First Workshop "Taxonomy and Ecology of Cyanobacteria"

September 10-15, 2018

Main Facilitators

Prof. Célia Leite Sant'Anna

Instituto de Botânica, Núcleo de Pesquisa em Ficologia, São Paulo, SP, Brasil

Prof. Jeffrey R. Johansen

Department of Biology, John Carroll University, University Heights, Ohio, USA

Invited speakers:

Prof. Dr. Vitor O. Manuel Vasconcelos

CIIMAR, Interdisciplinary Centre of Marine and Environmental Research of the University of Porto

Prof. Dr. Vitor Ramos

CIIMAR, Interdisciplinary Centre of Marine and Environmental Research of the University of Porto

Prof. Dr. Margarida P. Reis

Universidade do Algarve, UALG · Centro de Investigação Marinha e Ambiental (CIMA)

Prof. Dr. Fernando Bellém

Clinical Analyses and Public Health, Lisbon School of Health Technology

UNIVERSIDADE DE ÉVORA
ESCOLA DE CIÊNCIAS E TECNOLOGIA
DEPARTAMENTO DE BIOLOGIA

Laboratório da Água

ICT G1 Évora Pole

IPBeja
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ALOP
Alentejo Observation and Prediction systems

JUSTIFICATION

With increased eutrophication and effects of climate change on aquatic systems, cyanobacterial blooms have increased in frequency and intensity with adverse consequences on ecosystems and their biota, including man. The risk is not only for organisms living in water, but also for those in the proximities of affected waterbodies. In recent years, southern Portugal has also seen an increase in cyanobacterial blooms. Scientists in the Instituto de Ciências da Terra, University of Évora (Atmospheric Sciences, Water and Climate-Group 1), have observed several blooms both in the field and by satellite imagery. Some of these proliferations are in fact toxic, but studies thus far have concentrated on planktonic blooms. Little is known on benthic cyanobacteria, which are also toxic, or on the aerial transport of these organisms and their toxins. Studies on subterranean waters, heavily relied upon in the region for human use, are also lacking, but they need attention as suggested by recent studies. The present workshop is a first step to the construction of databases containing taxonomical and ecological information on cyanobacteria, their toxins, and a cross-reference with health-related databases. Such information is required in order to develop standards for different water uses (e.g., drinking, irrigation, produce and wine industry uses, etc.), not only for human consumption as treated in the existing Portuguese legislation.

SCOPE

The workshop is open to biology, ecology, botany, microbiology, phycology or other applied biological or health related branch of biological studies. Professionals and graduate students planning to work, or already working, on cyanobacteria and willing to expand their knowledge on these organisms are especially welcome. All university students are also welcome, but preference will be given to those toward the end of their careers and with a desire to further continue their studies on cyanobacteria.

MATERIAL AND EQUIPMENT

Participants are welcome to bring their own material as long as it is safely transported, appropriately fixed and readily available for analysis during the extended laboratory sessions. The Water Lab will also provide local material for analysis, so, there will be plenty of organisms to identify and study. The laboratory will be equipped with a microscope per a pair of students and will count with proper safety installations, sink, glassware and other minor materials. Participants must bring their own lab coats!

REGISTRATION FEE

There is a unique fee of 250.00 Euros charged for the workshop. This fee will cover expenses of materials (lab and desk), coffee breaks, various other services, and transportation to Alqueva.

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ACCOMMODATION AND FOOD

Évora is a UNESCO World Heritage city and therefore there is plenty of accommodations, food and facilities related to tourism. A simple Google search for hotels and hostels will yield quite a number of attractive hits. Participants will be on their own for lunch; there are plenty of places to eat entrees, soups, typical; and more international dishes. There is also a small market nearby where fruit, vegetables, bread and curated products can be purchased. The university also has a snack bar where coffee, tea and a general lunch menu, some types of sandwiches and other minor items can be found.

AGENDA

Monday 10

9:00-9:30 Welcome and organization of the workshop

9:30-10:30 Cyanoprokaryota - What is a species? (J. Johansen)

10:30-10:45 Coffee break

10:45-12:00 Cyanobacterial ecology (C. Sant'Anna)

12:00-14:00 Lunch

14:00-18:00 Laboratory session (led by C. Sant'Anna and J. Johansen, with coffee break)

Tuesday 11

9:00-10:00 Studies on cyanobacteria in Portugal, state of the art and future perspectives (Vitor Vasconcelos, open title)

10:00-10:15 Coffee break

10:15-12:30 Taxonomy and phylogeny lecture (C. Sant'Anna (coccoids), with 15 min intermission)

12:30-14:00 Lunch

14:00-18:00 Laboratory session (led by C. Sant'Anna and J. Johansen, with coffee break)

Wednesday 12

9:00-10:00 The study of cyanobacteria in southern Portugal, what has been done and what remains to be done (Margarida Reis, open title)

10:00-10:15 Coffee break

10:15-12:30 Taxonomy and phylogeny lecture (J. Johansen (Synechococcales) with 15 min intermission)

12:30-14:00 Lunch

14:00-18:00 Laboratory session (led by J. Johansen and C. Sant'Anna, with coffee break)

Thursday 13

9:00-10:00 Cyanobacteria and human health in Alentejo, is it really that bad? (Fernando Bellém, open title)

10:00-10:15 Coffee break

10:15-12:30 Taxonomy and phylogeny lecture (J. Johansen (Oscillatoriales and Nostocales) with 15 min intermission)

12:30-14:00 Lunch

14:00-18:00 Laboratory session (led by C. Sant'Anna and J. Johansen, with coffee break)

Friday 14

9:00-10:00 The use of molecular techniques for the study of cyanobacteria with special focus on toxic species (Vitor Ramos, open title)

10:00-10:15 Coffee break

10:15-12:30 Taxonomy and phylogeny lecture (J. Johansen (Nostocales concluded) with 15 min intermission)

12:30-14:00 Lunch

14:00-18:00 Laboratory session (led by C. Sant'Anna and J. Johansen, with coffee break)

Saturday 15

9:00-10:00 Ecological data compilation/summary of workshop (C. Sant'Anna)

10:00-11:00 Taxonomical phylogeny compilation/summary of workshop (J. Johansen)

11:00-11:30 Coffee break and Workshop close up

11:30-16:00 Lunch in Monsaraz Castle/Visit to Alqueva

HOSTS

The Water Laboratory, University of Évora

Biology Department, University of Évora

Alentejo Observation and Prediction Systems - ALOP project

Institute of Earth Sciences (Évora Pole)-ICT

Science and Technology School, University of Évora

Polytechnic Institute of Beja

ORGANIZING COMMITTEE

Eduardo A. Morales, Manuela Morais, Orlando Lopes, Monica Lima, Maria Helena Novais, Alexandra Penha, Rui Salgado, Célia Antunes, Ana Costa, Patricia Palma.