

# 2026 RING NEWSLETTER

*Research for Integrative Numerical Geology*



## WELCOME

to the 2026 edition of the RING newsletter!

This issue presents recent research, events, and highlights from life within the RING team.

## IN THIS EDITION

Research highlights  
Working with us  
Portraits  
Conferences & Field Research  
RING Meeting & Consortium

## UPCOMING

2026 RING Meeting  
September 15-18, 2026  
*Nancy School of Geology*

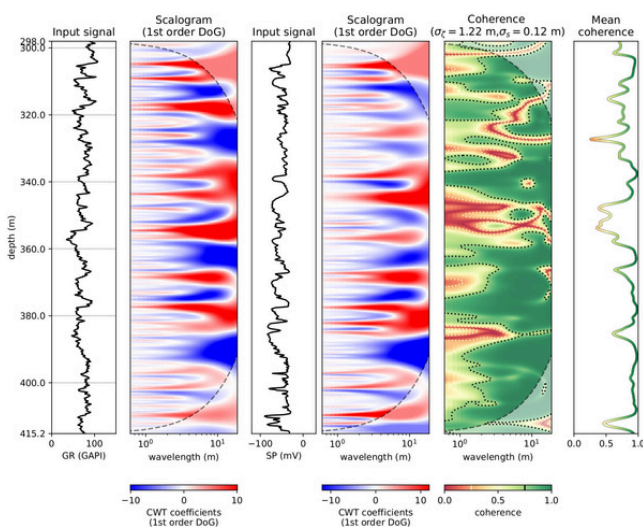




**Loïs Letellier**, RING PhD student (ASGA)

## WaveLog Software

WaveLog is a software developed in C++ and Python for assisted interpretation of well logs. It is designed to help interpreters identify features in well logs in a more objective and reproducible manner. WaveLog is based on Continuous Wavelet Transform, a signal processing method that analyzes signals at multiple frequencies while preserving depth localization.



*Continuous Wavelet Transform analysis of two logs along with their coherence*

It also provides a tool for joint interpretation of two different petrophysical properties. This software can be used to segment logs at different scales and to generate multiple interpretation scenarios more efficiently.

Furthermore, it includes utilities for comparing interpretations using a metric designed for localized comparison, which can highlight major differences. This metric accounts for depth shifts between corresponding features as well as differences in the number of identified features.

## Roberto Cilli, RING PostDoc (PEPR)

Roberto Cilli joined the team in September 2025 as a Postdoctoral Researcher (*GeoRessources*, Université de Lorraine – PEPR Sous-Sol).



He earned his PhD in Physics from the University of Bari (Italy) in 2021, specializing in applied machine learning for remote sensing and geospatial applications.

His current research focuses on the development of deep learning methods or the analysis of lithological text descriptions applied to geological modelling and subsurface characterization. His work also explores uncertainty estimation and data fusion approaches for geoscience applications.

His research interests include environmental monitoring, remote sensing, deep learning, geospatial modelling, and geostatistics.

# RING Visitor

Zhixiang Guo is working at RING as a joint PhD researcher for a year. Currently a PhD candidate in Geophysics at the University of Science and Technology of China, his research sits at the intersection of *artificial intelligence* and *geophysics*. He focuses on two main areas: the cross-domain adaptation of visual foundation models for geophysical applications, which significantly reduces the computational cost of developing large-scale geophysical models; and diffusion model-guided implicit structural geological modeling, enabling the generation of high-quality 3D structural models using state-of-the-art approaches.

## Internships

Four MSc students from the School of Geology (ENSG) completed a four-month internship at RING.



### **Oumayma Zarik**

*Development of Jupyter notebooks in Python for teaching geostatistics and estimating mineral resources*

### **Terence Lion**

*Correlation of geotechnical units using WeCo2 and text embeddings vectors*

### **Bilal Gholameddine Benguettaf**

*Fault Likelihood & Fault Data Association Cost*

### **Mohamed Amine Boukni**

*Fault tip lines: uncertainty and remeshing*

## Join us

### **MASTER OPPORTUNITIES**

We offer Master's internships for students enrolled in the ENSG Numerical Geology track.

