PPNW 2023

International workshop on Physical Processes in Natural Waters

19-23 June 2023
Brescia (Italy)

UNIVERSITÀ DEGLI STUDI DI BRESCIA

Organized with the support of:

Acque Bresciane
Servizio Idrico Integrato

Hortus
Monitoring Solutions & Software Applications

Navigazione Lago d'Iseo

AUTORITA' DI BACINO LACUALE DEI LAGHI D'ISEO, ENDINE E MORO

RISERVA NATURALE TORBIERE DEL SEBINO

Con la collaborazione :

COMUNE DI BRESCIA

Siamo Capitale Italiana della Cultura 2023
BERGAMO BRESCIA

FONDAZIONE BRESCIA MUSEI

ROCKLAND SCIENTIFIC

UNIVERSITÀ DEGLI STUDI DI BRESCIA

Program

19/6 18:30-20:30 *Complesso dei Chiostri del Carmine*
Vicolo dell'Anguilla, 8
Registration and welcome aperitif

20/6 08:00-18:00 *Room 1 of Law Department*
Via S. Faustino, 41
Registration and welcome
Regular session

21/6 08:30-15:00 *Room 1 of Law Department*
Via S. Faustino, 41
Regular session

21/6 16:20-22:30 *Brescia, old town*
Hystorical tour (*Via dei Musei, 55)*
Social dinner *(Via dei Musei, 25)*

22/6 08:30-17:30 *Room 1 of Law Department*
Via S. Faustino, 41
Regular session

23/6 08:30-13:00 *Room 1 of Law Department*
Via S. Faustino, 41
Regular session

23/6 14:30-23:30 *Lake Iseo*
Field trip to Torbiere del Sebino and to Lake Iseo
Social dinner in Monte Isola

Program overview and venue

Monday 19/06/2023

Time	Event	Location	Directions
18:30 – 20:30	Welcome Aperitif	Vicolo dell'Anguilla, 8	Google Maps Link

Tuesday 20/06/2023

Time	Event	Location	Directions
08:00 – 18:00	Session	Via San Faustino, 41, Giurisprudenza Room 1	Google Maps Link

Wednesday 21/06/2023

Time	Event	Location	Directions
08:30 – 15:00	Session	Via San Faustino, 41, Giurisprudenza Room 1	Google Maps Link
16:20 – 18:30	Historical Tour	Museo di Santa Giulia, Via dei Musei, 55	Google Maps Link
19:30 – 22:30	Social Dinner	Restaurante "Al Frate", Via dei Musei, 25	Google Maps Link

Thursday 22/06/2023

Time	Event	Location	Directions
08:30 – 17:30	Session	Via San Faustino 41, Giurisprudenza Room 1	Google Maps Link

Friday 23/06/2023

Time	Event	Location	Directions
08:30 – 13:00	Session	Via San Faustino, 41, Giurisprudenza Room 1	Google Maps Link
14:30 – 19:30	Technical visit	Meeting point, Via Leonardo da Vinci, 9	Google Maps Link

Detailed program

MONDAY 19/06/2023

18:30	20:30	Welcome aperitif and registration	

TUESDAY 20/06/2023

08:00	08:45	Registration	
08:45	09:00	Welcome	
09:00	09:30	Lorke A.	Physical limnology of ponds: knowledge gaps and research perspectives
09:30	10:00	Henderson S.M.	Advection and mixing in ponds
10:00	10:30	Ostrovsky I.	Vertical distribution and dynamics of gas-containing cyanobacteria in relation to stratification and turbulence: insights from acoustical observations
10:30	11:00	Coffee break	
11:00	11:30	Shikhani M.	Composition of photosynthetic gas bubbles from submerged macrophytes
11:30	12:00	Mammarella I.	Long term flux measurements of carbon dioxide and methane over a small boreal lake using eddy covariance technique
12:00	12:30	Boehrer B.	Sound speed in limnic waters and its application for the detection of extreme concentrations of carbon dioxide in Lake Nyos
12:30	13:30	Lunch	
13:30	14:30	Rouwet D.	***Keynote lecture: Volcanic lake research: a 240(0)-year long explosive history***
14:30	15:00	Sherman B.	The impact of extreme hydrological events on reservoir methane emissions.
15:00	15:30	Doda T.	Impact of methane extraction on stratification in Lake Kivu
15:30	16:00	Coffee break	
16:00	16:30	Ordonez C.	Magnitude, temporal dynamics, and drivers of oxic methane production across a trophic state gradient
16:30	17:00	Thirkill R.	What the sediment holds - hydroacoustic quantification of reservoir methane emissions
17:00	17:05	Bonomelli R.	Far field simulation of a landslide-generated tsunami in Lake Iseo
17:05	17:10	Ramon C. L.	Ebullition rates and drivers in a shallow eutrophic Mediterranean reservoir
17:10	17:15	Tedford E.	Methane bubbles under ice in Base Mine Lake
17:15	17:20	Zamani B.	3D Modeling of climate change impacts on a groundwater-fed lake in Berlin area
17:20	17:25	Valerio G.	Dynamics of lakes heatwaves in summer 2022: interplay between wind mixing and surface heating
17:25	18:00	Poster discussion	

