

RSO Discipline Update: **GEOSCIENCES**

Prof. Kevin Taylor (Manchester University)
Dr Matt Bailey (RWM)

Introduction



Kevin Taylor

- Professor of Geoscience
- Expertise in geochemistry, mineralogy, multi-scale characterisation of mudstones, sandstones and related
- Appointed to the RSO as geoscience theme lead upon RSO formation

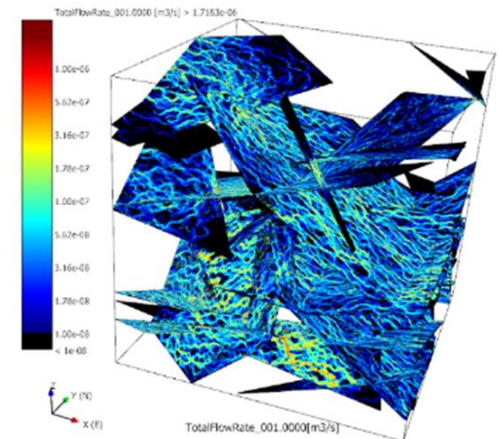
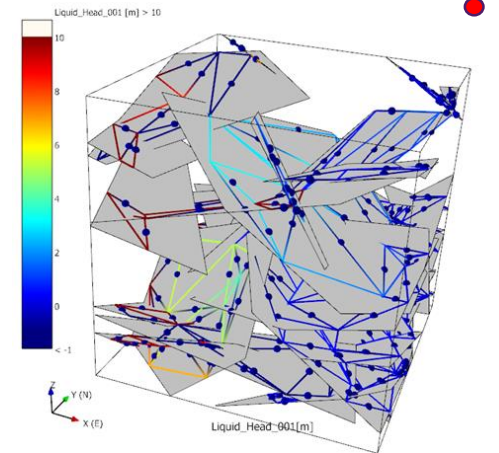


Matt Bailey

- Environmental geochemist, joined RWM in 2017 as Research Manager
- Currently working with industry and academia to build groundwater capability for the GDF programme
- Previously Materials Science SME, before move to geosciences theme in 2021 (working with **Sally Thompson** and **Simon Norris**)

What have we been doing?

Hydrogeology resource study



Hydrogeology resource study

- Collaboration between Manchester University and RWM to map capability in masters-level provision in UK, as well as a lesser focus on research capability, and to investigate the often-assumed capability capacity gap within hydrogeology expertise.
- A stakeholder workshop to discuss the findings and explore priorities for action.

Hydrogeology resource study

Key findings:

- There are MSc Masters Hydrogeology courses in UK delivering ~40 students with core hydrogeology skills each year, with other masters courses (c. ten) which offer introductory level units of relevance.
- It was felt that as such capability is being developed in the wider area, but with less of a focus on GDF.
- No large hydrogeology GDF specific 'research 'groups' identified within academia. Rather, commonly individual academic researchers and their group. This raises the issue of succession and supply lines on the medium to longer-term.
- The stakeholder group were split on the importance of masters training vs PhD training as the best route to maintain the supply chain.

Forward vision

1. **Build geoscience capability and advocacy for the GDF programme**, e.g. via RSO Research in Progress Meetings, guest lecturing and outreach
2. **Develop knowledge base via needs driven research programmes**, e.g. PhD projects via bursary call
3. **Contribute to the development of an LSSR theme** (see separates discussions)

Upcoming opportunities

PhD projects (autumn 2021 call for autumn 2022 start):

- Investigating Diffusivity in Lower Strength Sedimentary Rocks
- Excavation-Disturbed Zone in Clays – Extent, Evolution and Effects on Properties Relating to Groundwater and Gas Movement
- Representing groundwater flow in deep, heterolithic sedimentary sequences