Admission is possible via the ENSG engineering program (1st year after an entry exam or Bachelor's degree, or 2nd year after an M1), or directly to the Master 2 STPE / GEIR for students with an M1/M2 in Earth Sciences.

Applications for the MSc in Numerical Geology can be submitted via: [e-candidat.univ-lorraine](https://e-candidat.univ-lorraine.fr)

### **POSTDOC OPPORTUNITIES**

We support applications to external funding schemes such as Marie Skłodowska-Curie Actions, the Swiss National Science Foundation, and others.

For more information about postdoctoral opportunities at RING, please refer to the details provided [here](#).



# Portraits

## Jorge Alberto Guizar Alfaro, RING PhD Student (ASGA)

*Seismic data processing • Applied geophysics • Field geophysics*



I am originally from Mexico, where I began my career as a geophysicist processing seismic data for the oil and gas industry at CGG (now Viridien), after completing a BSc in Engineering Geophysics.

After three years working on large-scale seismic processing projects, I decided to pursue a Master's degree in Earth Sciences. Following this, I worked as a field geophysicist on seismic vessels, which gave me the opportunity to travel extensively and work with datasets from around the world. During this time, I realized I wanted to deepen my technical expertise, which led me to pursue a Master's degree in Applied Geophysics (ETH Zurich / TU Delft / RWTH Aachen), graduating in 2019.

Upon returning to Mexico, I worked as a Field Geophysicist and later as an Adjunct Professor at the Faculty of Engineering of the National Autonomous University of Mexico. I then held the position

of Chief Geophysicist at a small geophysical company before deciding to pursue a PhD at the University of Lorraine. I joined the RING team in December 2025. I particularly value the technical discussions and the opportunity to engage with a wide range of topics and leading researchers. It is an excellent environment to learn, grow, and evolve as a geophysicist.

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## Emma Sarrette, RING PhD Student (ASGA)

*Computational geoscience • Numerical methods • Mining & mineral resources*

I recently graduated from the ENSG, where I specialized in mining and mineral resources. During my studies, I developed a strong interest in complementing my geoscience background with a computational approach. This led me to pursue internships focused on applying numerical methods to geoscientific challenges.

I also had the opportunity to attend courses taught by members of the RING team and to take part in seminars covering a wide range of topics. These experiences deepened my interest in their research and motivated me to pursue a PhD within the team. The diversity of topics explored, combined with the variety of backgrounds within the group, fosters a dynamic and intellectually stimulating environment that I find particularly inspiring.

I am also very much looking forward to contributing to the team by teaching students, learning from the diverse expertise within the group, and presenting and discussing my future research.



# PhD graduates



**Enrico Scarpa**  
(ASGA)



**Augustin Gouy**  
(ANDRA-BRGM)



**Julien Herrero**  
(ASGA)



**Paul Marchal**  
(CREGU)



**Marius Rapenne**  
(ASGA)



**Giusi Ruggiero**  
(ASGA)



**Amandine Fratani**  
(ASGA)

*Congratulations to our 2025 PhD graduates, and best wishes for their future endeavors!*

# Team Building



Team-building activities are an important part of life at RING. They provide opportunities to connect beyond research, strengthen team cohesion, and share informal moments together.



# Conferences & Field Research

RING members actively participated in several conferences in 2025–2026, presenting their research and engaging with the scientific community.

