

The 3rd International Association of GeoChemistry (IAGC) Conference



IAGC Newsletter

June 16th-21st 2025, Cagliari - Italy

Bursaries

Great news! Italian Society of Mineralogy and Petrography (SIMP) is offering two bursaries of €500 each to support two PhD students (young SIMP members) presenting (either poster or oral) at the IAGC-3 conference. To apply, follow the same procedure as the conference assistance application and include your SIMP membership number in the email. Don't miss this opportunity to get support for your research!

To apply, please follow the same procedure as the conference assistance application and specify your SIMP membership number in the email.

For more details on the conference and volunteer opportunities, visit: <https://www.unica-wri-18.it/volunteer/>

For more information on SIMP visit: <https://www.socminpet.it/>

Plenary Lectures:

The organising committee are pleased to announce the list of plenary lectures and speakers. They are as follows:

- Ramon Aravena:
Application of Environmental Isotopes in Groundwater in Agricultural, Urban, Industrial and Mining Environments.
- Mirco Barbero (EU Soil Directive):
Implementing Together the Provisions on Contaminated Sites.
- Donato Giovannelli:
Trace Metal Availability and The Evolution of Biogeochemistry.
- Jonathan R Lloyd:
Putting Subsurface Microbes to Work; Harnessing Microbial Biomineralization for Clean Industrial Growth.
- Daniele Pinti:
Isotopes and Interface Between the Mantle and the Crust.
- Andri Stefanson:
Supercritical Fluids - the Next Generation of Geothermal Energy.
- Sandra Ósk Snæbjörnsdóttir:
Turning CO₂ to Stone: Scaling CO₂ Storage via Mineralisation.
- Ryan Venturelli:
Biogeochemical Investigations of Dissolved Organic Carbon Beneath the West Antarctic Ice Sheet.

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About the speakers:

Ramon Aravena:

Dr. Aravena is a research professor who focuses on the application of isotope techniques in hydrology. He has been involved in numerous groundwater studies in Latin America, Canada and the U.S. related to evaluation of groundwater resources and groundwater protection.

Ramon Aravena's current research focuses on groundwater contamination caused by agricultural and urban activities. He uses environmental isotopes as tracers to provide information about sources and processes that affect contaminants. During his 20+ years experience, he has been involved in numerous groundwater studies in Latin America, Canada and the U.S.



Mirco Barbero

Mirco Barbero is policy officer in soil protection and sustainable land use; he has led the Soil Team since June 2019 within the Unit Land Use and Management, Directorate-General Environment, European Commission.

Mirco has a degree in physics and has worked for a dozen years in the private sector responsible for the quality assurance of products and services. He joined the Commission in 2005 where he worked mainly as team leader in internal audit, advising the management on how to improve performance, governance and risk management in several policy areas.

He and his team have prepared the EU Soil Strategy and the proposal for the EU Soil Monitoring and Resilience Directive, negotiating it with the European Parliament and Council.



Donato Giovanelli

Donato Giovanelli is full professor of microbiology at the University of Naples "Federico II", Italy. His current work lays at the interface between microbial ecology and microbial evolution. He is fundamentally interested in the co-evolution of the biosphere and the geosphere and how life influences planetary-scale processes. His current research focuses on two major themes, integrally linked to each other: 1) the microbial diversity and ecosystem functioning of extreme environments and their role in global biogeochemistry; and 2) reconstructing the emergence and evolution of metabolism. These diverse interests stem from three basic assumptions underlying his research: i) prokaryotes dominated the evolutionary history of our planet; ii) they are responsible for the bio in biogeochemistry both at the ecosystem level and through time; and iii) extremophilic prokaryotes living in extreme environments resembling early Earth analogs, despite being extant organisms, retain a higher number of ancestral metabolic traits. In his research, he integrates classic microbiology techniques with cutting-edge molecular and computational tools to investigate the role of microbes in shaping the environment, their interactions with abiotic factors and the drivers of evolution and adaptation. Therefore, the study of the prokaryotic diversity in geothermal environments potentially holds the key to a better understanding of the functioning of our planet, both in an ecological and evolutionary context. More specifically : i) the microbiology of across volcanic arc hot springs in Costa Rica and Panama subduction zones, looking at the effect of microbiology on arc volcano volatile cycling; ii) the reconstruction of the emergence and evolution of early carbon fixation in deep-branching thermophiles; and iii) the taxonomic and functional diversity of the microorganisms in shallow-water hydrothermal vents.



