

17<sup>TH</sup>

INTERNATIONAL SYMPOSIUM  
ON **AQUATIC PLANTS**

Back to the Future  
of Aquatic Plants  
and the Way Forward

15 ► 19  
September  
2025

LNEC ► Lisboa

Laboratório Nacional  
de Engenharia Civil

PROGRAMME



## FULL PROGRAMME

### 15/09 Monday (Auditorium)

- 8:30 **Desk opening/registration**
- 9:00 – 9:30 **Official opening**
- 9:30 – 10:30 **Keynote Lecture** *Jan E. Vermaat & Elisabeth M. Gross*  
**Will the crystal ball tell us something about the future of aquatic plant research? - A dialogue**
- 10:30 – 11:00 **Coffee & Tea Break**
- Session 1A New tools and approaches for the monitoring of aquatic plant ecosystems**
- 11:00 – 11:15 **OC1 - Silvia Huber** Combining satellite remote sensing and deep learning for large-scale monitoring of shallow marine plant ecosystems – use cases from Scandinavia
- 11:15 – 11:30 **OC2 - Paolo Villa** Linking spectral, phylogenetic and functional diversity of wetland plant communities
- 11:30 – 11:45 **OC3 - Robert Richardson** Incorporating drones into US aquatic plant management and monitoring
- 11:45 – 12:00 **OC4 - Rui Zhou** Monitoring and analyzing the dynamics of *Zizania* floating mats with PlanetScope imagery and Google Earth Engine
- 12:00 – 12:15 **OC5 - Kara Foley** Technology development and advancement in aquatic plant management
- 12:15 – 12:30 **OC6 - Raymond Newman** Use of a multi-value assessment approach to assess macrophyte response to lake management
- 12:30 – 13:30 **Lunch**
- Session 1B New tools and approaches for monitoring of aquatic plant ecosystems**
- 13:30 – 13:45 **OC1 - Aleksandra Marković** Developing eDNA-based methods for exploring charophyte algae diversity in lakes
- 13:45 – 14:00 **OC2 - Michelle T. Casanova** Using water plant functional groups to understand and manage wetlands
- 14:00 – 14:15 **OC3 - Roel Lammerant** The underestimated role of intra-specific trait variability in aquatic plant trait-based studies

- 14:15 – 14:30 **OC4 - Seppo Hellsten** Developing distribution models of lake macrophytes, a case study from Nordic countries
- 14:30 – 14:45 **OC5 - Luke Huffman** Using the asterisk survey method to examine effects on macrophyte and macroinvertebrate biodiversity in Wisconsin lakes
- 14:45 – 15:00 **OC6 - Lukas Petrulaitis** Enhancing macrophyte monitoring in Lithuanian rivers: unveiling the best assessment indices
- 15:00 – 15:15 **OC7 - Paweł Tomczyk** Macrophyte Index for Rivers as a tool for evaluating the impact of hydropower on Bóbr River ecosystems in Poland
- 15:15 – 15:30 **OC8 - Chad Keates** Using genetics to 'Root Out' non-native *Vallisneria* in Florida
- 15:30 – 16:00 **Coffee & Tea Break**
- Session 2 Biotic interactions**
- 16:00 – 16:15 **OC1 - Afonso Petronilho** Contrasting flower biology and reproductive patterns of two threatened *Utricularia* L. species in Portuguese ponds
- 16:15 – 16:30 **OC2 - Sandor Szabo** High pH is an inhibiting mechanism of submerged plants against free-floating competitors
- 16:30 – 16:45 **OC3 - Haowu Cheng** Interactions between submerged macrophytes and plant-associated toxic cyanobacteria
- 16:45 – 17:00 **OC4 - Arie Vonk** Unravelling plant-microbe interactions: the role of endophytes in macrophytes
- 17:00 – 17:15 **OC5 - Sebastian Palmieri** Pollinators of Florida wetlands
- 17:15 – 17:30 **OC6 - Preben Clausen** A century of changes in submerged aquatic vegetation and associated waterbirds in a coastal lagoon, Ringkøbing Fjord in Denmark
- 17:30 – 17:45 **OC7 - Todd Sink** From blooms to balance: humic acid as a solution for pond eutrophication
- 19:30 – 21:00 **Welcome Reception: Water Museum Barbadinhos Elevatory Station**

