



## 5th May 2019 SUNDAY

15:00-18:00	<b>Workshop</b>	<b>Fluid Imaging:</b> Semi-automated method for detecting and counting cells of cyanobacterial colonies and filaments (earlier registration is suggested)
15:00-18:00	<b>Registration</b>	
18:00-21:00	<b>Welcome party</b>	

## 6th May 2019 MONDAY

08:00-09:00	<b>Registration</b>	
09:00-09:30	<b>Opening ceremony</b>	
09:30-13:45	<b>Session 1</b>	<b>DETECTION, IDENTIFICATION AND DIVERSITY OF TOXIC/INVASIVE CYANOBACTERIA</b>
09:30-10:15	<b>Opening lecture</b>	<b>Kaarina Sivonen: Chemical, molecular and omics analyses of cyanobacteria</b>
10:15-10:45	<b>Invited lecture</b>	<b>Muriel Gugger: From phylogeny (and thus naming the taxa differently) to natural products of cyanobacteria, another way for this phylum</b>
10:45-11:00		Te S.H., Xu Z., Goh Y.F., He Y., Gin K.Y.-H. Assessing the effectiveness of 16S rRNA amplicon sequencing for cyanobacterial studies
11:00-11:15		Salmaso N. The hidden diversity of cyanobacteria unveiled by high throughput sequencing approaches
11:15-11:30		Simon D.F., Shapiro J., Husk B., Sauvé S. ATRAPP – Overview of the first two years of results
11:30-12:15	<b>Coffee break</b>	
12:15-12:30		Panou M., Ceglowska M., Szubert K., Toruńska-Sitarz A., Mazur-Marzec H., Gkelis S. Profiling cyanobacteria diversity: is chemical heterogeneity driven by taxonomic distance?
12:30-12:45		Visser P., Marulanda Gomez A., Le Trocquer N., Hiskia A., Christophoridis C., van Duyl F., Meesters E., Vermeij M., Muijzer G. Benthic cyanobacterial mats on coral reefs of Curaçao and Bonaire: diversity and impacts on corals
12:45-13:00		Khomutovska N., Suska-Malawska M., Jasser I. Detection of the toxicity genes in endolithic communities: are cold desert endoliths still able to produce cyanotoxins?
13:00-13:15		Metcalfe J.S., Souza N., Banack S.A., Cox P.A. Cyanobacterial blooms and red tides in Florida: implications for coastal and tidal environments
13:15-13:30		Namsaraev Z., Melnikova A., Komova A., Rudenko A., Ivanov V., Teslyuk A., Nedoluzhko A. Diversity and distribution of potentially toxic phototrophic communities in Lake Baikal
13:30-13:45		Stoyneva-Gärtner M., Uzunov B., Radkova M., Georgieva Ts., Pavlova V., Mitreva M., Draganova P., Borisova C., Gärtner G. Polyphasic taxonomy of risk causative cyanoprokaryotes in Bulgaria
13:45-14:30	<b>Lunch</b>	

