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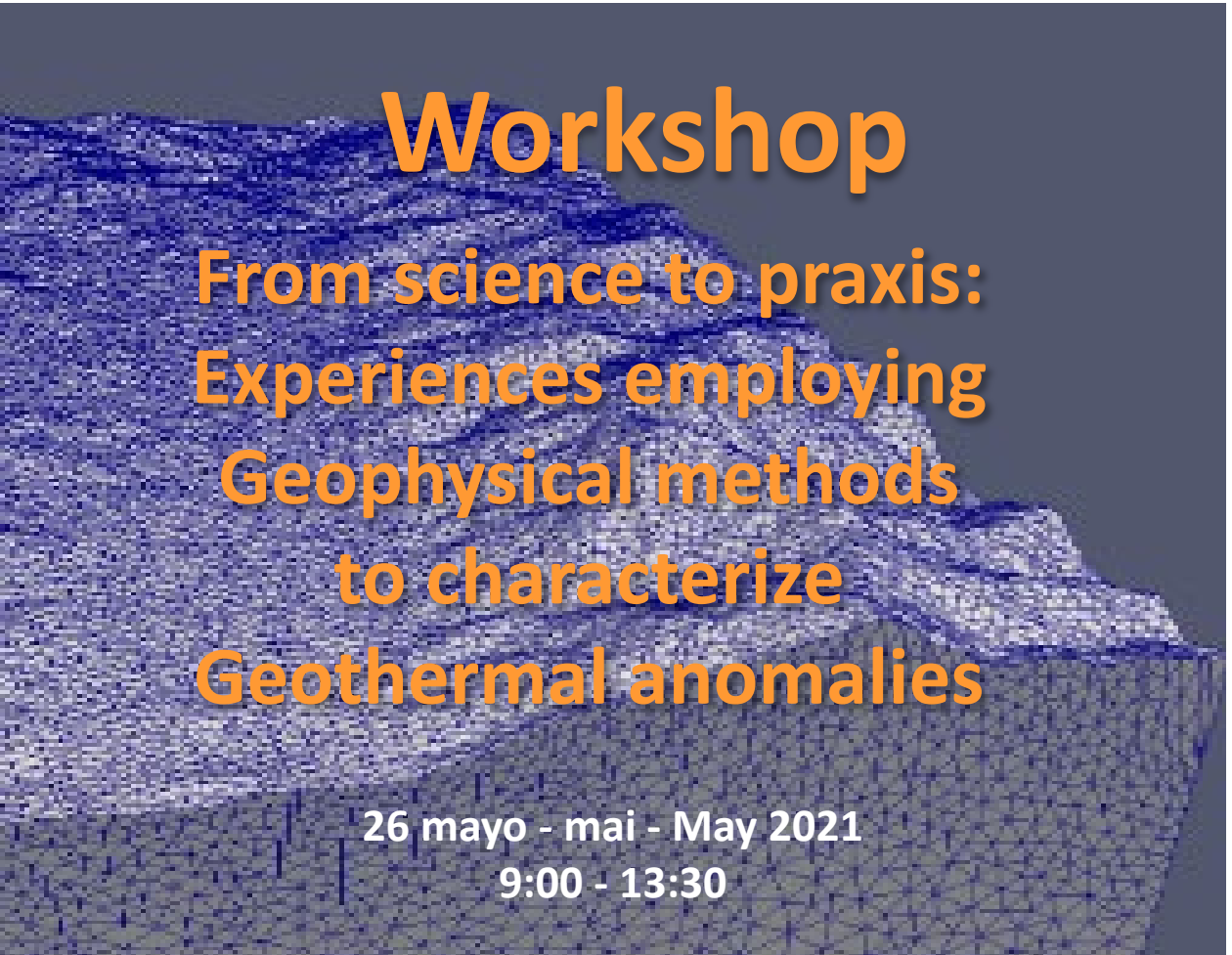

Wrap up and closing remarks

Pilar Queralt

UNIVERSITAT DE BARCELONA

From science to praxis: Experiences employing Geophysical methods to characterize Geothermal anomalies

What?

- **Share** recent advances in geophysical inversion and modelling,
- **Learn** from some practical experiences using geophysical methods to characterize geothermal environments.
- **Exchange** of knowledge and practical experiences
- **Map** the necessities of the geothermal sector in terms of geophysical exploration and usage of inversion codes
- **Discuss** how research institutions can contribute to answer some of the most relevant questions in the industry

Who?

