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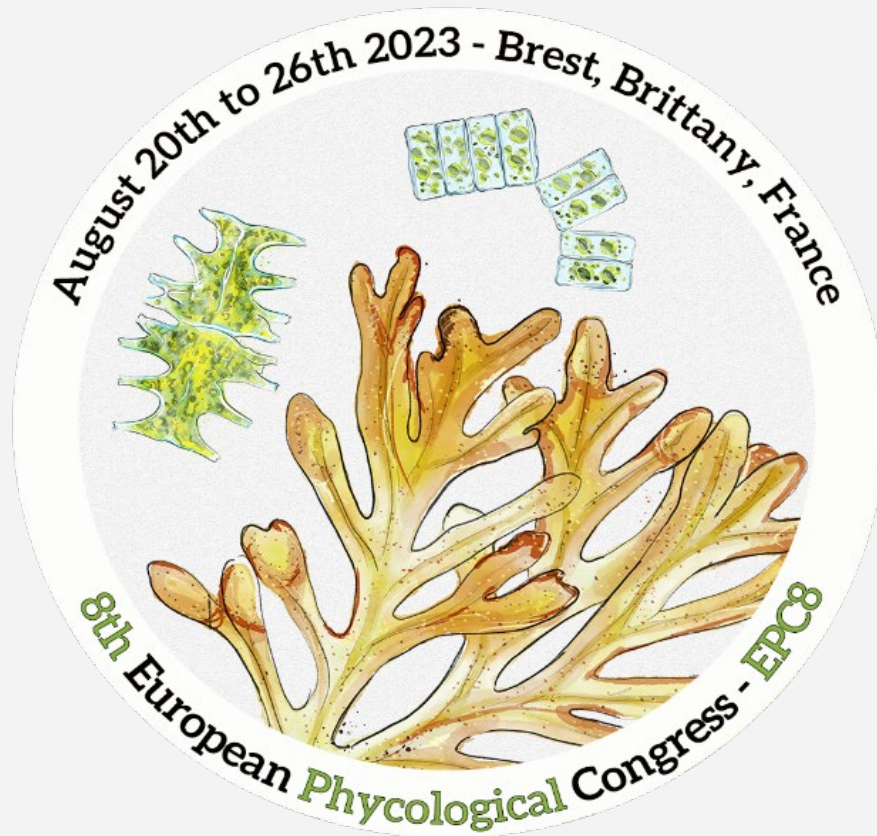
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# “Scientific Opportunities for a Global Algal Revolution”

## Program and Book of Abstracts

Edited by Solène Connan, Emeline Creis, Bertrand Jacquemin,  
Gabriel Markov and Philippe Potin

# FEPS

FEDERATION OF EUROPEAN PHYCOLOGICAL SOCIETIES



## **Brief Statement Organizers**

When we commenced organising EPC8 we still faced the real possibility that the pandemic could throw the organisation off the rails. Nonetheless, we decided against ‘hybrid’ because four years after EPC7-Zagreb it would be great to finally meet face-to-face again. E-meetings save costs and time and produce less CO<sub>2</sub>, but who is not tired of meeting on a computer screen?

We organised the program with 20 symposia in six overarching themes, covering all that keeps us busy. All symposia accommodate micro- and macroalgal presentations to inspire you with research adventures including those in ‘the other phycological denomination.’ Since all of you teach, reach out, and publish, we included symposia about those topics as well. Each conference day has four parallel symposia, from different themes, so as to minimise your choice-stress. Since, posters are integral to the information exchange, we put the poster sessions centre-stage and have devoted plenty of time to them.

We went out of our way to ensure gender balance and diversity. We invited symposium conveners from all over Europe and beyond, and we asked them to consider especially ‘young, rising stars’ as keynote speakers. Young scientists are our investment in the future of phycology.

Enjoy EPC8 and Brittany!

**Inka Bartsch, Solène Connan, Philippe Potin & Wiebe Kooistra**

of building wide and solid endemic bioconstructions near the mean sea level: the *L. byssoïdes* rims or 'trottoirs à *L. byssoïdes*'. Although the growth of the species is relatively rapid for a calcified alga, the construction of a large rim requires several centuries of near stable or slowly rising sea level. The time scale of their formation being measured in centuries, *L. byssoïdes* bioconstructions constitute valuable and sensitive sea level markers. The health status of *L. byssoïdes* rims has been studied at two sites located far apart from each other (Marseille and Corsica), both in heavily and few protected areas (Marine Protected Areas and unprotected areas). A health index: *L. byssoïdes* Rims Health index (LBRHI) is proposed. The health of *L. byssoïdes* rims in the two study areas is poor, with a LBRHI index ranging between 0.11 and 0.69 in Marseille (mean =  $0.34 \pm 0.07$ , SD = 0.20) and only between 0.03 and 0.32 in Corsica (mean =  $0.18 \pm 0.03$ , SD = 0.10). The major and unavoidable threat is the global rise in sea level. This ecosystem would be worldwide the first case of marine ecosystem collapse resulting, indirectly, from the human-induced global change.

### **Safety considerations of seaweed in Senegal: heavy metals hazards**

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To meet the problem of nourishing a global population of estimated 9.7 billion by 2050, as well as the impact of climate change on food production and use, expanded use of seaweed has been proposed. It is a promising approach for long-term development in West Africa. However, dangerous heavy metals such as arsenic (As), mercury (Hg), lead (Pb), and cadmium (Cd) can accumulate in seaweed and become toxic above a specific threshold. From April to July 2022, 41 samples of 25 different seaweed species were gathered along the Senegalese coast between the Cap-Vert peninsula and the Petite Côte. Microwave Plasma Atomic Emission Spectroscopy and XRF-fluorescence spectrophotometry were used to determine concentrations. The results demonstrate that 36% of the studied specimens have As concentrations exceeding the Norwegian National Institute of Nutrition and Seafood Research (NIFES, 2016) threshold of 10 mg kg<sup>-1</sup> of dry seaweed. All specimens have Cd concentrations exceeding 0.5 mg kg<sup>-1</sup> of dry seaweed, a threshold for toxicity by French health agencies. For 97% of the samples, the values for Cd were less than 10 mg kg<sup>-1</sup>, which is the minimum concentration that can be determined with acceptable uncertainty. *Hypnea musciformis*, stranding in substantial quantities along Senegal's coastline, contained Pb concentrations higher than four times the maximum suggested limit by French health agencies. An extension of the study area to the entire coastline over two years was intended to identify seasonal variations in heavy metal concentrations.