## 6th May 2019 MONDAY

14:30-17:20	<b>Session 2</b>	<b>TOXIC CYANOBACTERIA IN THE CONTEXT OF CLIMATE CHANGES</b>
14:30-15:00	<b>Invited lecture</b>	<b>Jef Huisman: Impacts of rising CO<sub>2</sub> and global warming on harmful cyanobacterial blooms</b>
15:00-15:15		Burford M.A., Carey C.C., Hamilton D.P., Huisman J., Paerl H.W., Wood S.A., Wulff A. Effective approaches to improve prediction of the impacts of global change on cyanobacteria
15:15-15:30		Rogers Paranhos R., Brandão L., Pereira R., Azevedo S. Revisit the past to understand the present: physiological and molecular effects of high CO <sub>2</sub> on <i>Cylindrospermopsis raciborskii</i> (Cyanobacteria)
15:30-15:45		Davis T.W., Doherty O., Gobler C.J. The role of surface water warming in the timing of the <i>Microcystis</i> -dominated cyanobacterial blooms in western Lake Erie
15:45-15:55	<b>Sponsor presentation</b>	<b>Waters: One second screening of cyanobacteria utilising laser REIMS technology</b>
15:55-16:20	Coffee break	
16:20-16:35		Isles P., Bouffard D., Lepori F., Capelli C., Köster O., Pomati F. Forecasting cyanobacteria blooms at multiple timescales using hydrodynamic models and machine learning
16:35-16:50		Dietz M., Helmer D., Weisbrod B., Dietrich D., Yohannes E., Martin-Creuzburg D. Harmful cyanobacterial bloom mediates trophic shifts and enhance carbon source alternation in an artificial reservoir
16:50-17:05		Shan K., Song L. Analysis of environmental drivers influencing cyanobacterial succession and cyanotoxin production in three large, shallow eutrophic lakes, China
17:05-17:20		Sandzewicz M., Łach Ł., Khomutovska N., Kwiatowski J., Suska-Malawska M., Jasser I. Comparisons of cyanobacterial diversity in soil crusts in hot and cold deserts – are there toxigenic taxa?
17:20-17:40	Coffee break	
17:40-18:40	<b>Round table discussion I</b>	<b>Molecular and morphological concepts in cyanobacterial taxonomy – recent achievements and perspectives. Chairs: M. Gugger and N. Salmaso</b>

## 7th May 2019 TUESDAY

09:00-12:00	<b>Session 3</b>	<b>ECOLOGY OF CYANOBACTERIA, ABIOTIC AND BIOTIC FACTORS IN THE REGULATION OF CYANOBACTERIAL GROWTH AND/OR TOXIN PRODUCTION/1</b>
09:00-09:30	<b>Invited lecture</b>	<b>Steven Wilhelm: Metatranscriptomic insight into the effects of viruses on <i>Microcystis</i> blooms</b>
09:30-09:45		McKindles K., Manes M., McKay R.M., Bullerjahn G. Parasites of <i>Planktothrix</i> ; cyanophages and chytrids as top-down regulators in a Lake Erie embayment
09:45-10:00		Clercin N.A. Bacterioplankton assemblages during seasonal occurrences of microcystins, 2-methylisoborneol and geosmin in a midwestern eutrophic reservoir
10:00-10:15		Ahn C.Y., Chun S.-J., Cui Y., Lee Ch.S., Ko S.-R., Lee H.-G., Oh H.-M. Seasonal changes in distinct bacterial modules that drive harmful cyanobacterial blooms
10:15-10:45	Coffee break	
10:45-11:00		Dziga D., Barylski J., Maksylewicz A., Maroszek M., Marek S., Antosiak A., Kokociński M. Relations between microcystin producers and degraders in freshwater bodies of western Poland
11:00-11:15		Bojadzija G., Bormans M., Edwards C., Briand E., Lawton L., Wiegand C. Metabolic interactions between <i>M. aeruginosa</i> PCC7806 and <i>D. magna</i>