## 16/09 Tuesday (Auditorium)

09:00 Desk opening/registration

### Session 3A Invasiveness and control

- 09:00 – 09:15 **OC1 - Samuel Schmid** Drivers of plant community invasion for small lakes in the Southern United States.
- 09:15 – 09:30 **OC2 - Corentin Gaudichet** For decision-making support in order to better manage *Crassula helmsii* in France
- 09:30 – 09:45 **OC3 - Elisabeth Gross** Beyond limits and control – Variable-leaved milfoil extending its ecological niche in small-gauge channels in North-Eastern France?
- 09:45 – 10:00 **OC4 - Jesse Beyer** *Myriophyllum rubricaula* (Haloragaceae) revisited, a search for the origin of an invasive species
- 10:00 – 10:15 **OC5 - Megan Reid** Managing a beautiful monster: efforts to improve management of waterhyacinth (*Pontederia crassipes*) in South Florida, USA.
- 10:15 – 10:30 **OC6 - Deborah Hofstra** Native macrophyte response to invasive weed removal
- 10:30 – 10:45 **OC7 - Susanne Schneider** *Juncus bulbosus* mass development: towards sustainable solutions for Norway's waterways

10:45 – 11:15 **Coffee & Tea Break**

### Session 4A Riparian and aquatic plant dynamics and succession

- 11:15 – 11:30 **OC1 - Emanuele Pelella** Vegetation resurvey using adjusted sampling methodology highlights the dynamism of aquatic plant communities in a Mediterranean river over a decade
- 11:30 – 11:45 **OC2 - Francisca Aguiar** Going down and across the river: how aquatic and riparian plants cope with regulated flows
- 11:45 – 12:00 **OC3 - Claudia Irene Ortiz-Arrona** Riparian ecological status in the El Cangrejo-Jalocote watershed, Jalisco, Mexico
- 12:00 – 12:15 **OC4 - Jacqueline Hoppenreijns** Not fewer, but different species: the effects of flow regulation on riparian vegetation
- 12:15 – 12:30 **OC5 - Sofia Santos** Unveiling riparian vegetation dynamics using aerial, UAV high-resolution imagery and LiDAR

12:30 – 13:30 **Lunch**

13:30 – 14:30 **Keynote Lecture** Anne Lewerentz, Antonella Petruzzella, Lindsay Trottier, Michał Brzozowski.

### **Rooted in the future: an ECR perspective of aquatic plant**

### Session 4B Riparian and aquatic plant dynamics and succession

- 14:30 – 14:45 **OC1 - Sabine Hilt** Frequency, causes and consequences of boom-bust dynamics: lessons from invasive and native aquatic plant dynamics
- 14:45 – 15:00 **OC2 - Sara Puigalon** Anchoring of aquatic plants: role of architectural and biomechanical root traits
- 15:00 – 15:15 **OC3 - Ewan Shilland** 30 years of aquatic plant surveys in the UK upland waters monitoring network
- 15:15 – 15:30 **OC4 - Enhua Li** Evolution and ecological restoration of Honghu Lake
- 15:30 – 15:45 **OC5 - Kerstin Bouma** Multi-year water level drawdown and grazing drive wetland vegetation succession

15:45 – 16:15 **Coffee & Tea Break**

### Session 3B Invasiveness and control

- 16:15 – 16:30 **OC1 - Brittany Chesser** Investigating herbicidal susceptibility of bladderwort (*Utricularia radiata*)
- 16:30 – 16:45 **OC2 - Gray Turnage** Integrating chemical and biological control of alligatorweed (*Alternanthera philoxeroides*): submersed herbicides and thrips
- 16:45 – 17:00 **OC3 - Maria Rita Minciardi** Fight against *Myriophyllum aquaticum* and *Elodea nuttallii* in Po River (Italy).
- 17:00 – 17:15 **OC4 - Maxwell Gebhart** Using machine learning techniques to predict the spread of invasive species: *Cyperus blepharoleptos* as a case study.
- 17:15 – 17:30 **OC5 - Jonathan Newman** Using the adjuvant TopFilm to improve herbicide control of invasive aquatic plants
- 17:30 – 17:45 **OC6 - Madison Self** Comparative analysis of light response of *Pontederia crassipes* and its congener *P. cordata* in invaded regions
- 17:45 – 18:00 **OC7 - Michał Rybak** Al- Inclusive: an unintentional journey of aluminum through a food chain during lake restoration

