry in marine Biology; measuring Chlorophyll Fluorescence Action Spectra of Phytoplankton (GV) 10.30 L 21: Oceanic Distribution and Ecology of Picoeukaryotes" (DV)	All Groups: Project work in the lab	20.00 Dinner Evening: Individual study time
Martes, 21	08.30 L 22: The Technology behind Cell Sorting (GV) 10.30 T 23a: Groups A+D. MEGAN. Bio-informatics tools for processing next generation sequencing data from metagenomes and single cell genomes (NT) 10.30 T 23b: Groups B+C. Multivariate Analyses (RI)	14.00 T23a: Groups B+C. MEGAN. Bio-informatics tools for processing next generation sequencing data from metagenomes and single cell genomes (NT) 14.00 T 23b: Groups A+D. Multivariate Analyses (RI) Followed by project work in the lab for all groups	20.00 Dinner Evening: Individual study time
Miércoles, 22	08.30 L 24: General Physiology and Study Methodologies for Prochlorococcus (AP+OU) 10.30 L 25: Designing Diets for Microbes (KH)	14.00 All: How to make and how to present a poster (KH). All Groups: Project work in the lab. Last day for work in the lab 19.00 Deadline for submission of Project Proposal	20.00 Dinner Evening: Individual study time

Juves, 23	<p>08.30 T 26a: Tutorial on r for all Groups (DV)</p> <p>10.30 T 26b: Tutorial on r for Groups who would like to analyze data (DV)</p>	<p>14.00 Compile Program for Student Symposium (ALL)</p> <p>All: Work on research results, design poster and prepare talk for research presentations.</p>	<p>20.00 Dinner</p> <p>Evening: Individual study time and preparation of poster presentation</p>
Viernes, 24	<p>Student Symposium</p> <p>09.30 Session 1: Group D (3 Students) Presentation of Research Results (student guided, special program, max. 15 minutes per student, discussion included)</p> <p>10.45 Session 2: Group B (4 Students) Presentation of Research Results (60 minutes, discussion included)</p>	<p>13.00 Session 3: Group C (3 Students) Presentation of Research Results (student guided, special program, 45 minutes, discussion included)</p> <p>14.15 Session 4: Group A (4 students) Presentation of Research Results (60 minutes discussion included)</p> <p>15.30 Summary and Outlook (RI, NT)</p>	<p>16.00 Thank-you to Dichato campus and course staff (KH, OU, MS)</p> <p>17.00 Course evaluation, achievements, ideas for future courses (ALL).</p> <p>17.30 Course graduation at Dichato: Course participants, Faculty and invited Guests. Certificates. Reception (ALL)</p> <p>19.30 Fare well party</p>
Sábado, 25	<p>12.00 Deadline for posters and abstracts on OLAT.</p>	<p>Pack equipment for transport back to main campus and clean Dichato labs and your files on the microscope computer (All). End of Course. Departure</p>	<p>Administrative course matters (INSTRUCTORS, TA). Departure</p>
Domingo, 26	<p>Administrative course matters (OU, RI, NT, KH)</p>		

Instructors, TAs, Lecturers

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