## 7th May 2019 TUESDAY

11:15-11:30		Svirčev Z., Dulić T., Codd G.A., Palanački Malešević T., Savela H., Faassen E., Meriluoto J. Biological loess crusts – a special environment influences cyanobacterial toxicity
11:30-11:45		Zhang Y., Whalen J. K., Husk B.R. Soil cyanobacteria and production of toxins in agroecosystems of South-Central Quebec, Canada.
11:45-12:45	Lunch	
12:45-15:30	<b>Session 4</b>	<b>SECONDARY CYANOMETABOLITES – STRUCTURE, BIOSYNTHESIS, PHYSIOLOGICAL FUNCTION, ENVIRONMENTAL SIGNIFICANCE AND BIOTECHNOLOGICAL APPLICATION</b>
12:45-13:15	<b>Invited lecture</b>	<b>Hanna Mazur-Marzec: Cyanopeptides from Baltic cyanobacteria - diversity, environmental significance and application</b>
13:15-13:30		Popin R.V., Abreu V.A.C., Rigonato J., Dörr F.A., Pinto E., Sivonen K., Fiore M.F. Genomic and metabolomic analyses of natural products in <i>Nodularia spumigena</i> isolated from a shrimp culture pond water
13:30-13:45		Šulčius S., Mazur-Marzec H., Vitonytė I., Kvederavičiūtė K., Kuznecova J., Šimoliūnas E., Holmfeldt K. Effect of cyanophage infection and lysis on toxin nodularin in <i>Nodularia spumigena</i>
13:45-14:00		Toruńska-Sitarz A., Panasiak L., Mazur-Marzec H. Genotypic and phenotypic diversity of new cyanobactin producers classified to <i>Limnoraphis</i> genus
14:00-14:30	Coffee break	
14:30-14:45		Alvarenga D.O., Arsin S., Wahlsten M., Jokela J.K., Fiore M.F., Varani A.M., Fewer D., Sivonen K. Genomic and chemical analyses of novel natural products from <i>Brasilonema</i> spp.
14:45-15:00		Konstantinou D., Zervou S.-K., Mavrogonatou E., Giannogonas P., Gkelis S. A preliminary assessment of the potential of sponge-associated cyanobacteria to produce bioactive compounds
15:00-15:15		Pilkaityte R., Overlingė D., Mazur-Marzec H. Distribution of cyanobacterial non-ribosomal peptides in the shallow temperate lagoon
15:15-15:30		Cullen A., D'Agostino P.M., Mazmouz R., Pickford R., Wood S., Neilan B.A. Understanding differential paralytic shellfish toxin profiles between two strains of <i>Scytonema crispum</i>
15:30-15:45	Sponsored presentation (parallel to Poster session I)	Kokociński M., Dziuba M., Hindáková A., Jurczak T., Mankiewicz-Boczek J., Messyasz B., Sobczyński T., Pelechata A., Rybak A., Wejnerowska Ł., Wroniszewski P., Gąbka M. Taxonomy, toxicity and ecology of the cyanobacterium <i>Leptolyngbya</i> sp. isolated from algal mats from geothermal ponds in Uniejów (Poland)
15:30-16:45	<b>Poster session I</b>	
16:45-19:45	<b>Excursion (Old Town)</b>	

