



# GEOETHICS & GROUNDWATER MANAGEMENT CONGRESS

## PORTO · PORTUGAL · OCTOBER 21-25 · 2019



INTERNATIONAL  
ASSOCIATION for  
PROMOTING  
GEOETHICS



International Association  
of Hydrogeologists  
the World-wide Groundwater Organisation

## GEOETHICS & GROUNDWATER MANAGEMENT

### THEORY AND PRACTICE FOR A SUSTAINABLE DEVELOPMENT

#### FIRST ANNOUNCEMENT

##### PRESENTATION

Groundwater is the most abundant and widespread source of liquid freshwater on the planet. It is also currently a threatened water resource in terms of quantity and quality due to climate and anthropogenic stresses. Meanwhile, there are aquifers that remain untapped in regions or periods of water scarcity.

**Hydrogeology** studies the occurrence, movement, and quality of groundwater as a basis for understanding this essential natural resource, providing the scientific support for the management of its diverse environmental and anthropogenic uses.

**Geoethics** is an emerging scientific field that deals with the ethical, social and cultural implications of geosciences knowledge, research, practice, education and communication, and with the relevant social role and responsibility of geoscientists in conducting their activities while interacting with the Earth system, groundwater being one of its undisputed important components.

The wide diversity, scale, significance and increasing magnitude of the interactions of anthropogenic behaviour with aquifers and groundwater, involving some degree of conflict of values or interests, decisions and demands from the agents involved, such as groundwater scientists, policymakers, managers, organizations, professionals, and citizens, call for a responsible and human approach to groundwater use and management.

This joint congress emerges from an Agreement for Cooperation signed on 5 April 2017 about common grounds by the **IAH** – International Association of Hydrogeologists (iah.org) **IAPG** – International Association for Promoting Geoethics (geoethics.org). Following its terms, the international Congress «**GEOETHICS & GROUNDWATER MANAGEMENT: THEORY AND PRACTICE FOR A SUSTAINABLE DEVELOPMENT**» – GEOETH&GWM'19 - aims for the first global approach on the vast subjects of Geoethics in Groundwater management and its recognized need of reflection for correct and prudent actions.

##### CO-ORGANIZATION



Grupo Português  
da Associação  
Internacional  
de Hidrogeólogos



Instituto Superior de  
Engenharia do Porto

P. PORTO



Asociación  
Internacional  
de Hidrogeólogos  
Grupo Español

##### SUPPORT



ASSOCIAÇÃO PORTUGUESA DE GEÓLOGOS



ASSOCIAÇÃO  
PORTUGUESA DOS  
RECURSOS HÍDRICOS



ORDEM  
DOS  
ENGENHEIROS



Sociedade  
Portuguesa  
de Geotécnica



ORDEM DOS  
ENGENHEIROS  
TÉCNICOS





**GEOETH&GWM'19** convenes groundwater specialists, scholars and professionals, as well as educators, students, and early career colleagues in the first specialized world forum for discussing theory and practice, sharing values, knowledge, research, educational projects, best practices and strategies aiming at the responsible integrated management of groundwater resources for a resilient and sustainable future.

In a world asking for answers, **GEOETH&GWM'19** has the goal to present a scientific and professional community capable of proposing synergetic cultural and practical answers to complex problems affecting society.

**IAH** and **IAPG** delegated the task to organize this Congress to the Executive Council of the Portuguese Chapter of IAH (AIH-GP) who appointed the **Organizing Committee (OC)**, which I am honoured to chair, with representatives of the co-organizer ISEP - School of Engineering, Polytechnic of Porto, and the Spanish Chapter of IAH. A multidisciplinary **Scientific Committee (SC)** will assist the OC in assuring the quality of the event, the correct framework of its general themes, and the quality of the sessions and activities.

The OC and the SC calls to your appreciated participation to take stock of philosophical and legal approaches, analysis of case studies from around the world, management models or proposals, educational views, innovative transdisciplinary knowledge, research or projects on responsible groundwater management.

