



Water in Geosciences  
Pisa - 2023

# Water in Geosciences

1<sup>st</sup> Conference of Young Researcher

organized by PhD students of the Department of Earth Sciences of the University of Pisa

This is the second announcement for the conference “Water in Geosciences” that will be held in **Pisa on 2<sup>nd</sup> and 3<sup>rd</sup> March 2023 at the Department of Earth Sciences.**

We are happy to announce that **Abstract Submission** is NOW OPEN!

We welcome abstracts either for talks and posters under the seven sessions defined for the conference and described in further detail below.

## Scientific sessions

All sessions have *water* as their central theme but have the intention to include and display the different fields of study within Earth Sciences in the context of water research.

### S1. Water resources and environmental pressures

Proper management of water resources is a key factor for the sustainability, resilience and development of human societies. The knowledge and understanding of the dynamics of water resources constitute a broad range of disciplines and techniques. Some of the main approaches include, but are not limited to, study of spatio-temporal hydrologic fluxes, tracing techniques, water mixing and storage dynamics. Moreover, human activities and naturally occurring conditions create pressures on water bodies and water resources. Pollution from industrial, municipal and agricultural sources, and global climate changes are the main factors affecting water quality and quantity. This session is aimed at bringing together multidisciplinary studies dealing with factors affecting water dynamics, balance and quality.

### S2. Critical zone and water

The critical zone represents the heterogeneous surface of the terrestrial earth in which complex interactions involving rock, soil, water, air, and living organisms regulate the environment. The study of the water exchange and partitioning in the critical zone is crucial for increasing our knowledge of water cycle dynamics and vulnerability of water resources. Understanding water storage and transfer within the critical zone is vital to address key environmental and social problems linked to ecosystem services in natural environments. Such an understanding is crucial to develop sustainable management that can ensure a reliable and consistent supply of clean surface water and groundwater. The ongoing modifications in climate and land cover are altering the structure of the critical zone and affect the partitioning of water in the hydrological cycle. This session will welcome contributions about the study of the key role of the critical zone in water fluxes and dynamics.

### S3. Water as a georisk

This session highlights the role of geological and geomorphological aspects for understanding hazards associated with water and aquatic environments. Floods, landslides, and avalanches represent some of the most important and frequent geohazards. Although significant progress has been made, the study of these hydrogeological events (e.g., monitoring, prediction and mapping) continues to be a major challenge for scientists and practitioners. In marine environments, the most frequent hazards are related to coastal erosion, submarine landslides, tsunamis, and earthquakes. Mapping and monitoring the seabed is crucial to understand these processes and dynamics, avoid disastrous impacts on coastal communities and contribute to shoreline management.

### S4. Water: a sea of life



Life on earth began in the water. Today we know how life evolved over millions of years thanks to fossils preserved in geological records. Fossils, found all over the world, can be read by scientists like pages from the book of the past. They tell not only an evolutionary story but also how organisms used to live and what the paleoecological conditions were. This session is open to all the contributions dealing with paleontological studies including the latest techniques and technologies on virtual 3D modelling.

#### S5. Quaternary climate and sea level change

Sea level rise triggered by human made climate change is a major issue for the global society. The direct effects of rising sea levels can be seen already today and will continue to threaten coastal communities in near future even further. Knowledge of the past climate changes is key to model short/medium term future scenarios. The coastal areas are those most affected by these environmental modifications and, here small changes eustatic, isostatic and/or anthropogenic potentially trigger significant environmental modifications. This session welcomes contributions presenting studies of drivers and magnitude of Quaternary sea-level variation at global and regional scales. Works on past sea-level reconstructions with different proxies (e.g., sedimentary, geomorphic, archaeological etc.) and future sea-level predictions are welcomed. Finally, this session welcomes presentations on all aspects of observation, paleoclimate and innovative modelling aimed to reduce the uncertainty in the projections of future global sea level rise.

#### S6. Marine resources and hydrothermalism

Both past and active hydrothermal systems and mineral resources are emerging as research topics in the last years. Numerous studies have been published on connection between tectonic settings and magmatic-hydrothermal systems, hydrothermal contributions to total ocean budgets (e.g. heat, carbon, iron), biogeochemical cycling of elements, and others.