## 8th May 2019 WEDNESDAY

09:00-12:15	<b>Session 5</b>	<b>CELL PHYSIOLOGY AND MOLECULAR BIOLOGY OF CYANOBACTERIA</b>
09:00-09:30	<b>Invited lecture</b>	<b>Diana Kirilovsky: Photoprotection in cyanobacteria</b>
09:30-09:45		Kaplan A., Weiss G., Kovalerchick D., Lieman-Hurwitz J., Murik O., De Philippis R., Carmeli S., Sukenik A. Interspecies <i>Microcystis</i> - <i>Aeromonas</i> crosstalk: secondary metabolites and synergism
09:45-10:00		Woodhouse J.N., Willis A., Grossart H.-P., Burford M., Neilan B.A. Metagenomic diversity of bloom forming cyanobacteria through time and space
10:00-10:15		Fewer D.P., Shishido T.K., Jokela J., Popin R., Alvarenga D., Sivonen K. Phylum-level comparative genomics unravels cryptic diversity in the microcystin and nodularin biosynthetic pathways
10:15-10:30		Zhang L., Huang Y., Yang Z. Transcriptomic and metabolomic analyses to reveal the molecular mechanism involved in resisting and degrading microcystin in mixotrophic <i>Ochromonas</i>
10:30-11:15	Coffee break	
11:15-11:30		Kurmayer R., Entfellner E., Weisse T., Offterdinger M., Rentmeister A., Deng L. Subcellular localization of toxic peptides in bloom-forming cyanobacteria reveals a distinct compartmentation
11:30-11:45		Barchewitz T., Guljamow A., Baumann O., Hagemann M., Dittmann E. Impact of microcystin on the subcellular localization dynamics of RubisCO in <i>M. aeruginosa</i> PCC7806
11:45-12:00		Qin H., Sandrini G., Piel T.F., Slot P.C., Huisman J., Visser P.M. Responses of cyanobacteria to hydrogen peroxide at elevated CO <sub>2</sub>
12:00-12:15		Aydin E., Akcaalan R., Koker L., Tunc Z., Albay M. Effects of roxithromycin on microcystin production by <i>M. aeruginosa</i>
12:15-13:15	Lunch	
13:15-16:15	<b>Session 6</b>	<b>TOXICITY AND HARMFUL EFFECTS OF CYANOBACTERIA AND THEIR METABOLITES</b>
13:15-13:45	<b>Invited lecture</b>	<b>Bojana Žegura: Cyanobacterial toxins: adverse effects beyond acute toxicity</b>
13:45-14:00		Pappas D., Gkelis S., Panteris E. Freshwater cyanobacterial compounds and the plant cytoskeleton – a “love to hate” story?
14:00-14:15		Campos A., de Oliveira F.L., Martins J.C., Diez-Quijada L., Caméan A.M., Turkina M.V., Vasconcelos V. Proteomic responses of the marine mussel <i>Mytilus galloprovincialis</i> to toxic freshwater cyanobacteria by quantitative proteomics
14:15-14:30		Brzuzan P., Woźny M., Lewczuk B., Florczyk M., Gomułka P., Budzińska P., Wesołowski M., Dobosz S. Synthetic MiR92b-3p delivery and the efficacy of gene expression silencing in whitefish: towards understanding MiR92b-3p function in microcystin-LR-induced liver injury in fish
14:30-15:00	Coffee break	

## 8th May 2019 WEDNESDAY

15:00-15:15	Babica P., Raška J., Basu A., Váňová T., Sovadinová I., Rotrekl V., Bláha L. Cell type-dependent effects of cyanobacterial hepatotoxins can contribute to the development of chronic liver diseases – evidence from stem cell-based 2D and 3D hepatic <i>in vitro</i> models
15:15-15:30	Lee J., Lee S., Mrdjen I., Mayta A., Knobloch T., Weghorst C. Ingestion of microcystin and toxic <i>Microcystis</i> and its impact on gut microbiome
15:30-15:45	Kokociński M., Brzozowska A., Falfushynska H., Gągała-Borkowska I., Jurczak T., Mankiewicz-Boczek J., Meriluoto J., Rzymiski P. New reports on neurotoxicity of <i>Raphidiopsis raciborskii</i> strains
15:45-16:00	Downing T.G., van Onselen R. How does BMAA cause progressive slow neurodegeneration?
16:00-16:15	Babica P., Moosová Z., Hošeková V., Goliášová Z., Vašíček O., Šindlerová L. Cyanobacterial LPS exerts biological activity unpredictable by standard endotoxin test
16:15-17:30	<b>Poster session II</b>
17:30-18:30	<b>Round table discussion II</b> Risk management of cyanobacterial blooms and cyanotoxins: contributions of the ICTC community. <b>Chairs: G. Codd and W. Carmichael</b>

