ECODIM-VI - Austral Summer Institute, University of Concepción, Chile

ECOLOGY & DIVERSITY OF MARINE MICROORGANISMS at Dichato

Programación de Curso - Enero 4 - 23, 2010

Semana 1 Enero 3-10	**Actividades** Mañana	Tarde	Noche
Domingo, 03		Students, TAs and instructors arrive at the Estacion de Biologia Marina at Dichato and at the Cabañas El Mirador (Monica Sorondo (MS) course coordinator, phone (++56) (0)9-6821550, cell phone)	**19.30** Get together. Pizza and drinks will be served at the guest house (MS)
Lunes, 04	**08.30** Welcome (OU). **08.40** Presentation of participants. 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: Exploring marine Microcosms (OU) **11.00** L 2: Reviewing Life's Principles (KH)	**14.00** Laboratory facilities and equipment (RI, JU, VM, 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 – 21.00** Student presentations, Group A: P1: (Benjamín Srain) P2: (Blanca Pérez) P3: (Débora do Carmo Linhares) TA1: (Nicole Trefault)
Martes, 05	**08.30** L 3: Marine Phytoplankton : Role in the Ecosystems and Techniques of Study (DV) **10.30** L 4: Molecular Genetics of Microorganisms (RI)	**14.00** L 5: Introduction to and Background Knowledge about the Course Study Area (VM) **15.00** Defining Research Projects (ALL). **15.30** Preparations for sample processing and of equipment for sampling cruise (RI, JU, VM, NT)	**19.00 – 21.00** Student presentations, Group B: P4: (Maria Luiza Fontes) P5: (Cristian Valenzuela) P6: (Montserrat Aldunate) TA2: (Juan Ugalde)

Miércoles, 06	**08.00** Groups A & C: Sampling Cruise Boat departs from Dichato harbor for water column sampling and sediment coring at time series stations. Partial sample preparation and fixation on board the vessel (RI, NT, DV, UO) **08.30** Groups B & D: Internet, library and literature searches for exam paper (KH)	**13.00** Groups A & C: Sample processing for group projects (RI; NT) **14.00** Groups B & D: Sampling Cruise Boat departs from Dichato harbor for water column sampling and sediment coring at time series stations. Partial sample preparation and fixation on board the vessel (RI, NT, DV, UO)	**18.00** Groups B & D: Sample processing for group projects (JU, VM) **19.00** Groups A & C: Internet, library and literature searches for exam paper (KH)
Juves, 07	**08.30** L 6: Microbial Oceanography of Oxygen Minimum Zones (OU) **10.30** L 7: Phytoplankton: major taxonomic Groups (DV)	**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 – 21.00** Student presentations, Group C: P7: (Paulina Aguayo) P8: (Juan José Aponte) P9: (Jorge Bresciano) P10: (Dinka Mandakovic)
Viernes, 08	**08.30** L 8: Eukaryotic Picoplankton: Discovery and major Species (DV) **10.30** L 9: What "Diversity" means for Ecology (KH)	**14.00** Project work in groups: Continue with microscopy, sample processing (DNA extraction, PCR, Gel electrophoresis, cloning, RFLP. Staining, enrichments (ALL)	**19.00 – 21.00** Student presentations, Group D: P11: (Carla Gimpel) P12: (Magali Marcos) P13: (Diego Castillo) P14: (Héctor Levipán) P15: (Flavia Boidi)
Sábado, 09	**08.30** L 10: Biochemical Geometabolomics (KH) **10.30** L 11: Eukaryotic Picoplankton: environmental Diversity and Ecology (DV)	**14.00** Groups A & C: Project work continued in the lab (ALL) **14.00** Groups B & D: L 12: Designing “Diets” for Microbes (KH) **16.30** Groups B & D: Project work continued in the lab (ALL). **16.30** Groups A & C: L 12: Designing “Diets” for Microbes (KH)	**19.00** Summary of achievements, week 1 Planning week 2 (ALL)
Domingo, 10	Free day. Relax and catch up		

