THE 18TH INTERNATIONAL CONFERENCE

ON HARMFUL ALGAE

FROM ECOSYSTEMS TO SOCIO-ECOSYSTEMS

ICHA 2018

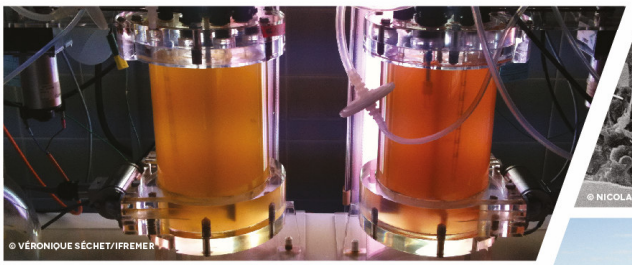
21 – 26 OCTOBER

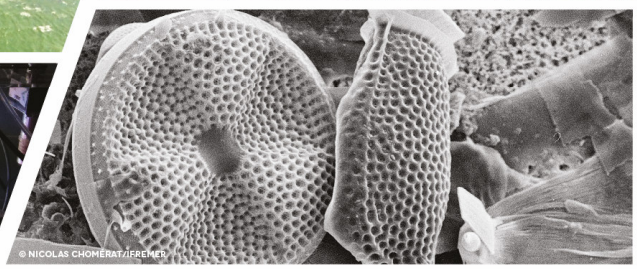
NANTES, FRANCE

ABSTRACT BOOK


© MINYVEL ENVIRONNEMENT/PHENOMER


© FATMA GUELLATI/UPMC-UNIV BADJI MOKHTAR


© VÉRONIQUE SÉCHET/IFREMER


© NICOLAS CHOMÉRAT/IFREMER


© OLIVIER DUGORNAY /IFREMER


© OLIVIER BARBAROUX/IFREMER


© STÉPHANE LESBATS/IFREMER

ORGANIZED BY

CONVENER

WITH SUPPORT OF

WWW.ICHA2018.COM

"Omic" technologies: genomics, transcriptomics, proteomics & metabolomics of HABs

O-172

Metabolic profiles of cyanobacteria isolated from Italian perialpine lakes

L. Cerasino [1,*], N. Salmaso [1]

[1]Research and Innovation Centre, Fondazione Edmund Mach, San Michele all'Adige, Italy

Abstract: A comparative profiling of the secondary metabolism of cyanobacteria isolated from Italian perialpine lakes has been attempted. Cultures of *Aphanizomenon flos-aquae*, *Dolichospermum lemmermannii*, *Microcystis aeruginosa*, *Planktothrix rubescens*, and *Tychonema bourrellyi* were obtained from lakes Garda, Idro, and Caldonazzo. LC-MS/MS analysis were used for characterizing the strains' extracts. A target analyis aimed at assessing the the toxic profile (microcystins, nodularins, anatoxins, cylindrospermopsins, PSP) was performed; it revealed the production of toxic peptides (microcystins) in *M. aeruginosa* and *P. rubescens*, of toxic alkaloids (anatoxin-a and possibly some paralytic shellfish toxins) in *T. Bourrellyi*, and finally no production of toxins in *Aph. flos-aquae* and *D. Lemmermannii*. An untargeted analysis aimed at comparing the capability of the cyanobacterial species to produce peptidic metabolites, allowed the detection of over 300 different peptides, in a mass range between 400 and 2000 Da. The majority of compounds with masses between 500 and 1200 Da (corresponding to many non-ribosomal peptides) was produced by the two species *M. aeruginosa* and *P. rubescens,* which show a much higher capability of producing these compounds compared to the others. Microcystins, aeruginosins and anabaenopeptins were the most represented classes of compounds.

Disclosure of Interest: None Declared