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Jon Lloyd

Jon Lloyd is Professor of Geomicrobiology at the University of Manchester. A particular focus of his group is the microbiology of the subsurface, and in this context, Lloyd has contributed more than 300 papers addressing the mechanisms and impact of microbial transformations of metals, radionuclides and organics in a range of natural and engineered environments. He has a particular interest in the use of geomicrobiological systems for bioremediation applications and for the processing of critical metals to support new clean technologies.



Awards for this work include the Geological Society of London Bigsby Medal, the Schlumberger Medal of the Mineralogical Society of Great Britain and Ireland while the UK Science Council has cited him as one of the Top 100 Practicing UK Scientists. Between 2010-14 he was a Royal Society Industrial Fellow, and from 2015-20 he was awarded a Royal Society Wolfson Merit award for his work on subsurface microbiology. He is the founding chair of the UK Geomicrobiology Network, and was President of the Mineralogical Society in 2021-22, and is a regular organiser of (and speaker at) national and international meetings on many aspects of environmental science/biotechnology. He is also a co-founding principal editor of the Geo-Bio Interfaces journal launched in 2023 by the Mineralogical Society and Cambridge University Press.

Daniele L. Pinti

Daniele L. Pinti is a noble gas isotope geochemist, director of Geotop – one of the largest geoscience-oriented research centers in Canada – and full professor at the Earth and Atmospheric Sciences Department of the Université du Québec à Montréal. In 1989, he obtained his MSc degree in Geology at the University of Rome, Italy, working on soil gases at Latera geothermal field, Central Italy. After a brief interval in the industry, he moved in 1991 at Université de Paris VI for a PhD in noble gas geochemistry applied to oil resources. In 1996, he joined the Earth and Planetary Science group at Osaka University, Japan, for a post-doctorate in Archean Geology, developing nitrogen isotopes as isotopic biomarkers with studies in Australia, Greenland, and South Africa. From 1999 to 2004, he was an assistant professor at the Université de Paris SUD, working on K-Ar dating. In 2004, he joined the UQAM, where he built a noble gas laboratory, with activities spanning from groundwater dating to geothermal resources. Since 2014, he has been actively working on geothermal resources with projects in Mexico, Chile, Argentina, Iceland, La Reunion, Hawaii and Japan. He has authored more than 110 scientific papers.



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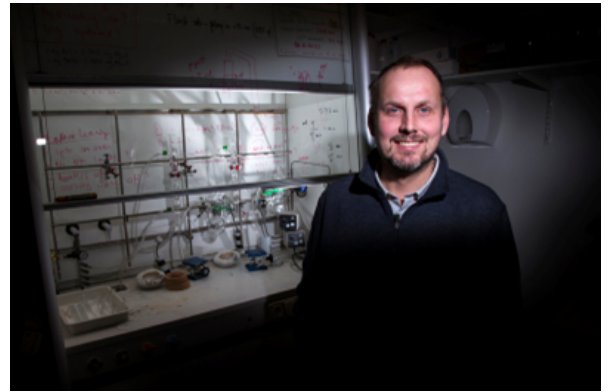
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Andri Stefánsson

Andri Stefánsson is a professor of geochemistry at the University of Iceland specializing in aqueous geochemistry, geothermal systems, and volcanic activity. His research integrates experimental work to simulate hydrothermal fluid composition, fluid-rock and fluid-fluid interactions and mineral formation processes. Stefánsson extensively uses isotopic analysis to trace geochemical processes, such as metal and volatile element behaviour in hydrothermal fluids, element origins, temperature conditions, and subsurface processes. His research contributions have helped understanding geothermal systems' sustainability and optimizing energy extraction and carbon sequestration in geothermal systems - advancing both theoretical and applied aspects of geothermal science.



Sandra Ó. Snæbjörnsdóttir

Dr. Sandra Ó. Snæbjörnsdóttir serves as Chief Scientist at Carbfix in Iceland, specializing in the injection of CO₂ for mineral storage. Sandra is a geologist with expertise in aqueous geochemistry and petrology. Her PhD studies focused on the world's first injection of CO₂ into basalts, carried out by Carbfix in 2012. She has since then worked on further developing this carbon storage method. Sandra has extensive experience overseeing feasibility studies, field site characterization, drilling, and monitoring campaigns related to planned and ongoing CO₂ injections. One of her passions is building bridges between industry and academia—moving out of the protected environments of labs and into the field to accelerate the development of CO₂ storage sites as a response to the current climate emergency. Carbfix collaborates with numerous prestigious research institutes on both project-specific research and various aspects of the Carbfix technology.