Semana 2 Enero 11-17	**Actividades** **Mañana**	**Tarde**	**Noche**
Lunes, 11	**08.30** L 13: Introduction to Metagenomics (EA) **10.30** L 14: Biogeochemical Themodynamics applied to microbial Ecology (KH)	**14.00** Groups B & D: Project work continued in the lab (ALL) **14.00** Groups A & C: Computer lab 1: Sequence Data & Genome Browsing (EA, JU). **16.30** Groups A & C: Project work continued in the lab (ALL) **16.30** Groups B & D: Computer lab 1: Sequence data & genome browsing (EA, JU)	**19.45** Groups B & D: Project work continued in the lab (ALL) **19.45** Groups A & C: Computer lab 2. A thermodynamic Approach to the biogeochemical Sulfur Cycle in the OMZ (KH)
Martes, 12	**08.30** L 15: Introduction to environmental Sequence Analysis (DV – Preparation for Computer lab 3) **10.30** L 16: Sampling, environmental Libraries & Sequencing (EA)	**14.00** Groups A & C: Project work continued in the lab (ALL) **14.00** Groups B & D: Computer lab 3: ARB & other phylogenetic Software Packages (DV) **16.30** Groups B & D: Project work continued in the lab (ALL) **16.30** Groups A & C: Individual study time	**19.45** Groups A & C: Project work continued in the lab (ALL) **19.45** Groups B & D: Computer lab 2. A thermodynamic Approach to the biogeochemical Sulfur Cycle in the OMZ (KH)
Miércoles, 13	**08.30** L 17: Data Processing and metagenomic Assembly (EA) **10.30** L 18: Eukaryotic Picoplankton: Ecology (DV)	**14.00** Groups B & D: Project work continued in the lab (ALL) **14.00** Groups A & C: Computer lab 3: ARB and other phylogenetic Software Packages (DV) **16.30** Groups A & C: Project work continued in the lab (ALL) **16.30** Groups B & D: Individual study time	**19.45** Marine Phytoplankton wrap-up (DV)
Juves, 14	**08.30** L 19: Binning, Annotation, & comparative Analyses (EA) **10.30** L 20: Are fish made of phytoplankton or maple leaves: Results from whole lake ^{13}C additions, ambient organic deuterium, and faith-based models roughly agree. (JC)	**14.00** Groups B & D: Project work continued in the lab (ALL) **14.00** Groups A & C: Computer lab 4: Assembly & Analysis of Metagenomes (EA, JU) **16.30** Groups A & C: Project work continued in the lab (ALL) **16.30** Groups B & D: Computer lab 4: Assembly & Analysis of Metagenomes (EA, JU)	**19.45** Groups B & D: Project work continued in the lab (ALL) **19.45** Groups A & C: Individual study time

Viernes, 15	**07.30** Bus leaves the Estacion de Biologia Marina at Dichato for Concepción (MS) **08.45 - 18.00** The Minisymposium on "Aquatic microbial Food Webs: From Community Structure to Ecosystem Functioning", organized by Cristian Vargas, will take place in the Auditorium Claudio Gay at the Main Campus of the University in Concepción (special program. CV, OU, CM, DV, YE, JC)	**12.30** Sandwiches for lunch and drinks at the symposium site (MS) **18.30** Bus leaves from main campus at Concepción for Dichato (MS)	**20.00** Reception with course students, symposium speakers and guests at Dichato (MS) **22.30** Bus leaves with guests who are staying in Concepción (MS)
Sábado, 16	**09.30** L 21: The smallest genomes of freshwater toxin-producing cyanobacteria: many answers and a lot of questions (MV) **11.30** L 22: Tools for Evaluating Food Webs in Aquatic Ecosystems (CV)	**14.00** Groups A & C: Project work continued in the lab (ALL) **14.00** Groups B & D: Define and turn in exam paper **16.30** Groups B & D: Project work continued in the lab (ALL) **16.30** Groups A & C: Define and turn in exam paper	**18.30** Summary of achievements, weeks 1 and 2 Planning week 3 (ALL)
Domingo, 17	Free day. Relax and catch up Eleccion presidencial en Chile		