09:00 – 17:30 **Mid-Symposium Excursions**

09:00 – 17:30



## 18/09 Thursday

09:00 **Desk opening**

09:00 – 09:15 **Short Talk Between Science & Art**

*David La Haye* **The voice of aquatic plants**

**Session 5** (Auditorium) **Aquatic plant collaborations: insights from emerging projects and growing networks**

09:15 – 09:30 **OC1 - Thomas Abel** The IUCN SSC Freshwater Plant Specialist Group update on activities

09:30 – 09:45 **OC2 - Anne Lewerentz** Tracking aquatic plant phenology across Europe: first insights from the EUPHORIA Project

09:45 – 10:00 **OC3 - Janne Alahuhta** Introducing research project on historical and contemporary environmental changes of macrophytes in Europe and North America

10:00 – 10:15 **OC4 - Lindsay Louise Trottier** The Macroecology of Aquatic Plant Functions (MAP) Project: exploring the functional and environmental trait space of macrophytes

10:15 – 10:30 **OC5 - Gray Turnage** Understanding phenology of invasive aquatic plants to inform management initiatives in the United States

10:30 – 10:45 **OC6 - Rossano Bolpagni** iMAD: updating ecological and functional knowledge on macrophytes in Italy

10:45 – 11:15 **Coffee & Tea Break**

**Session 6A** (Auditorium) **Macrophytes and global change**

11:15 – 11:30 **OC1 - Angelo Troia** Biodiversity in Italian rice fields: a test with aquatic macrophytes

11:30 – 11:45 **OC2 - Jael Palhas** Updates to the Portuguese aquatic flora

11:45 – 12:00 **OC3 - Esperança Gacia** Macrophyte community responses to environmental change in alpine Pyrenean high mountain lakes

12:00 – 12:15 **OC4 - Mariusz Pelechaty** Biomass production and CaCO<sub>3</sub> precipitation by charophytes: environmental implications and carbon sequestration

12:15 – 12:30 **OC5 - Mateja Germ** Long-term research of the distribution of macrophytes in Alpine Lake Bohinj (Slovenia)

12:30 – 12:45 **OC6 - Jose Luis Moreno** Macrophyte communities in the reference network of Spanish rivers: river types and indicator species

12:45 – 13:45 **Lunch**

**Session 7A** (Auditorium) **Nature-based solutions, conservation and management**

13:45 – 14:00 **OC1 - Astrid Biddle** Nature-based measures increase freshwater biodiversity in agricultural catchments

14:00 – 14:15 **OC2 - Daniel Larkin** Quantifying aquatic plant species' commonness and coexistence to guide conservation and management

14:15 – 14:30 **OC3 - Jennifer Bishop** Illinois pondweed common nursery and reciprocal planting research

14:30 – 14:45 **OC4 - Krzysztof Szoszkiewicz** Environmental drivers of macrophyte communities in urban aquatic nature-based solutions across Europe

14:45 – 15:00 **OC5 - Fei Ma** The effect of trait-based diversity on productivity in macrophyte communities

15:00 – 15:15 **OC6 - Ioannis Bazos** Interpretation of the Greek Natural Capital: exploring the diversity of freshwater plants and habitats

15:15 – 15:45 **Coffee & Tea Break**

**Session 6B** (Auditorium) **Macrophytes and global change**

15:45 – 16:00 **OC1 - Paulo Lemos** The effects of industrial agriculture on residual populations of rare aquatic macrophytes in Western Portugal.

