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D6.3 / D16
Workshop 1 – Liège, October, 9th to 13th 2017 - Report

Enigma ITN

Workshop 1: Advanced subsurface characterization methods: theory and field practice

The Enigma ITN workshop 1 took place in Liège, Belgium from Monday 9th to Friday 13th 2017. There was also the second Enigma ITN meeting on Thursday 12th and Friday 13th with a social event on Thursday evening.

Main organisers of the workshop: ULG (University of Liège) & FZJ (University of Jülich)

Also trainers from Aquale & CNRS Rennes.

Participants to the workshop:

13 ESRs participated to this workshop 1 in Liège:

1	ESR 13	Veronika Rieckh
2	ESR 02	Guilherme Nogueira
3	ESR11	Richard Hoffmann
4	ESR15	Jorge Lopez Alvis
5	ESR04	Justine Molron
6	ESR07	Joel Tirado Conde
7	ESR08	Anne Karin Cooke
8	ESR05	Lara Blazevic
9	ESR03	Alvaro Pardo Alvarez
10	ESR12	Satoshi Izumoto
11	ESR14	Andrea Palacios
12	ESR9	Alejandro Fernandez Visentini
13	ESR10	Peleg Haruzi

ESR6 Behzad Pouladi could not attend this workshop due to some visa issues.

ESR1 Kevin de Vriedt could not attend this workshop because he was finishing his Master thesis.

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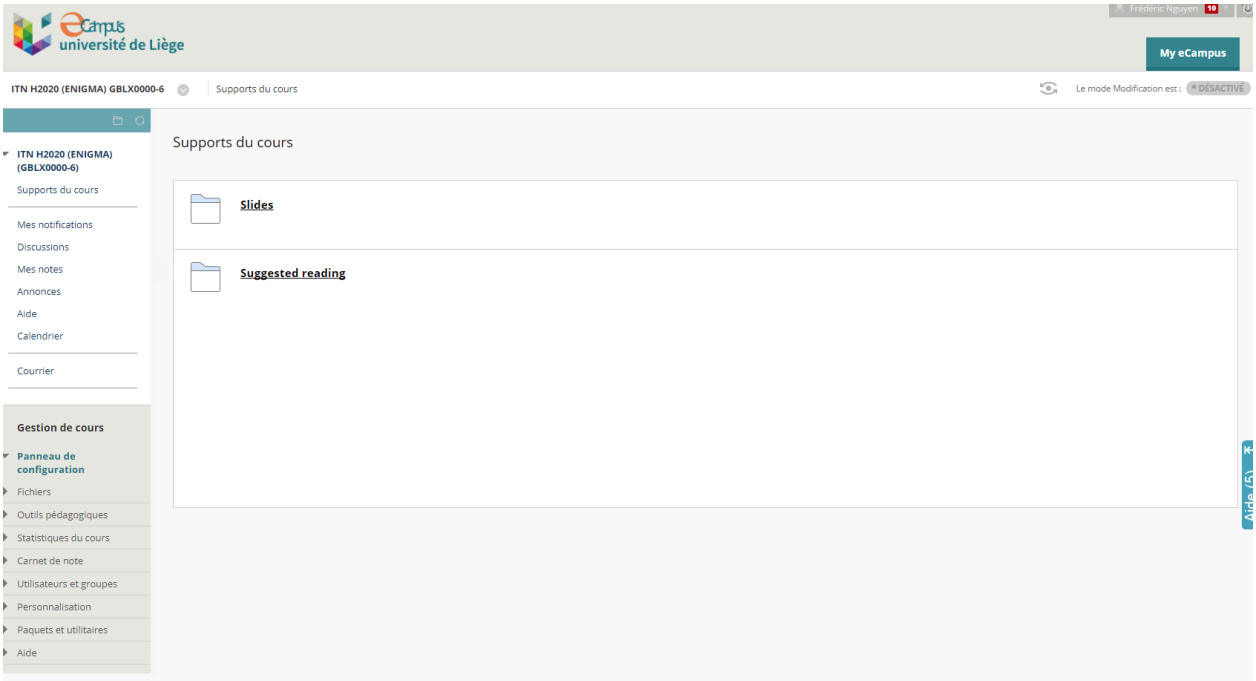
ENIGMA ITN - This project has received funding from European Union's Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie Grant Agreement N°722028.