WEDNESDAY 21/06/2023

08:30	09:00	Valbuena S.	Rotational effects in lake upwelling and the thresholds for conceptual models
09:00	09:30	Bouffard D.	Differential cooling in lakes
09:30	10:00	Serra Putellas M.T.	Stem stiffness behaviour in an oscillatory flow submerged canopy patch
10:00	10:30	Kirillin G.	Thermal conditions and lake metabolism in the ice-covered North Aral Sea
10:30	11:00	Coffee break	
11:00	11:30	Laval B.	Physical Transport in a thermobarically stratified fjord-type lake
11:30	12:00	Peng N.	Identifying and quantifying deepwater-renewal processes during winter cooling in a large, deep lake (Lake Geneva)
12:00	12:30	Lilover M. J.	Hunting for submesoscale temperature, salinity and current velocity signal from CTD and ADCP/RDCP profilers data in the Gulf of Finland, the Baltic Sea
12:30	13:30	Lunch	
13:30	14:00	Amadori M.	Analysis of spatiotemporal variability of remotely sensed variables to investigate thermal and morphological heterogeneity beneath lakes surface
14:00	14:30	Calamita E.	Satellite Earth Observation to monitor lake mixing anomalies worldwide

14:30	15:00	Pinardi M.	The Lakes_cci project: presenting the satellite-derived lakes variables for climate studies
16:20	18:30		Historical tour in Brescia
19:30	22:30		Social dinner

THURSDAY 22/06/2023

08:30	09:00	Spank U.	Mobile eddy covariance measurements as a key to improve estimates of momentum, mass and energy fluxes between atmosphere and inland waters
09:00	09:30	Mullarney J. C.	In-situ observations of the acoustic scattering characteristics from a suspension of flocculated particles
09:30	10:00	Pieters R.	Turbid inflow into a drinking water reservoir
10:00	10:30	Monti P.	Turbulent Schmidt number measurements in a density current flowing over surface roughness
10:30	11:00		Coffee break
11:00	11:30	Sharifi F. S.	Three-dimensional modelling of gravity currents in an idealized stratified ice-covered lake
11:30	12:30	Adduce C.	***Keynote lecture: Entrainment and mixing in gravity currents over complex boundaries***
12:30	13:30		Lunch
13:30	14:00	Piccolroaz S.	A simple model for predicting ice timing and thickness in lakes
14:00	14:30	Wang J.	Modeling two-way ice-wave interactions in the Great Lakes using FVCOM_ice+wave model
14:30	15:00	Toffolon M.	Energy considerations to understand the impact of cooling and wind on freeze-up in lakes
15:00	15:30		Coffee break
15:30	16:00	Donini G.	Simulation of short-term effects of pumped-storage hydropower on stratification and ice cover in two Norwegian reservoirs
16:00	16:30	Schmid M.	Unexpected inflow behaviour complicates assessment of heat usage potential for an ice-covered lake
16:30	16:35	Maggi M.R.	Mixing properties of steady gravity currents flowing over sloping terrain
16:35	16:40	Pilotti M.	Science communication and teaching in secondary schools through limnology
16:40	16:45	Jansen J.	Weakening of inverse stratification in northern lakes
16:45	16:50	De Vincenzi M.	Role of aquatic vegetation and meteorological forcing on the hydrodynamics of Mantua Lakes: insights from a bathymetric survey and hydraulic modelling
16:50	16:55	Cortés A.	Inter-basin exchange in a multi-basin polymictic lake
16:55	17:00	Forrest A.L.	Under-ice cyclonic gyre formation in a narrow, elongated lake
17:00	17:30		Poster discussion