16:00 – 16:15 **OC2 - Daniel Gebler** Influence of environmental factors on macroalgae development in lowland rivers

16:15 – 16:30 **OC3 - Vincent Bertrin** Effects of lakeshore hydromorphological alterations on isoetids and invasive species in two Lobelia lakes in South-Western France

16:30 – 16:45 **OC4 - Michał Brzozowski** Experimental testing of the effects of warming on periphyton, submerged vascular plants and charophytes in heated temperate lakes

16:45 – 17:00 **OC5 - Cristina Ribaudó** Carbon fluxes under the littoral wet-dry continuum of natural shallow lakes

17:00 – 17:15 **OC6 - Manuela Ramírez Valle** Macrophyte communities of Mediterranean Spanish rivers: diversity and indicator species

17:15 – 17:30 **OC7 - Alice Dalla Vecchia** Using functional biogeography to study global plant invasions in freshwater systems

## Session 8 (Room Nymphaea) Ecophysiology of aquatic plants

- 11:15 – 11:30 **OC1 - Giulia Lodi** Spatiotemporal variation in C:N:Si stoichiometry of *Cyperus papyrus*: insights from herbaria and field studies
- 11:30 – 11:45 **OC2 - Suting Zhao** Studies on germination characteristics and mechanisms of vitality maintenance in aquatic plants seeds
- 11:45 – 12:00 **OC3 - Takashi Asaeda** The characteristics of H<sub>2</sub>O<sub>2</sub> generation in submerged plants under a flowing environment and its mechanism
- 12:00 – 12:15 **OC4 - Mégane Jeanmougin** Anthropogenic pressure of aquatic ecosystems: isolated and combined effect of night-time light pollution and temperature on the ecophysiology of aquatic plant species
- 12:15 – 12:30 **OC5 - Yang Liu** Divergent stomatal strategies in heterophyllous aquatic plants: Reduced hydraulic investment in floating leaves and enhanced gas exchange in emergent leaves
- 12:30 – 12:45 **OC6 - Amine Mohamed Mahdjoub** Physiological response of submerged freshwater macrophytes to multiple stressors: current knowledge and future research directions

12:45 – 14:00 **Lunch**

## Session 9 (Room Nymphaea) Aquatic plant genetic diversity and evolution

- 14:00 – 14:15 **OC1 - Elisa Denis** The intraspecific diversity of macrophytes in European pondscapes
- 14:15 – 14:30 **OC2 - Maria Adelaide Iannelli** Reticulate evolution at the origin of duckweed diversity and shapes its evolution
- 14:30 – 14:45 **OC3 - Vojtech Dolejšek** First molecular insight into Pannonian *Batrachium*: revealing high diversity and distant origins
- 14:45 – 15:00 **OC4 - Yu Ito** Cryptic diversity of *Monochoria* (Pontederiaceae) with description of two new species
- 15:00 – 15:15 **OC5 - Yuri Lee** Hybridity of mainly asexually propagating duckweeds of genus *Lemna* - dead end or breakthrough?

15:15 – 15:45 **Coffee & Tea Break**

## Session 10 (Room Nymphaea) Pollutants and the use of aquatic plants in water treatment

- 15:45 – 16:00 **OC1 - Udo Schwarzer** Aquatic plants for maintaining recreational water quality
- 16:00 – 16:15 **OC2 - Gergo Koleszar** Biofiltration potential and toxicity assessment of ionic gadolinium using free-floating aquatic plants: *Lemna gibba* and *Pistia stratiotes*
- 16:15 – 16:30 **OC3 - Viktor Oláh** Duckweed turions can be used as reference biomass in monitoring water pollution
- 16:30 – 16:45 **OC4 - Manli Xia** Impacts of rosette and canopy macrophyte communities on water quality and aquatic plant reproduction in shallow lakes
- 16:45 – 17:00 **OC5 - Xiumei Zhang** The effects of downward transportation of lanthanum-modified bentonite on phosphorus inactivation and submerged macrophyte growth
- 17:00 – 17:15 **OC6 - Xiaolin Zhang** Ecological functions of submerged macrophytes diversity and a case study of restoration in eutrophic plateau shallow lake
- 17:15 – 17:30 **OC7 - Konstantinos Stefanidis** Patterns of ecological uniqueness in rivers of Greece - analyzing local and species contributions to beta diversity within the framework of the Water Framework Directive (WFD)

