Satellite Event: “Algal Toxins: Methods and Challenges” in ICCE2017, Oslo

The American Chemical Society – Division of Environmental Chemistry (ACSenvr) is organizing a Satellite Event: “Algae Toxins: Methods and Challenges”.

The Event is hosted within the ICCE17 conference in Oslo, on 18 June 2017.

The aim of this one-day workshop is to open the field of Harmful Algal Blooms (HABs) to the scientific community implicated in Chemistry and the Environment and to promote effective interdisciplinary, multidisciplinary and trans-disciplinary collaboration between the scientific community, national agencies, industry and other stakeholders.

Topics:
1. Occurrence, ecology and effects of HABs
2. Methods and tools for detection and monitoring
3. Prevention and control of HABs in aquatic ecosystems and in water treatment plans
4. Regulations, management practices and education

You can see more details about the event in CYANOCOST website and on the event’s page in ICCE2017.

You can also download the event’s flyer and distribute it to your networks.

The Satellite Event is supported by CYANOCOST.

Preparation of the AIOL Special Issue

The CYANOCOST Special Issue in “Advances in Oceanography and Limnology” is at the final stages of publication. The title of the issue is “Cyanobacterial blooms and toxins in water resources: occurrence, impacts and management”. Guest editors Pavel Babica, Camilla Capelli, Damjana Drobac and Spyros Gkelis, supported by co-Editor-In-Chief of AIOL Nico Salmaso, have compiled a collection of 14 original research papers authored by CYANOCOST members. In addition, a paper by Meriluoto, Blaha et al. reviews the recent progress achieved through the CYANOCOST Action in the field of toxic cyanobacteria and cyanotoxins in Europe. All papers will be open-access and will be published individually when they complete the peer-review process. When all papers of the issue are published, a number of hard-copies of the special issue will be printed to serve for dissemination purposes. AIOL is published by the Italian Association of Limnology and Oceanology in collaboration with PAGEPress Publications.
The 2nd International Water and Health Congress was held on February 13-17, 2017 in Antalya, Turkey, in cooperation with the Ministry of Health, Public Health Institution of Turkey, Karadeniz Technical University, Istanbul University and Erciyes University. The congress hosted nearly 1000 domestic and international participants while 108 speakers in total concurrently delivered their presentations as a part of 28 panel discussions and 4 conferences in two halls. 17 international speakers from 11 countries including the WHO’s Regional Office for Europe took part in the congress.

A session was dedicated to “Emerging biotoxins in water”, were CYANOCOST participants presented recent advances in cyanobacteria and cyanotoxins research. Geoffrey Codd: “From Basic Research to Policy Development for the Water Management of Cyanobacterial Blooms and Toxins”, Tri Kaloudis on “Strategies for the Analysis of Volatile and Odours Cyanobacteria Compounds in Water”, Anastasia Hiskia on “Recent Advances on Water Treatment from Cyanobacterial Toxins”, Petra Visser on “Cyanobacteria Remediation in Drinking Water Reservoirs ”, Meric Albay on “Smell and Taste Problems in Drinking Water”, Reyhan Akcaalan on “Cyanotoxin-borne Problems in Bathing Waters and Risk Management” and Ingrid Chorus on “Cyanobacteria in the European Union Directives on Bathing and Drinking Waters”. The program also featured Ludek Blaha on “Endocrine Disrupters and Pharmaceuticals in Waters - Less Explored Ecotoxicological Effects and Risks”.

CYANOCOST at the 2nd Int. Congress “Water & Health”, Antalya, Turkey

The Saint-Petersburg Scientific Research Centre for Ecological Safety belongs to the Russian Academy of Sciences and is devoted to basic and applied research in all aspects of environmental safety. The department has investigated the occurrence of cyanotoxins in different water bodies working jointly with institutions situated in other regions of Russia.