Objective

To provide an overview of advanced methods for characterizing subsurface properties and associated processes. Hands on application with real datasets acquired at the hydrogeophysical test site Hermalle-sous-Argenteau. Part of the datasets will be acquired in the field during the workshop.

Support

A theoretical background has been provided to the trainees prior to the workshop as an e-learning module using the blackboard ™ platform (https://www.ecampus.ulg.ac.be):



The logistics and communication were done through the website of the organizer: https://appliedgeophysicsulg.wordpress.com/2017/06/28/enigma-workshop-at-uliege/

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Program & Locations

Content

Day 1 (09/10), Sart-tilman Campus, room MIPS, building B28, 4000 Liège (Be)

To all ESRs, theory

- 09:00 – 09:30 –> General introduction to Hydrogeophysics by Prof. Frédéric Nguyen (ULiège)
- 09:30 – 10:00 –> Static and time-lapse hydrogeophysical investigations by Prof. Thomas Hermans (formerly ULiège, now UGent)
- 10:00 – 10:30 Insights from several hydrogeophysical case studies: Focus on electrical methods applications from Aquale (partner organisation) by Dr. Tanguy Robert (formerly Aquale, now ULiège) and Dr. Guillaume De Schepper (Aquale)

Coffee break

- 10:45 – 12:00–> Electrical Resistivity Tomography and inversion by Dr. Nolwenn Lesparre (ULiège)
- 12:00 – 12:45 –> Seismic refraction by Dr. Tanguy Robert (formerly Aquale, now ULiège)

Lunch (free time)

- 14:00 – 15:00 –> Ground Penetrating Radar (GPR) by Prof. J.A. (Sander) Huisman (FZJ)
- 15:00 – 15:30 –> Crosshole GPR ZOP analysis, ray-based and full-waveform inversion by Msc. Jessica Schmaeck (FZJ)

Coffee break

- 15:45 – 17:00 –> Spectral Induced Polarisation (SIP) by Prof. J.A. (Sander) Huisman (FZJ)

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Photo: Jessica Schmaeck presenting crosshole GPR ZOP analysis. Credits F. Nguyen.

Days 2&3 (10/10 and 11/10), Hermalle-sous-Argenteau, Rue Joseph Bonhomme 45, 4681, Oupeye (Be)

To all ESRs, field work

Trainers:

ULiège: Nolwenn Lesparre (NL), Thomas Kremer (TK), Tanguy Robert (TR), Frédéric Nguyen (FN)

FZJ : J.A. (Sander) Huisman (SH), Jessica Schmaeck (JS), Jan van der Kruk (JK), Egon Zimmermann (EZ)

		ERT (NL&TK)	Borehole SIP (SH&EZ)	Borehole GPR (JK&JS)	Seismic refraction (TR&FN)
Day 2	AM (9h-12h)	G1	G2	G3	G4
	PM (13h-16h)	G2	G3	G4	G1
Day 3	AM (9h-12h)	G3	G4	G1	G2
	PM (13h-16h)	G4	G1	G2	G3

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Photos: From top left, clockwise: Borehole SIP, seismic refraction, borehole GPR, ERT. Credits F. Nguyen

Day 4 (1/2) (12/10), Place du XX Aout, Salle des Professeurs, building A1, 4000, Liège (Be)

To all ESRs, data processing and ENIGMA field summary discussions

- 9h-11h :
  - Expected geology, seismic refraction and electrical resistivity tomography by FN and NL
  - 10h : GPR by JK
  - 11h : SIP by SH

- 11h-12h: H+ database creation by Marie-Francoise Gerard (CNRS Rennes), Annick Battais (CNRS Rennes), ESR Jorge Alvis Lopez (ULiège) and ESR Richard Hoffmann (ULiège)

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Photo: H+ database creation training in the Salle des Professeurs, ULiège. Credits F. Nguyen

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