At this early stage we are already honoured to count on a continuously expanding group of **Supporting Organizations** with leading roles in fields related to the study and management of groundwater. **Sponsors** at several levels of involvement are called to help reduce costs and to allow a fair fee for a selection of economically disadvantaged delegates. Public recognition of Supporting Organizations and Sponsors is well deserved.

We warmly invite all of you concerned or interested in these exciting and important subjects to join us next year (**2019, 21-25 October**) in Porto (UNESCO World Heritage Site) for a foundational Congress on what has already been called **Hydrogeoethics**, a novel scientific field integrating all aspects of Geoethics in Groundwater theory and practice. We are looking forward your active participation. Be welcome to Porto and Portugal.

*(Manuel João F. G. Abrunhosa, chair of the Organizing Committee, Porto, August 31, 2018)*

## MAJOR THEMES

Being the first Congress on Geoethics and Groundwater Management, the Organizing and Scientific Committees intends an unlimited and broad coverage of all possible subjects involved. **Three Major Themes** are proposed following an early wise suggestion from Dr. Partha Sarathi Datta, IAPG-India, and member of the Scientific Committee of the GEOETH&GWM'19 Congress. Each major theme will later be subdivided in proposed topics in order to assemble contributions in more specific sessions with methodological and aim's coherence.

**1 - Fundamentals of Hydrogeoethics: Cultures, principles and geoethical values in the philosophy of groundwater resources, legal frameworks, policies, management models, professional practices and citizen action.**

**2 - Lessons for a resilient and sustainable future with Hydrogeoethics: Case studies of geoethics in groundwater science-engineering, profession and management.**

**3 – Scientific and humanistic components of Hydrogeoethics: Education and professional training of geoethics in groundwater management.**



## CONGRESS COMPONENTS

**Field-Trips:** Will take place 21-22 October 2019 in a choice of hydrogeologic diverse regions in continental Portugal and the regions of Madeira and Azores. Will begin at Porto or Lisbon and end at Porto.

**Sessions** (keynote, oral and poster presentations): Will occur 23-25 October 2019 at Porto (ISEP Congress Centre). Each Master Theme has a dedicated day and additional sessions may run in another day. Coffee breaks and lunches, as well as attractive social and accompanying persons programmes will be provided.

**Side-event** (school year of **2018/19**): Beginning September 2018, the Congress promotes a Geoethics and Groundwater awareness program with teachers and students in secondary schools in Portugal in the form of a contest of digital videos. The three best videos will be awarded in a Side-event.

**Exhibition:** a showroom reserved to Organizations, Supporters, Sponsors, and Companies will be available on site.

## CALL FOR SPECIAL SESSIONS

The Organizing Committee (OC) launches a call for proposals for **Special Sessions** in order to allow research groups (formal or informal) the opportunity to present and share their work in specific topics in any of the Major Themes of this foundational Congress.

Prospective conveners for a Special Session should address the OC by email with a proposal for a Special Session by **15 November 2018**, in which it will be included: **a)** a short personal presentation, CV and affiliation of the convener; **b)** the proposed title of the topic (clear and short as possible); **c)** a brief justification (75 words maximum); **d)** an eventual longer memory with references to the state of the art and whatever information is considered useful; **e)** the Major Theme of the Congress the proposed Session should be associated; **f)** a compromise to bring to the Congress at least four peer reviewed oral presentations and delegates as first authors and presenters, including in it their identification and provisional titles; **g)** a compromise to deliver a keynote on the topic (30 min estimated) by the convener or any other designated delegate within the group, including in it a title and a brief abstract or summary (200 words maximum), and **h)** a compromise to participate in the peer review of abstracts within that Major Theme.

The OC will communicate about the acceptance of the proposed Special Session until **15 December 2018**. To be considered in the final schedule of the Congress as a Special Session it must receive until the end of the normal registration deadline at least four registrations with peer reviewed presentations on the topic, including eventual others from outside the convener's team. If quotas are not met, registered authors of peer reviewed abstracts are invited to join a session from those proposed by the Congress. More information will be available on the website and in the 2<sup>nd</sup> Announcement scheduled for December 2018.