## 9th May 2019 THURSDAY

09:00-12:25	<b>Session 7</b>	<b>RISK IDENTIFICATION, WATER MANAGEMENT AND TOXIN REMOVAL</b>
09:00-09:30	<b>Invited lecture</b>	<b>Linda A. Lawton: Treatment strategies for cyanotoxins in water</b>
09:30-09:45		Shan K., Song L. Managing the harmful cyanobacterium <i>Microcystis</i> and cyanotoxin risk by large-scale monitoring and machine learning: a framework of Bayesian network
09:45-10:00		Sukenik A., Wu X., Levy R., Viner-Mozzini Y., Nir S. Removal of cyanobacteria and cyanotoxins from lake water by composites of bentonite with micelles of organic quaternary ammonium cation
10:00-10:15		Pestana C.J., Capelo-Neto J., Lawton L.A., Oliveira S., Carloto I., Linhares H.P. The effect of water treatment unit processes on toxic cyanobacterial trichome integrity
10:15-10:30		Zamyadi A., Dorner S., Prevost, M., Mordinejad S., Jalili F., Shapiro J., Sauvé S. Exploring morphological deformation of cyanobacteria cell during oxidation
10:30-11:00	Coffee break	
11:00-11:15		Wiegand C., Gérard G., Dupas R., Le Goffe P., Latouche P., Hernandez S. Payment for ecosystem services – an efficient approach to reduce eutrophication?
11:15-11:30		Mankiewicz-Boczek J., Gągała-Borowska I., Izidorczyk K., Jurczak T., Serwecińska L., Frątczak W., Jaskulska A., Font Najera A., Zalewski M. Control and mitigation of microcystin-producing cyanobacteria occurrence in lowland dam reservoirs
11:30-11:40	<b>Sponsor presentation</b>	<b>Taronis Technologies: Reduction of blue-green algae using Plasma Arc technology</b>
11:40-11:55		Dexter J., Tlałka A., Antosiak A., Maksylewicz A., Fu P., Dziga D. Genetic engineering of cyanobacteria for degradation of microcystins – prolonging whole cell MlrA activity under extended culturing regimes via application of <i>trc</i> promoter
11:55-12:10		Joosten E., Milferstedt K., Hamelin J. Naturally occurring cyanobacteria can form oxygenic photogranules to treat wastewater
12:10-12:25		Badagian N., Pirez M., Pérez-Parada A., González-Sapienza G., Brena B.M. Nanobody ELISA for the determination of microcystins in fish

## 9th May 2019 THURSDAY

12:25-13:10	Lunch
13:10-18:30	<b>Excursion</b>
18:30-19:30	<b>Cultural Performance</b>
19:30-22:30	<b>Banquet</b>

## 10th May 2019 FRIDAY

09:00-12:30	<b>Session 8</b>	<b>NEW TOOLS, NEW METHODS, MOST ORIGINAL FINDINGS AND HYPOTHESES</b>
09:00-09:30	<b>Invited lecture</b>	<b>Sussie A. Wood: Toxic benthic cyanobacteria: new insights into their ecology and toxin production</b>
09:30-09:45		Godlewska M., Mankiewicz-Boczek J., Izydorczyk K., Jurczak T., Kaczkowski Z., Balk H., Ye S., Długoszewski B. New assessment method of the spatial distribution and biomass of <i>Microcystis</i> bloom using high frequency echosounder
09:45-10:00		Gonzalez G., Pirez M., Brena B. Ultrasensitive detection of microcystins in untreated biological samples by immunoconcentration with nanobody coated nanoparticles and direct quantitative MALDI-TOF analysis
10:00-10:15		Altaner S., Fotler R., Jaeger S., Zemskov I., Wittmann V., Schreiber F., Dietrich D.R. Microcystin congener specific inhibition of mammalian ser/thr protein phosphatases (PP1, PP2a and PP5) and prediction of inhibitive capacity via machine learning
10:15-10:30		Tartaglione L., Varriale F., Miles C.O, Zervou S.-K., Mazur-Marzec H., Triantis T.M., Hiskia A., Kaloudis T., Dell'Aversano C. LC-HRMS versus LC-TANDEM-MS: a comparative approach for the identification of cyanotoxins in cyanobacterial biomass
10:30-11:00	Coffee break	
11:00-11:15		Manolidi K., Triantis T., Kaloudis T., Hiskia A. Dual cartridge SPE method for extraction of different variants of saxitoxins and HILIC-MS/MS analysis
11:15-11:30		Beach D.G., Wright E.J., Melanson J.E., McCarron P., Miles C.O. Untargeted high-resolution mass spectrometry workflow for identifying microcystins
11:30-11:45		Schneider M., Rataj R., Kolb J.F., Bláha L. Degradation of cylindrospermopsin using advanced non-thermal plasma technologies
11:45-12:00		Mercader J.V., Cevallos-Cedeño R.E., Quiñones-Reyes G., Agulló C., Abad-Somovilla A., Abad-Fuentes A. Development of a rapid immunochemical assay for anatoxin-a analysis
12:00-12:15		Lepoutre A., Heriveux J., Faassen E., Lurling M., Zweers H., Geffard A., Lance E. Use of freshwater bivalves as sentinel species to determine the presence of BMAA in aquatic ecosystems
12:15-12:30		Bownik A., Pawlik-Skowrońska B. Early biomarkers of behavioural and physiological disturbances in <i>Daphnia magna</i> exposed to anatoxin-a estimated by video analysis
12:30-13:15	Lunch	