## **2025 International Mine Water Association Conference**

Braga, Portugal, July 2025



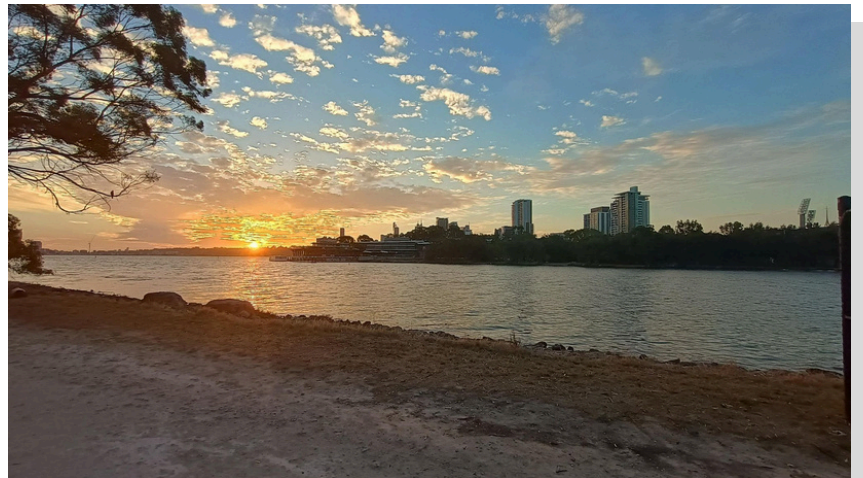
Bastien Morin presented his work on ‘*Deep physico-chemical profiling in a flooded mine shaft*’, focusing on the understanding of water dynamics in the Gardanne lignite mine (France). The IMWA conference brings together researchers and practitioners working on mine water management and related environmental challenges.

## **University of Western Australia & 3D Geological Modelling Conference**

Perth, Australia, April & May 2025

Amandine Fratani spent two months at The University of Western Australia to carry out research work, supported by a DrEAM (Doctor, Explore and Achieve More) mobility grant from the Université de Lorraine.

During her stay, she also attended the *3D Geological Modelling Conference* in Fremantle, where she presented her work on fault data association using graph-based approaches in a mining context.

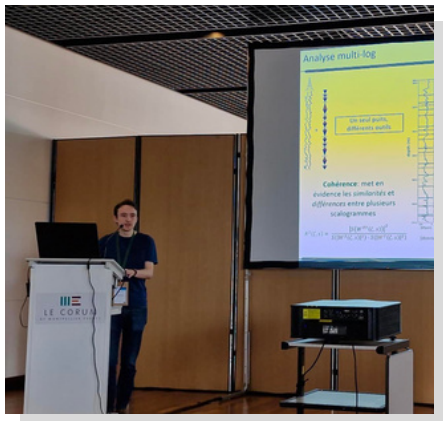


## Réunion des Sciences de la Terre (Earth Sciences Meeting)

Montpellier, France, October 2025

Guillaume Caumon, Paul Cupillard, Pauline Collon, Paul Marchal, Ayoub Bel Hachmi, Bastien Morin, and Loïs Letellier participated in the RST, the national Earth sciences conference bringing together researchers, industry, and academic communities.

They presented their work and engaged in scientific discussions across a wide range of geoscience topics.



## Digital Earth meeting

Orléans, France, November 2025

Guillaume Caumon, Ayoub Bel Hachmi, Zakaria Chergui, and Roberto Cilli participated in the Digital Earth meeting, a collaborative initiative aimed at transforming geosciences workflows through digital technologies.

The project focuses on integrating data, 3D modeling, and advanced analytical tools to support research and address key challenges in Earth sciences.



## Other conferences

- **AAPG** – Manama, Bahrain (Nov 2025)
- **IMAG** – Grenoble, France (June 2025)
- **NuTS** – Grenoble, France (June 2025)
- **EAGE Annual** – Toulouse, France (June 2025)
- **PDAC** – Toronto, Canada (March 2026)
- **EAGE Digital** – Stavanger, Norway (March 2026)

Conferences, workshops, and field trips play a key role in fostering collaboration and strengthening the visibility of RING research at the international level, while providing valuable opportunities for networking and knowledge exchange.

# RING Meeting

The RING consortium brings together academic and industrial partners to support research and collaboration in geosciences.

It also enables initiatives such as the annual RING meeting.

In 2026, Marie Etchebes (Eliis) serves as consortium chairwoman, with Margaux Raguanel (TotalEnergies) as vice-chair.



Marie Etchebes



## 📍 Nancy School of Geology September 2025



The annual RING meeting brought together around 80 participants, both on-site and online. The program included two days of technical sessions, followed by two days of training and demonstrations led by AspenTech (Christophe Prijac), SLB (Thomas Viard), and RING. The event also provided valuable opportunities for exchanges with researchers and consortium members.

The technical sessions featured oral and poster presentations from RING researchers and ENSG MSc students, as well as contributions from consortium members and external partners.