The Organizing Committee would like to foster a Special Session entitled «Ethical Dilemmas in Groundwater Sustainability for Food Security, and Poverty Alleviation» in memory of Prof. Partha Sarathi Datta, IAPG-India, a member of the Scientific Committee, and a major inspirer for the Congress, that passed away unexpectedly on Aug 13, 2018. Prof. Datta proposed himself to lead this topic. Sponsors for delegates in this Special Session from United Nations Least Developed Countries (UN LDCs) are welcome.





## FIELD-TRIPS

**Two-day Field-Trips** will take place on 21 and 22 October 2019, starting from Porto (some may begin in Lisbon) and will end in Porto in time for the first day of Sessions. A selection of Field-Trips will focus on delimited regions within continental and insular Portugal, a country that, for its small size, has surprisingly a high hydrogeological diversity. Its organization and conduction will be delegated by the Organizing Committee to researchers from Portuguese Academies. A detailed Field-Guide will be produced and delivered to participants. Each Field-Trip is expected to include no more than 20-25 persons, travelling in touristic minibuses, and air travels to/from Madeira and Azores. Field-Trips are intended to provide delegates an exciting and rich direct experience with relevant aspects on the natural and cultural heritage of Portugal, also as Geoparks, aspiring Geoparks and/or Environmentally Protected Areas, with a focus in a selection of Groundwater and Geoethics hotspots, allowing widening personal experiences, networking and the appreciation of the ethical bases that support the work of researchers and professionals in Groundwater and in Natural Resources Management. Enrolment is an option in the registration process. Accompanying persons may enrol as well. The list of Field-Trips together with a short presentation will be posted at the Congress website in time for the beginning of the registration process.

## SIDE-EVENT

A **Side-event** to the Congress will be organized in close cooperation with section of IAPG-Portugal to run during the school year of 2018/19 at the beginning of September 2018. It aims to promote Geoethics and responsible Groundwater management awareness among students and teachers in secondary schools in Portugal and at the level of school class. This proposal takes advantage of the recent legal framework that allows Secondary Schools free choice for a part of the syllabus. The outcome is a contest of **3-minute digital videos** in free common format produced by the students under the teacher's supervision. A previous registration of each team by a responsible teacher is required, to be made by **15 November 2018** through the webpage of the Side-event in the Congress website. The contents of videos are a free choice and may cover scientific, humanistic or artistic issues related to groundwater, in any combination, favouring transdisciplinary thought and emotional involvement on the themes of the congress. The deadline for videos submission and for written memories describing the work and identifying the participants, will be **30 April 2019**. Three best videos will be selected by a jury by **31 May 2019**. Those teams will be invited to attend a Special Session of **GEOETH&GWM'19** on 25 October 2018. Awards will be announced during the Special Session. Patrons for educational individual prizes for students of the winning school classes, one or two teachers involved per class and the corresponding secondary school will be more than welcome and will have the deserved merit. A selection of the best videos will be published online in the Congress website.

## EXHIBITION

An **exhibition hall**, or an external pavilion if needed, to accommodate exhibitor's booths, and open-air space, will be made available at a cost to Organizations, Supporters, Sponsors, and Companies related to the Congress subjects. Demonstrations of interest are welcome and should be addressed by email ([geoeth.gwm.19@gmail.com](mailto:geoeth.gwm.19@gmail.com)) detailing needs. A cost may be accounted as sponsoring intended to cover basic local costs of installation of the exhibitor and an additional value to a fund intended to alleviate local expenditures by delegates coming from UN LDCs, tutored students or early career's accredited to the Congress. General information will be in posted the website.



## LOGO OF THE CONGRESS



A powerful logo was created for the Congress that we expect will inspire all of us. In its apparent simplicity it represents a large amount of symbolism underlining the place and aims of the Congress. The overall shape and colours are reminiscent of the square ceramic wall tiles in contrasting white and cobalt blue that are a recognized hallmark in Portugal's civilian, religious and military buildings, since the XVI Century, as you will experience here in Porto. They were used domestically and exported worldwide, not only as a commodity hand made by the millions, but also as a fortunate association of its technological excellence and usefulness with the expression of new values, ideas and aesthetics proposed to other cultures around the world,

not without setting a distinct permanent mark from its origins we, as Portuguese citizens, are proud of.