19:30 – 20:00 **Conference Dinner: Welcome Reception**

20:00 **Conference Dinner: Seated Dinner**

## 19/09 Friday (Auditorium)

### Session 7B Nature-based solutions, conservation and management

- 09:00 – 09:15 **OC1 - Silvia Cannucci** Diversity and conservation value of farmland ponds: identifying key sites and drivers
- 09:15 – 09:30 **OC2 - Thomas Abeli** First systematic assessment of germination requirements in the endemic quillwort *Isoetes malinverniana*
- 09:30 – 09:45 **OC3 - Lindsay L. Trottier** Aquatic macrophytes as nature-based solutions: challenges and opportunities across inland and marine waters
- 09:45 – 10:00 **OC4 - Krister Karttunen** Aquatic bryophytes in deteriorating rivers
- 10:00 – 10:15 **OC5 - Tafara Frank Bute** Does heavy metal pollution from acid mine drainage undermine the biological control of water hyacinth, *Pontederia crassipes* in invaded East Rand wetland systems in South Africa?
- 10:15 – 10:30 **OC6 - Antonella Petruzzella** Critical light and nutrient conditions for shifts between charophytes and vascular aquatic plants: Implications for charophyte restoration in hardwater lakes
- 10:30 – 11:00 **Coffee & Tea Break**
- 11:00 – 11:15 **OC7 - Fred Lubnow** The management of submerged aquatic vegetation to prevent the development of harmful algal blooms
- 11:15 – 11:30 **OC8 - João Neiva** Endangered aquatic halophytes in a cultural landscape: importance and habitat partition in man-made habitats
- 11:30 – 12:00 **Awards & Closing Session**
- 12:00 – 13:00 **Meeting of the IAPG Scientific Committee** (by invitation only)
- 12:00 – 13:00 **Boxed Lunch**

## POSTER SESSION

### Session 1 New tools and approaches for monitoring of aquatic plant ecosystems

- PO1 - Dagoberto Martins** Immersed aquatic plant movement inside the 'Jupiá' hydroelectric reservoir in the 'Paraná' River, Brazil
- PO2 - Liucija Kamaityt-Bukelskien** Use of seed bank to assess the status of protected aquatic plants in Lithuania
- PO3 - Alexander Plakias** Large-scale monitoring of *Azolla filiculoides* in river systems using Sentinel 2 imagery and random forest classification in the Google Earth Engine
- PO4 - Rodrigo Felipe Bedim Godoy** Remote sensing of submerged aquatic vegetation in an optically complex fluvial lake using Sentinel-2 and Google Earth Engine
- PO5 - Sara Puijalon** Monitoring of large stands of riverine submerged aquatic plants using Planet satellite imagery
- PO6 - Angelo Troia** Not only birds: the essential role of vegetation in wetland conservation

### Session 2 Biotic interactions

- PO1 - Angelo Antonio Agostinho** Association between fish abundance and macrophytes: exploring the importance of functional traits
- PO2 - Janne Alahuhta** The signature of biotic interactions on lake macrophytes differs among seven metacommunities of three continents
- PO3 - Sarkhan Ibrahimov** Seasonal biomass dynamics and interactions of *Nitellopsis obtusa* with other macrophytes in charophyte- versus angiosperm-dominated lakes: implications for biodiversity and invasion ecology

### Session 3 Invasiveness and control

- PO1 - Andrea Bertol** Short- and medium-term effects of jute benthic barriers on the control of Eurasian watermilfoil (*Myriophyllum spicatum*)
- PO2 - Beatrice Fois** Genomic and functional approaches to explore the role of environment in the adaptation and diversification of invasive aquatic plants
- PO3 - Dan Larkin** Does relatedness between invasive and congeneric native macrophyte species influence invader success in lakes and rivers worldwide?
- PO4 - Kara Foley** Addressing the challenge of submersed aquatic weed management in flowing systems in the United States
- PO5 - Samuel Schmid** Alligatorweed thrips is a better climate match for the host than conventional agent
- PO6 - Paolo Villa** Investigating phenological characteristics of two invasive macrophytes across gradients using satellite data time series