The week also included social events, such as a welcome cocktail at the School of Geology and a mid-week dinner at *Les Pissenlits*, offering informal opportunities for discussion and networking.



*“Very well-organized, interesting, and relevant”*  
— Anonymous

*“Excellent networking, technical challenges and collaborations”*  
— Anonymous

# 2026 RING Consortium

## COMPANIES



## ACADEMIC & RESEARCH PARTNERS

### Europe

(be) Faculte Polytechnique de Mons  
(ch) Basel University  
(ch) ETH Zurich  
(ch) Neuchatel University (CHYN)  
(de) Bayerisches LfU Munchen  
(de) BGE Bundesgesellschaft für Endlagerung  
(de) BGR Hannover  
(de) BUKEA Geological Survey Hamburg  
(de) Bremen University Marum  
(de) Darmstadt Technische Universität  
(de) Geologischer Dienst NRW  
(de) Goettingen University GZG  
(de) Hessisches Landesamt für Umwelt und Geologie (HLNUG Wiesbaden)  
(de) IFG Geophysik Kiel University  
(de) IFG Hannover University  
(de) Karlsruher Institute für Technologie (KIT)  
(de) LAGB Sachsen-Anhalt  
(de) LBEG (NifB Geological Survey) Hannover  
(de) LBGR Brandenburg  
(de) LGB Mainz – Landesamt für Geologie und Bergbau Rheinland-Pfalz  
(de) LGRB Freiburg University  
(de) LIAG Institut Hannover  
(de) LUNG MV – Landesamt für Umwelt, Naturschutz und Geologie  
(de) Landesamt für Umwelt Schleswig-Holstein (LFUSH)  
(de) LfULG Dresden – Sächsisches Landesamt für Umwelt, Landwirtschaft und Geologie  
(de) TLUBN  
(de) TU München  
(de) Senate Department for the Environment, Transport and Climate Protection  
(dk) Geological Survey of Denmark and Greenland (GEUS)  
(es) Consejo Superior de Investigaciones Científicas (CSIC)  
(es) Institut Cartogràfic i Geològic de Catalunya (ICGC)  
(fi) Helsinki University – Institute of Seismology  
(fr) ARMINES – Paris School of Mines  
(fr) Antilles University  
(fr) CNRS France – UNISTRA – ENS  
(fr) Cergy Pontoise University  
(fr) Geosciences Rennes UMR 6118  
(fr) Institut des Sciences de la Terre d'Orléans (ISTO)  
(fr) GET Toulouse  
(fr) Pau University  
(fr) Aix-Marseille University  
(it) Milano Bicocca University  
(it) O.G.S. Trieste  
(pl) Polish Geological Institute – National Research Institute – Warsaw  
(pt) LNEG Porto – Laboratório Nacional de Energia e Geologia  
(sl) Geological Survey of Slovenia  
(uk) Heriot-Watt University  
(uk) Imperial College London

### Asia

(cn) China University of Geosciences Wuhan (CUG)  
(cn) China University of Petroleum (UPC)  
(cn) Institute of Geology – China Earthquake Administration  
(kr) KIGAM Korea  
(kr) Pukyong National University (PKNU)

### North America

(ca) Alberta University  
(ca) Geological Survey of Canada  
(ca) INRS ETE  
(ca) Université du Québec en Abitibi-Témiscamingue (UQAT)  
(us) BEG – University of Texas at Austin  
(us) Harvard University  
(us) University of Houston – Earth & Atmospheric Sciences  
(us) Lawrence Berkeley National Laboratory (LBNL)  
(us) Stanford University  
(us) University of California Santa Barbara (ICS)

### South America

(br) UNISINOS

### Oceania

(au) CSIRO  
(au) Department of Water Western Australia  
(au) Geological Survey of Western Australia  
(au) Geosciences Australia  
(au) Geological Survey of Victoria  
(au) Mineral Resources Tasmania  
(au) Department of Regional NSW – Resources  
(au) Northern Territory Geological Survey  
(nz) New Zealand Earth Science Institute (NZESI)

# THANK YOU FOR YOUR SUPPORT