In Russia there are over 2.7 million lakes and about 30 thousand reservoirs and ponds. According to hydro-biological data, in the lakes and reservoirs green algae, diatoms and cyanobacteria dominate. Last decades, cyanobacterial blooms have been commonly reported in Russia. Limnological studies documented the domination of cyanobacterial genera Aphanizomenon, Dolichospermum, Planktothrix, Microcystis in most of examined Russian waters. Studies on cyanotoxins were conducted in the largest Volga Reservoirs and Nero Lake in Central Russia; in Lakes, Gulf of Finland and Curonian and Vistula lagoons of the Baltic Sea in Northwestern Russia. The obtained results showed the presence of toxigenic species and cyanotoxins in the studied blooming water bodies. The most serious situation among the studied water bodies was observed in the lagoons of the Baltic Sea (the Curonian and Vistula lagoons of the Baltic Sea in Northwestern Russia). The obtained results showed the presence of toxigenic species and cyanotoxins in the studied blooming water bodies. The most serious situation among the studied water bodies was observed in the lagoons of the Baltic Sea (the Curonian and Vistula lagoons of the Baltic Sea in Northwestern Russia). After acquiring those skills, the group undertook a joint study with Yaroslavl state University on the occurrence of neurotoxic compounds - saxitoxins and anatoxin-a in different regions of Russia using light microscopy, PCR and LC-MS/MS. Among studied neurotoxins, saxitoxin was detected in phytoplankton from water bodies in Central European Russia and West Siberia and anatoxin-a in lakes of Northwestern Russia. Interesting to note that in all the cases neurotoxin-producing genera were Aphanizomenon and Dolichospermum.

E. Chernova (left) with H. Mazur-Marzec (right). The recorded microcystins’ levels exceeded the Guideline value for recreational waters (WHO) several times in a year while fish and bird kills are registered annually. The number of records on the occurrence of neurotoxins is significantly lower as compared to microcystins. This can be due to lower frequency of neurotoxin-producing cyanobacteria, or less studies focusing on this group of cyanotoxins.

CYANOCOST gave the opportunity to our researchers to enhance their analytical skills with subsequent transfer of knowledge to the fellow scientists. Ekaterina Chernova spent two weeks at the University of Gdansk (Poland) working with Hanna Mazur-Marzec’s group in a short-term scientific mission (STSM) funded by CYANOCOST. She studied saxitoxins’ determination in biomass and tissues using an LC-MS method. After acquiring those skills, the group undertook a joint study with Yaroslavl state University on the occurrence of neurotoxic compounds – saxitoxins and anatoxin-a in different regions of Russia using light microscopy, PCR and LC-MS/MS. Among studied neurotoxins, saxitoxin was detected in phytoplankton from water bodies in Central European Russia and West Siberia and anatoxin-a in lakes of Northwestern Russia. Interesting to note that in all the cases neurotoxin-producing genera were Aphanizomenon and Dolichospermum.

This article is a contribution of CYANOCOST members Ekaterina Chernova, Ekaterina Voyakina and Iana Russkikh of the St. Petersburg Research Center for Ecological Safety.

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CYANOjobs

MANTEL (Management of Climatic Extreme Events in Lakes & Reservoirs for the Protection of Ecosystem Services) is a Marie Skłodowska-Curie Action European Joint Doctorate Innovative Training Network (EJD ITN) that commences in January 2017. MANTEL opened a call for 12 Early Stage Researcher (ESR) PhD studentships. Some positions are still open for applications.

Professional position in the Center for Marine Research - Rovinj, Laboratory for Marine Microbial Ecology, Croatia, on the CSF project “Assessment of Adriatic Algae Potential in Co-Generation Production of 3rd Generation Biofuel”.

Assistant position—Doctoral Student in the Center for Marine Research - Rovinj, Laboratory for Processes in the Marine Ecosystem, Croatia, on the CSF project “Assessment of Adriatic Algae Potential in Co-Generation Production of 3rd Generation Biofuel”.