## POSTER SESSION

### Session 4 Riparian and aquatic plant dynamics and succession

- PO1 - Justyna Hachol** Macrophyte elements in near-nature river regulation – hydraulic research
- PO2 - Justyna Hachol** Long-term changes in aquatic macrophyte communities after river regulation – analysis of succession and ecosystem dynamics
- PO3 - Laura Grünberg** Growing distribution of *Hydrilla verticillata* in Latvia and Lithuania – good news?
- PO4 - Eva Papastergiadou** Riparian landscape dynamics, ecological integrity, and ecosystem services in east Mediterranean rivers

### Session 5 Aquatic plant collaborations: insights from emerging projects and growing networks

- PO1 - Giulia Lodi** The charm(s) of Duckweed 2.0: breathing new life into the duckweed knowledge hub website
- PO2 - Lindsay Louise Trottier** The New Macrophyte Researchers Group: a network for students and early-career researchers

### Session 6 Macrophytes and global change

- PO1 - Christian Chauvin** Ecological traits for improving macrophyte-based Indicators
- PO2 - Donatas Naužemys** Aquatic plant communities: what can we expect as temperatures change?
- PO3 - Małgorzata Gálczyńska** Condition of lobelian lakes in the Nature 2000 area. The case analysis of Bobolice lobelian lakes, PLH320001
- PO4 - Maria Rita Minciardi** A repertory of aquatic macrophytes and herbaceous species most frequent and widespread in the river corridor and wetland in Italy
- PO5 - Cristina Ribaud** Carbon and nitrogen stock and sequestration in oligotrophic temporary ponds of South-West of France

### Session 7 Nature-based solutions, conservation and management

- PO1 - Ana Caperta** Long-term cultivation of salt marsh sea lavenders under high saline conditions affects plant physiological status and growth performance
- PO2 - Antonio Camargo** Spatial variation in biomass, richness and species pool of aquatic macrophytes in subtropical and tropical estuaries
- PO3 - An Leyssen** Abiotic characteristics and local conservation status of protected freshwater habitats in Flanders (Northern Belgium)
- PO4 - Konstantinos Stefanidis** Filling the Wallacean shortfall of the aquatic quillworts in Greece

- PO5 - Maxwell Gebhart** Phenological and morphological trends of *Vallisneria* in North America
- PO6 - Maria Sarika** Aquatic plant communities rarely occurring in freshwater habitats of Greece
- PO7 - Eli Russell** Evaluating abrasive weeding as a potential method for controlling floating aquatic plants
- PO8 - Abha Panda** To revegetate or not: a meta-analysis of aquatic plant community outcomes with and without active revegetation
- PO9 - Manuela Ramírez Valle** The reference network of Spanish rivers: defining bryophyte communities of national river types
- PO10 - Lukasz Lucza** The use of edible aquatic and emergent plants in Eastern Europe

### Session 8 Ecophysiology of aquatic plants

- PO1 - Cibele Chalita Martins** Breaking dormancy of *Ceratophyllum demersum* seeds
- PO2 - Katharina Wilfert** Defining the spatial variation of plant responses to hydrodynamic flow in a submerged macrophyte patch

### Session 9 Aquatic plant genetic diversity and evolution

- PO1 - Boissezon Aurélie** Conservation genetics of *Chara strigosa* A. Braun and its ecologically and morphologically related species in Switzerland
- PO2 - Duarte Frade** Cryptic diversity and conservation of euryhaline seagrasses, *Ruppia*
- PO3 - Jose Luis Moreno Alcaraz** *Fluvioralsia iberica* gen. et sp. nov., Fluvioralsiaceae fam. nov.: the first freshwater member of the Ralfsiales (Phaeophyceae), collected from streams in Spain
- PO4 - Petr Koutecký** Origin of *Ranunculus fluitans*: from vernal pools to permanent rivers and from the south to the north?
- PO5 - Sidinei Magela Thomaz** Asexual reproduction of aquatic macrophytes via stem fragments: A review on determinants of plant fragmentation and propagule dispersal

### Session 10 Pollutants and the use of aquatic plants in water treatment

- PO1 - Małgorzata Gálczyńska** Multiple stress effects of static magnetic field and heavy metals on the growth of *Ceratophyllum demersum*





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**Lisboa ▶ 2025**

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