Semana 3 Enero 18-24	**Actividades** **Mañana**	**Tarde**	**Noche**
Lunes, 18	**08.30** L 23: Community / Population Genomics & environmental Post-Genomics (EA) **10.30** L 24: The "Primary Producer Meta-metabolome" (KH)	**14.00** Groups B & D: Project work continued in the lab (ALL) **14.00** Groups A & C: Work on exam presentation **16.30** Groups A & C: Project work continued in the lab (ALL) **16.30** Groups B & D: Work on exam presentation	**19.45** All Groups: Fulfilling special student requests. Please turn in your suggestions by Monday noon to KH (EA, JU, VM, RI, NT, KH)
Martes, 19	**08.30** L 25: Applications of molecular Fingerprinting Techniques (DGGE, TGGE, T-RFLP in microbial Ecology (RI) **10.30** L 26: The Role of new microbial Contributors to the marine Nitrogen-Cycle (VM)	**14.00** Groups A & C: Finish project work (ALL) **14.00** Groups B & D: Work on exam presentation	**19.45** Groups B & D: Finish project work (ALL) **19.45** Groups A & C: Work on exam presentation
Miércoles, 20	**08.30** L 27: The microbes from the Humboldt Marine Ecosystem: a forgotten biosphere (VG) **10.30** L 28: Ecosystem Evolution (KH)	**14.00** All groups: How to make and how to present a poster (KH). **14.30** All groups: Work on research results.	**19.45** All groups: Work on research results.
Juves, 21	**08.30** Groups A & C: Presentation and discussion of research results (RI, NT). **10.30** Groups B & D: Presentation and discussion of research results (VM, JU).	**14.00** DIEGO's presentation **14.30** All groups: Work on exam presentation	**19.45** All groups: Prepare exam presentation
Viernes, 22	**08.30** Session 1: Student exam and paper presentations (student guided, special program, max. 25 minutes per student, discussion included) **10.25** Session 2: Student exam and paper presentations (student guided, special program, max. 25 minutes per student, discussion included)	**13.00** Session 3: Student exam and paper presentations (student guided, special program, max. 25 minutes per student, discussion included) **14.30** Session 4: Student exam and paper presentations (student guided, special program, max. 25 minutes per student, discussion included)	**16.20** Summary and Outlook (VM, RI) **16.30** Thank-you to Dichato campus and course staff (KH, OU, MS) **17.00** Course evaluation, achievements, ideas for future courses (ALL). **17.30** Course graduation at Dichato: Course participants, Faculty and invited Guests. Course Certificates. Reception (ALL) **19.30** Fare well party (MS)
Sábado, 23	**12.00** Deadline for posters and abstracts.	End of Course. Pack equipment for transport back to main campus and clean Dichato labs and your files on the computers (RI, VM, JU, NT). Departure	Administrative course matters (KH, OU)
Domingo, 24	Administrative course matters (KH, OU)	Departure	

Instructors, TAs, Lecturers, Course Coordinator, Symposium Speakers

			Course lecture (L); Symposium presentation (S)
EA	Eric Allen, eallen@ucsd.edu	Scripps Institution of Oceanography & University of California, San Diego, USA	L13, L16, L17, L19, L23
JC	Jonathan Cole, colej@caryinstitute.org	Cary Institute of Ecosystem Studies, New York, USA	L20, S5
YE	Yoanna Eissler, yeissler@gmail.com	Facultad de Ciencias, Universidad de Valparaíso, Valparaíso, Chile	S3
VG	Víctor Ariel Gallardo, vagallar@udec.cl	Departamento de Oceanografía, Centro de Biotecnología, Universidad de Concepción	L27
KH	Kurt Hanselmann, kurt.hanselmann@erdw.ethz.ch	Geomicrobiology Group, Department of Earth Sciences ETH Zürich, Switzerland	L2, L9, L10, L12, L14, L24, L28
RI	Rodrigo De la Iglesia, sirkonio@gmail.com	Laboratorio de Microbiología Marina, Pontificia Universidad Católica de Chile	L4, L25
VM	Veronica Molina, vemolina@udec.cl	Departamento de Oceanografía, Universidad de Concepción, Chile	L5, L26
CM	Carmen Morales, camorale@udec.cl	Departamento de Oceanografía, Universidad de Concepción, Chile	S1
MS	Monica Sorondo, asi@udec.cl	Austral Summer Institute, Universidad de Concepción, Chile	Housing & Logistics
NT	Nicole Trefault, nntrefau@puc.cl	Microbial Ecology & Environmental Toxicology, Pontificia Universidad Católica de Chile	TA1
JU	Juan Ugalde, jugalde@ucsd.edu	Scripps Institution of Oceanography & University of California, San Diego, USA	TA2
OU	Osvaldo Ulloa, oulloa@udec.cl	Departamento de Oceanografía, Universidad de Concepción, Chile	L1, L6
CV	Cristian Vargas, crvargas@udec.cl	Aquatic System Unit, Environmental Sciences Center EULA, Universidad de Concepcion	L22, S4
MV	Mónica Vásquez, mvasquez@bio.puc.cl	Microbial Ecology & Environmental Toxicology, Pontificia Universidad Católica de Chile	L21
DV	Daniel Vaulot, vaulot@gmail.com	Station Biologique de Roscoff CNRS & Université Pierre et Marie Curie, France	L3, L7, L8, L11, L15, L18, S2