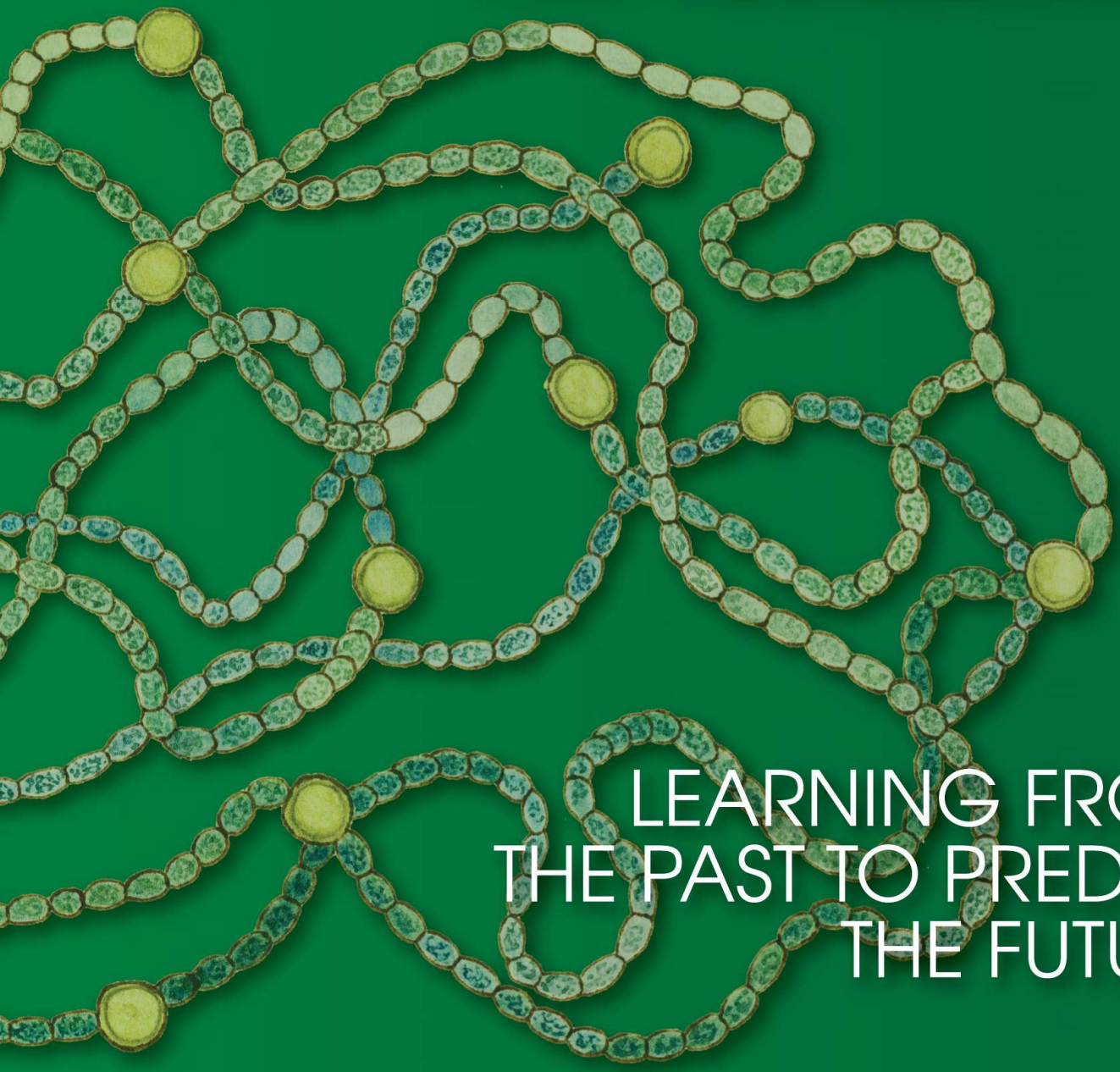
KRAKÓW, POLAND FROM 5 TO 10 MAY, 2019

11th International Conference on Toxic Cyanobacteria



LEARNING FROM THE PAST TO PREDICT THE FUTURE

SCIENTIFIC PROGRAMME
ICTC 11

11th International Conference
on Toxic Cyanobacteria
Kraków, Poland - from 5 to 10 may, 2019

“Learning from the past to predict the future”

Scientific Programme

Kraków, Poland
05-10 May 2019

Poster no. 6

CYANOBACTERIA IN AQUATIC SYSTEMS OF THE AMERICAS

S. Bonilla[1], A. Aguilera[2], V. Almanza[3], S. Haakonsson[1], L. Sampaio da Silva [4], J. Santos [4], I. Izaguirre [5], I. O'Farrell[5], L. Santana[6], C. Ferragut [6], V. Becker [7], A. Salazar [8], E. Hernandez [9], H. Palacios[9], M. Cano [10], B. Cremella [11], M. Pérez [1], A. Somma [1], W. Vincent [12], D. Antoniades [13], L. Aubriot [1]

[1]*Phytoplankton physiology and ecology group, Sección Limnología, Facultad de Ciencias, Universidad de la Republica, Uruguay*
[2]*Instituto de Investigaciones en Biodiversidad y Biotecnología, Fundación para Investigaciones Biológicas Aplicadas, Mar del Plata, Argentina*
[3]*Universidad de Concepción, centro EULA, Concepción, Chile*
[4]*Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil*
[5]*CONICET, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Argentina*
[6]*Núcleo de Pesquisa em Ecologia, Instituto de Botânica, São Paulo, Brazil*
[7]*Universidade Federal do Rio Grande do Norte, Natal, Brazil*
[8]*Laboratorio de Calidad de Agua de Embalses, AUTODEMA, Arequipa, Peru*
[9]*Grupo de investigación GeoLimna, Facultad de Ingeniería, Universidad de Antioquia, Medellín, Colombia*
[10]*Laboratorio Calidad de Agua de AMSA, Guatemala*
[11]*Université de Sherbrooke, Canada*
[12]*Département de Biologie, Université Laval, Canada*
[13]*Département de Géographie, Université Laval, Canada*

Corresponding author: signehaak@outlook.com

The Americas are one of the world's major natural freshwater reserves, characterized by diverse climates and heterogeneous ecosystem types. In these sites, eutrophication and climate change are drivers for the loss of water quality, trigging the growth of potentially toxic planktonic cyanobacteria. Blooms of these organisms threaten the use of water for many different purposes, often resulting in negative local economic impacts in developing countries. Cyanobacteria are a heterogeneous group of organisms, and major evolutionary differences between taxonomic orders results in diverse physiological and morphological traits and environmental preferences. Studies with a large geographical perspective allow for comparisons of cyanobacteria at different taxonomical levels and across ecoclimatic regions. In this study, we investigate the distribution of planktonic cyanobacteria in lakes around the Americas with a gradient of over 135 degrees of latitude, from Tierra del Fuego, 54°51'S (Argentina) to Ellesmere Island, 82°54'N (Canada). We performed a survey using unpublished and published data from 1300 lakes, including limnological and environmental variables, ecoregion information, phytoplankton and detailed data for more than 150,000 cyanobacterial populations, with researchers from 13 institutions and eight countries. We present preliminary results seeking to identify the main patterns in latitudinal distribution of total cyanobacteria and their major taxonomic orders in relation to trophic state, morphometric and climatic variables. Our results will have important implications for the health of aquatic ecosystems and the human populations that rely on them.