In the composition of the logo only four simple glyphs in ten arrangements were used, harmoniously distributed inside a line bordered square. An undrawn but distinct central vertical axis of symmetry defines a path for a bottom-up reading of several symbols that set out by deconstruction and recomposing to define, in quite a few lines what, in our view, Geoethics and Groundwater Management is. A bottom line could represent the strong foundations of Geoethics and Groundwater Science, from which emerge recognized symbols of drawdown curves, and with them the consequences of the exploitation of aquifers underground. Above, is what could be a water well head and the processes that may occur on the surface in interaction with the society and the underground. Then, the acronym of the Congress is brought to our minds through face to face double-G physiognomies of what might be Geoethics and Groundwater Science and Engineering, a wide M for Management below. This opposing, often conflicting views, and the need of an informed dialogue, together with the underlying reflections on all values involved and on the consideration of foreseeable consequences of actions and omissions, are the correct supporting paths to foster the emergence of responsible Management tools. This could be the readings underlining the perseverance and quality for the construction and maintenance of the sequence of arch bridges connecting the extremes on top of the logo. They evoke the at their times innovative six bridges of Porto over the Douro River, fed in Summer by far away aquifers in its vast transboundary basin. This support a safe road to the future of the society and nature in resiliency and sustainability, through the combined efforts of geoscience, engineering and humanities, to cope with the challenges of change.

## VENUE

The **GEOETH&GWM'19** Congress will take place in **Porto, the second city of Portugal** and a famous and several times world awarded best touristic destination for itself and for the region. It is served by a modern international airport (Oporto - OPO). Accommodation facilities diverse, with recognized quality, covering all kinds of options and prices. You can enjoy the famous quality and diversity of Portuguese foods and access international food as well in a selection of town restaurants. During the Congress special meal requirements may be met if requested during registration. Hourly air travels with Lisbon airport (Lisbon - LIS) allow efficient worldwide connections. In Porto metropolitan area, ground travel is easy, fast and affordable, mostly under a single ticketing service that include Metro, buses and suburban trains. Travel time by Metro from OPO airport to ISEP, the venue place of the congress, is less than 45 minutes, even less to the centre of the town (UNESCO World Heritage site). Sessions will be held in a modern and well-equipped Congress Centre, with many commodities in the neighbourhood. In October the climate is quite agreeable, generally mild, some showers possible. More details in the Congress website.



## **SUPPORTING ORGANIZATIONS**

Supporting Organizations are all those legally registered organizations, being public, private, professional, scientific, educational, governmental or non-governmental, national or international bodies, in any way non-discriminating, non-profit oriented, that are recognized as having a significant supporting relationship with geosciences and social/human sciences. Their participation in the Congress is welcome and is the result of acceptance from an invitation by the Organizing Committee (OC). No fee or any economic counterpart is demanded to Supporting Organizations. The OC endeavours in providing the Supporting Organization in due time and updated information about the Congress. Each Supporting Organization is expected to provide information about the Congress to its members or the followers community. In recognition, the OC asks for the designation of a recognized member to be included in the Scientific Committee and publishes logos in all main documents of the Congress. At the date of 31 August 2018, we are proud to announce the following Supporting Organizations to the GEOETH&GWM'19:

**APG** - Associação Portuguesa de Geólogos (Portuguese Association of Geologists)

**APRH** - Associação Portuguesa dos Recursos Hídricos (Portuguese Association for Water Resources)

**OE** – Ordem dos Engenheiros (Association of Chartered Engineers)

**OET** – Ordem dos Engenheiros Técnicos (Association of Chartered Technical Engineers)

**SPG** - Sociedade Portuguesa de Geotecnia (Portuguese Society for Geotechnics)

**UNESCO** – United Nations Educational, Scientific and Cultural Organization – International Hydrologic Programme

## **ORGANIZING COMMITTEE**

<b>AIH - GP</b>	<b>Manuel Abrunhosa (chair)</b> Raquel Sousa Rui Hugman José M. Marques
<b>ISEP</b>	<b>Helder Chaminé</b> Maria José Afonso
<b>IAH</b>	<b>António Chambel</b> Teodóra Szócs
<b>IAPG</b>	<b>Silvia Peppoloni</b> Giuseppe Di Capua
<b>AIH-GE</b>	<b>Juan José Durán Valsero</b> Sergio Martos Rosillo
<b>IAPG - Portugal</b> <b>CITEUC / IPCB</b>	<b>Clara Vasconcelos</b> Ana Isabel Andrade Teresa Albuquerque

## **SCIENTIFIC COMMITTEE**

The Scientific Committee will be announced in the website.