- **Stakeholders** working in the geothermal sector
- **Researchers** working in geophysical methods and/or geothermal problems
- Large, medium, and small **companies** operating in the geothermal sector, especially in the exploratory phase
- **Software companies** marketing inversion and/or imaging tools
- **Administrations** involve in the management of geothermal resources

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1

- **Cases studies** from Italy, France and Spain but also USA, Iceland and Indonesia, **Conventional and Unconventional**

- **Applications of different geophysical methods**,
- mainly seismics, electromagnetics (MT, CSEM) and gravity

- **Different strategies** for joint inversion/integration of these methods

- **Different tools** (commercial and academic software and "my own code")

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- Geophysical methods are **used in any phase of a geothermal project**:1. investigation, 2. drilling stimulation and reservoir assessment, 3. exploitation economic and environmental and social impacts
- **Integration is essential!!** integration of all available data into the **geological model** is crucial, integration with other geophysical methods and joint inversion are the way forward to better characterize geothermal systems, integrate also **geological and geochemistry**
- To build a **conceptual model** fitting the available data and finally and **Integrated Geothermal Model**

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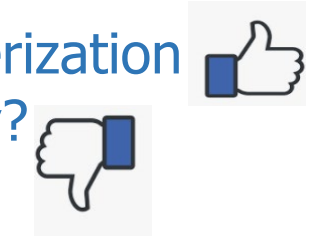
- **Easy/Difficult:**
  Structural elements/Characterization
  Reservoir geometry? Porosity?
  Temperature? Permeability?



- **New approaches:** stochastic, learning algorithms or neural network, Geostatistical geophysical inversion to estimate the petrophysical proprieties.
- Geophysics Industry can do fantastic things, **but** not affordable to Geothermal projects!!!

  → **Frugal** Seismic Concept: Strategies in the equipment, acquisition and processing techniques

- Microseismicity

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but we have still a lot of work to do !!

Congratulations!

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From Puech & Bos presentation

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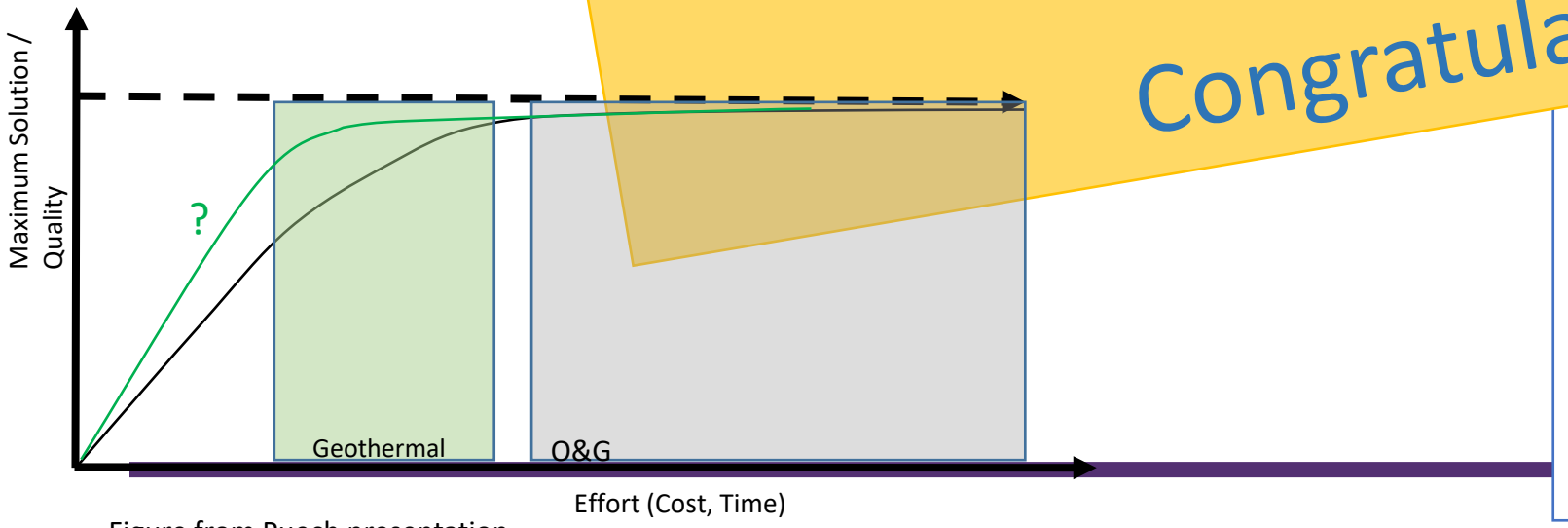

Figure from Puech presentation

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Speakers and attendees, thanks a lot!, thanks for « coming »!!

Thanks Laura, Emilia, Mireia and Juanjo