Research associate, Imperial College London. The successful candidate will assist in scientific research with the objective to develop novel biological solutions to replace the use of chemical fertiliser, with a particular focus on nitrogen. The majority of the work will focus on metabolic and systems characterization of Anabaena sp. PCC 7120, a nitrogen-fixing cyanobacterium.

Innovative researcher (PhD) to develop a statistical cyanobacteria bloom model. Water Insight B.V., the Netherlands.

Postdoc position at the Laboratory of Photosynthesis, Centre Algatech, Třeboň (CZ). Investigation of molecular principles of the building and maintaining of photosynthetic complexes in the cyanobacterial cell (mostly Synechocystis PCC 6803).

CYANOevents

Algae Toxins: Methods and Challenges (ACSenvr) – Satellite Event in ICCE17, 18 June, Oslo.


IRSAS Summer School: Integrating ‘Omics’ Technologies into Aquatic Ecology, Trento, 26-30 June 2017

10th Symposium for European Freshwater Sciences (SEFS), 2-7 July 2017, Olomouc, Czech Republic.

Gordon Research Conference : Mycotoxins and Phycotoxins, 18-23 June 2017, Easton, MA, USA


5th Iberoamerican Cyanotoxins Meeting, 17-19 July, Lugo, Spain.

Also, check the US EPA “Freshwater HABs” newsletter for additional events in USA.
You are invited to distribute CYANOnews to anyone who may be interested. You can subscribe/unsubscribe by using the Contact form in the webpage.

Send your contributions to CYANOnews, or posts for the website, facebook and twitter by e-mail to Tri Kaloudis.

Send your papers that acknowledge CYANOCOST by e-mail to Tri Kaloudis. You can acknowledge CYANOCOST in the future if you think that the network had a positive contribution to your work. CYANOCOST papers will be disseminated through all CYANOCOST media.

CYANOresearch

Gabor Vasas (Hungary) is a full professor in the University of Debrecen, he is the head of the Department of Botany. He is interested in chemical ecology and natural product research of cyanobacteria and other photosynthetic organisms. His department focuses mainly on the identification and quantification of potentially toxic cyanobacteria and their toxins, bioactive products and also interested in the cyanobacterial toxin – plant interactions with molecular methods. The lab’s early work on the toxins of cyanobacterial toxicity led to the discovery of the cyanobacterial blooms specificity in Hungarian waters with the grant financed by Hungarian Scientific Research Fund (OTKA) with the project titled “Analyses of the toxin content of cyanobacterial and algal mass production in Hungarian water bodies. Physiological and bioanalytical measurement of the effect of environmental factors on toxin production in isolated cyanobacterial and algal strains”. In this year They started a new project with the help of a national grant (NKFH 119647), titled “Metabolite diversity and function of toxic cyanobacteria”. This project focuses mainly on the cyanobacterial oligopeptides produced by Nostoc species which form extended layers mass on alkali grasslands in Hungary. The aim is to characterize and identify these peptides, as well as try to improve the understanding of the role of these metabolites in plant community and their potential use in industrial applications. Gabor is a member of CYANOCOST network and since 2016 member of COST Action No ES1408: EUAlgae (European Network for Algal-Bioproducts). Gabor is grateful for the CYANOCOST network, not just for the really useful scientific knowledge, know-how and expertise, but also for the active friendships.

CYANOpapers

This column features papers that acknowledge CYANOCOST. A list of all publications can be downloaded from www.cyanocost.net (updated regularly).


Zorica Svircev, Damjana Drobac, Nada Tokodi, Biljana Mijovic, Geoffrey Codd and Jussi Meriluoto. (2017), ”Toxicology of microcystins with reference to cases of human intoxications and epidemiological investigations of exposures to cyanobacteria and cyanotoxins”, Archives of Toxicology, 91, 621-650. doi:10.1007/s00204-016-1921-6