Ryan Venturelli

Dr. Ryan Venturelli is an Assistant Professor at Colorado School of Mines in the Department of Geology and Geological Engineering. Dr. Venturelli's research program uses radiocarbon-based tools and light stable isotopes to understand cryospheric change and biogeochemical cycling in polar regions.



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Accompanying people program

We would also like to take this opportunity to remind you of our exciting programme on offer for people who are accompanying attendees of the conference. They are welcome to attend the field trips which include a trip to mines, caves, geothermal springs and a winery. Along with these exciting activities we have organised a variety of other fun activities for people to participate in. At the moment these include:



- A tour of Cagliari
- A tour of Barumini Nuraghe
- A full day beach tour
- A cooking experience at Casa Atzeri

Early bird fees, before 15th March 2025, for an accompanying person are €350,00 and the standard fee is €380,00 after the 15th March 2025. The accompanying person participation fee includes: ice breaker, social dinner, mid conference field trip and one activity per day to be chosen.



<https://commons.wikimedia.org/w/index.php?curid=63333101>



If requested the following can be organised:

- Bookings for the Poetto beach
- Sailship experience of training (extra fees)
- Child care (fees dependant on the request)

Local Organizing Committee:

Giovanni De Giudici, Stefania Da Pelo, Franco Frau, Elisabetta Dore, Stefano Naitza, Dario Fancello, Daniela Medas, Silvio Ferrero, Laura Pioli, Patrizia Onnis, Francesca Podda, Riccardo Biddau, Elodia Musu, PierAndrea Marras, Bruna Borges Carvalho, Mariano Puxeddu, Roberto Dessì, Maurizio Testa, Elisa Sacchi, Laura Sanna.

For more information go to www.unica-wri-18.it/field-trips-accompanying-people-program

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Field Trips

Below is an overview of the field trips available. More detailed information for the trip you are interested can be found at <http://www.unica-wri-18.it/field-trips-accompanying-people-program>

Please note the Ivrea-Verbano Zone field trip has now been replaced by the Fluid-Melt/Rock Interaction At Subduction Zones field trip.

FIELD TRIP	COORDINATORS	COST
Pre-conference Field Trip (12 - 15 June 2025)		
Mt. ETNA AND VULCANO ISLAND	Laura Pioli laura.pioli@unica.it	€530 Extra cost - single room: €100
Mid-conference Field Trip (19 June 2025) - Choose from one of the following:		
MONTE ARCI VOLCANO	Laura Pioli laura.pioli@unica.it	Included in registration
SILIUS MINE AND TENUTE AUDARYA WINERY	Stefano Naitza snaitza@unica.it	Included in registration
FURTEI GOLD MINE AND SARDARA THERMAL SPRING	Stefania Da Pelo Francesca Podda stefania.dapelo@unica.it	Included in registration
SANTA BARBARA CAVE AND PORTO FLAVIA MINE HARBOUR	Laura Sanna Patrizia Onnis laura.sanna@cnr.it	Included in registration
THE ROMAN BATHS OF FORDONGIANUS AND THE NURAGHE LOSA	Daniela Medas Riccardo Biddau Elodia Musu dmedas@unica.it	Included in registration
IS ZUDDAS CAVE AND CANTINE DI SANTADI WINERY	Elisabetta Dore Franco Frau elisabetta.dore@unica.it	Included in registration
THE ABANDONED MINES OF THE MONTEVECCHIO DISTRICT	Giovanni De Giudici Maurizio Testa Roberto Dessi Lorenzo Sedda gbgjudic@unica.it	Included in registration
Post-Conference Field Trips (22 -24 June 2025)		
FLUID-MELT/ROCK INTERACTION AT SUBDUCTION ZONES	Marco Scambelluri Nadia Malaspina Stefano Zanchetta nadia.malaspina@unimib.it	€350
THE LARDERELLO AND Mt AMIATA GEOTHERMAL FIELDS & THE FORMER MINING ACTIVITIES	Alessandro Lenzi Enrico Pandeli Orlando Vaselli enrico.pandeli@unifi.it	€400
PARTIAL MELTING & CRUSTAL DIFFERENTIATION: MIGMATITES AND GRANITES OF NORTH-SARDINIA	Gabriele Cruciani Leonardo Casini Silvio Ferrero silvio.ferrero@unica.it	€340
MODERN AND FOSSIL MICROBES-WATER-MINERAL INTERACTION ALONG THE CALABRIAN ARC	Edoardo Perri Mario Borrelli Pierluigi Santagati Salvatore Guerrieri eperri@unica.it	€350

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