FRIDAY 23/06/2023

08:30	09:00	Hinegk F.	Role of lake water balance on the intensity of surface cyanobacterial bloom
09:00	09:30	Larrieu K.	Suspended particulate aggregation in a large, oligotrophic, freshwater lake following wildfire deposition
09:30	10:00	Rose K.	Climate change impacts on aquatic deoxygenation
10:00	10:30		Coffee break
10:30	11:30	Pinardi N.	***Keynote lecture: Observing and predicting the Global Coastal Ocean: the science and technology frontiers***
11:30	12:00	Schwefel R.	Physical and ecological effects of climate change on a eutrophic lake
12:00	12:30	Yousefi A.	Ranking the meteorological factors influencing lake surface water temperature across different climates
12:30	13:00	Hinegk L.	Long-term evolution of the European perialpine lakes water resources under climatic and management factors
13:00	14:30		Lunch
14:30	19:30		Technical visit to Torbiere del Sebino and to Lake Iseo
19:30	22:30		Social dinner

Invited lectures

Dr. Dimitri Rouwet
Researcher in Volcanology at INGV-Bologna and Adjunct professor at Bologna University.
His main interest is the chemistry and the dynamics of active volcanic lakes. His aim is to shed light on the functioning of the lake-surrounding volcano-hydrothermal system, with a special emphasis on variations in volcanic activity and tracking its state of unrest.
https://www.unibo.it/sitoweb/dmitri.rouwet/publications

Prof. Claudia Adduce
Full professor of Hydraulics at Università degli Studi Roma tre.
Her main interests are sediment transport, stratified and rotating flows, investaged both with laboratory experiments and with 3D Large Eddy Simulations.
https://www.uniroma3.it/persone/WXA4cXRFc1kxVWdndnZ5b05FNTJ1c1ZnS1ZNR0xXbjlueS9ydm9wUDc5dz0=/ricerca/

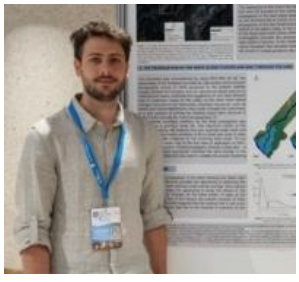
Prof. Nadia Pinardi
Full professor of Oceanography at Bologna University.
Her interests range from ocean numerical modelling and predictions to data assimilation, numerical modelling of the marine physical-biological interactions and pollutants at sea. She has written more than hundred and seventy papers in peer reviewed journals on a wide range of subjects.
https://www.unibo.it/sitoweb/nadia.pinardi/en

Local organizing committee

Prof. Marco Pilotti
Full Professor at Università degli Studi di Brescia

Prof. Giulia Valerio
Professor at Università degli Studi di Brescia

Dr. Riccardo Bonomelli
Ph.D. student at Università degli Studi di Brescia



Dr. Gabriele Farina
Ph.D. student at Università degli Studi di Brescia

Registration

Registration will be possible both on Monday evening from 18:30 to 20:30 at the welcome aperitif and on Tuesday morning from 08:00 to 08:45 before the morning session.

Information for speakers

Each presentation has a 30-minute time slot, but we strongly encourage all presenters to restrict their presentations to 20 minutes and allow for a 10-minute discussion.

Please load your presentation at this link:
https://drive.google.com/drive/folders/1F7pTHU8QVk3vG0HdqqS9RvOJlz-2kCHx?usp=sharing

selecting the folder corresponding to the date of your contribution. For the presentations we will provide a Windows computer with Microsoft PowerPoint and a pdf-viewer installed.

Information for posters

Posters will be presented on movable walls of H = 2m X L = 1m. There will be two poster sessions in the conference where the Authors will present their posters with a 5min long flash presentation. Please load your presentation at this link: https://drive.google.com/drive/folders/1F7pTHU8QVk3vG0HdqqS9RvOJlz-2kCHx?usp=sharing, selecting the folder corresponding to the date of your contribution. For the presentations we will provide a Windows computer with Microsoft PowerPoint and a pdf-viewer installed.

Proceedings

The proceedings will be soon available at the webpage https://hydraulics.unibs.it/hydraulics/ppnw2023-2/program-and-proceedings/