Moreover, increasing demand for minerals and metals, particularly for the electronics related sectors, has led to a growing interest in mineral resources exploration on the sea and ocean bed, both from shallow locations to the deepest plains, often associated to active or past hydrothermal systems. This session will welcome contributions addressing the developing field of marine resources and connected hydrothermal systems.

#### S7. Open-Lab

As an empirical research field, the environmental disciplines deeply rely on the knowledge and application of practical investigation procedures. Such base techniques address the crucial task of collecting, handling, and processing the data and datasets necessary to describe all the natural systems. Practical investigation in the environmental sciences cover a broad range of techniques, such as field geological, geomorphological, and hydrogeological surveys, monitoring instrumentation, software, coding languages, analytical techniques. The Open-Lab session is thought to host contributions on investigation techniques for the environmental sciences, through direct example and practical training. The presenter will have the opportunity to share their practical knowledge and the insights on various investigation strategies, which arises from the direct experience of application.

##### S1. Water resources and environmental pressures

The organizing committee reserves the possibility to cancel or merge sessions based on the number of abstracts received.

#### **Abstracts submission**

- ✓ A maximum of two abstracts from each presenting author will be considered (one oral, one poster).
- ✓ All abstracts must be written in English and prepared in Word (.doc or .docx). The word amount cannot exceed the maximum limit of 400, excluding titles, authors, affiliations and references. We ask colleagues to use the Abstract Template available for download on the [conference's website](#).
- ✓ The abstract must be uploaded using the submission form available on the [conference's website](#). Authors are asked to indicate their preferred session and presentation mode (oral or poster).

The deadline for submission is 20<sup>th</sup> January 2023.

The Scientific Committee will evaluate the abstracts.

#### **Guidelines for oral and poster presentations**

- ✓ The text of slides and posters must be in English.
- ✓ Oral presentations must also be held in English.  
Maximum time for each presentation is 15 minutes organized in 12-minute talk + 3-minute of Q&A.  
Slides must be prepared in .ppt or .pdf format. The recommended aspect ratio is 16:9.  
More details on slides submission/upload will be available after the abstract deadline.



- ✓ Poster formatting: the maximum size allowed is A0 (vertical).  
Posters will be positioned during the registration procedure and will be exposed for all the time of the conference.  
During the scheduled poster sessions, the authors are suggested to attend their poster for possible Q&A.

**Scientific committee**

The scientific committee is constituted by professors and researchers from the Earth Sciences Department of the University of Pisa and the Academic Board of the XXXVI PhD cycle:

- Dr. Alberto Collareta,
- Prof. Roberto Giannecchini,
- Prof. Viviana Re,
- Prof. Maria Cristina Salvatore,
- Prof. Giovanni Zanchetta.

**Organizing committee**

The initiative is fully organized and promoted by PhD students in Earth Sciences, who will constitute the Organizing Committee of the event:

- Julia Carvalho Lannes Galvão Fonseca (PhD XXXVI cycle – DST UniPI)
- Marco Luppichini (PhD XXXV cycle – DST UniFI)
- Matteo Nigro (PhD XXXVI cycle – DST UniPI)
- Francesca Pasquetti (PhD XXXVI cycle – DST UniPI)
- Cynthia Sassenroth (PhD XXXVI cycle – DST UniPI)

This conference is funded by a grant for scientific initiatives organized by PhD students provided by the University of Pisa.

**Registration**

The registration is free of charge.

Registration deadline is on 10<sup>th</sup> February 2023 (for presenters) and on 20<sup>th</sup> February 2023 (for listeners only).

The online registration form can be accessed on the conference website (<https://watergeo2023.dst.unipi.it/>).

**Save the date**

Date of the conference:	<b>2<sup>nd</sup> and 3<sup>rd</sup> March 2023</b>
Deadline for abstract submission:	<b>20<sup>th</sup> January 2023</b>
Deadline for registration for presenters:	<b>10<sup>th</sup> February 2023</b>
Deadline for registration for listeners:	<b>20<sup>th</sup> February 2023</b>

Information and updates can be found on the website <https://watergeo2023.dst.unipi.it/> or writing an email to [watergeo2023@dst.unipi.it](mailto:watergeo2023@dst.unipi.it)

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Hoping to see many of you in Pisa  
The Organizing Committee