## 10th May 2019 FRIDAY

13:15-16:00	<b>Session 9</b>	<b>ECOLOGY OF CYANOBACTERIA, ABIOTIC AND BIOTIC FACTORS IN THE REGULATION OF CYANOBACTERIAL GROWTH AND/OR TOXIN PRODUCTION/2</b>
13:15-13:30		Antoniou M.G., Kagalou I., Tsiarta N., Hadjiouraniou G., Daskalakis E., Chamoglou M., Polycarpou P. Managing the risk of cyanobacteria through water quality characteristics analysis: A case study of two warm Mediterranean reservoirs
13:30-13:45		Neves de Lima D., Furlanetto Pacheco A.B., Azevedo S.M. Physiological responses of <i>Cylindrospermopsis raciborskii</i> (cyanobacteria) strains to water conductivity: effect of sodium and magnesium ions
13:45-14:00		Van de Waal D.B., Kraak Y., Liu J. Impacts of CO <sub>2</sub> and nitrogen availability on the eco-physiology of harmful cyanobacteria
14:00-14:15		Georges des Aulnois M., Caruana A., Briand E., Dittmann E., Bormans M., Amzil Z. Salt stress responses of brackish and freshwater strains of <i>Microcystis aeruginosa</i>
14:15-14:30		Natumi R., Janssen E.M.-L. Environmental photodegradation of emerging cyanopeptides beyond microcystins
14:30-15:00	Coffee break	
15:00-15:15		Duan Z., Xiao T., Van de Waal D. Colony formation: a master trait of <i>Microcystis</i>
15:15-15:30		Romanis C., Mills T., Crosbie N., Neilan B. Temporal trends in cyanobacterial communities from the western treatment plant, Australia
15:30-15:45		Albay M., Akçaalan R., Köker L., Gürevin C., Gaygusuz Ö., Ertürk A., Köse C.A., Güçver S., Karaaslan Y., Kinaci C. Toxic cyanobacteria monitoring in Turkey
15:45-16:00		Weisbrod B., Wood S.A., Steiner K., Whyte Wilding R., Puddick J., Martin-Creuzburg D., Dietrich D.R. Spatial and temporal distribution of <i>Microcystis</i> in lake sediment
16:00-16:30	Coffee break	
16:30-17:15	<b>General conclusions,</b> <b>Closing lectures: Ingrid Chorus:</b> The new World Health Organisation Guidebook: Toxic Cyanobacteria in Water <b>Jussi Meriluoto:</b> From cyanobacterial problems to blue-green solutions	
17:15-18:00	<b>ICTC12 Candidate Presentations and Voting</b>	
20:00-23:00	<b>Closing ceremony and dinner</b>	