## PUBLICATIONS

A publishing scheme in cooperation with a major publishing company of academic journals and books will be announced by the end of **December 2018**. Peer reviewed abstracts will compose a **Book of Proceedings** to be published in a reputed series. A book that will include a **summary of the Hydrogeology of Portugal** will also be edited having as additional chapters the proposed **Field-Trip Guides** prepared for the Congress. Authors of a selection of outstanding work and presentations will be invited to submit papers for a special publication in journals of reference in their specific topics.

## SPONSORS

The Congress will endeavour a call for sponsors with the following objectives: **1)** help participants from UN Least Developed Countries, Early Career researchers and professionals, and tutored students to cope with fair reductions in their local expenses in accommodation, internal travel or Field-Trips; **2)** provide awards with significant educational value to the winning students, teachers and schools in the Side-event video contest; **3)** pay for specific components of products or services within the Congress, like coffee breaks, meals, outdoors, signage, USB-pens, lanyards, cards, office products, etc. Sponsors are welcome.

A call for sponsorship will be published in the website, and the OC will evaluate proposals. Adequate public recognition of all Sponsors will be made at the Congress.

## REGISTRATION

The registration and the abstract submission will be announced in December 2018 to take effect from 1 January 2019.

## COMMUNICATION AND CONTACTS

Official communication and media of the **GEOETH&GWM'19**:

Website: <https://geoeth-gwm2019.wixsite.com/porto>

Links from [iah.org](http://iah.org) and [geoethics.org](http://geoethics.org)

General purpose email: [geoeth.gwm.19@gmail.com](mailto:geoeth.gwm.19@gmail.com)

Facebook of the Portuguese Chapter of IAH: <https://www.facebook.com/AIHPortugal/>

The Organizing Committee ensures the protection of the privacy of any personal data collected during your registration, abstract submission, or any other electronic communication, under strict compliance of the EU directive (General Data Protection Regulation) and Portuguese Law. No third parties will have access to personal data. The chair of the Congress assumes the legal position of Nominated Data Protection Officer.



## PROVISIONAL SCHEDULE

### KEY TIMELINES (Proposal) subject to later additions and adjustments

2018	
22 April 2018	Disclosure of the International Congress on Geoethics & Groundwater Management
31 August 2018	First announcement of Congress information
31 August 2018	Call for Special Sessions
31 August 2018	Call for Organization of Field-Trips
31 August 2018	Disclosure of side-event on Geoethics and Groundwater in secondary schools (Portugal)
30 September 2018	Deadline for of acceptance to organize Field-Trips
31 October 2018	Deadline for receiving proposals for Field-Trips
15 November 2018	Deadline for reception of proposals for Special Sessions
15 November 2018	Communication to proponents of acceptance of Field-Trip proposals
15 November 2018	Communication to proponents of Special Sessions acceptance
15 November 2018	Deadline for registration in the Side-event
22 December 2018	Second announcement of Congress information
2019	
1 January 2019	Opening of Registration procedures, Congress Fee and Field-Trips pay, and abstract submission
31 March 2019	Deadline for receiving abstracts
30 April 2019	Deadline of early bird registration
30 April 2019	Deadline for submission of video and written memory of the Side-event
31 May 2019	Announcement of the three finalist winning videos of the Side-event
31 July 2019	Deadline for normal registration
1 August 2019	Beginning of late registration
31 August 2019	Deadline for late registration with mention in Published List of Participants
15 September 2019	Final announcement with detailed conference information, List of Titles, Final Schedule
21-22 October 2019	Field Trips on the road
23-25 October 2019	Sessions at ISEP
25 October 2019	Side-Event Special Session with announcement of the ranking of winners and awards ceremony

31 August 2018

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