

## Motive, Method and Means: the Why, the How and Data for Repurposing Groundwater Models

16 May 2016

Burlington House, Piccadilly, London W1J 0BD

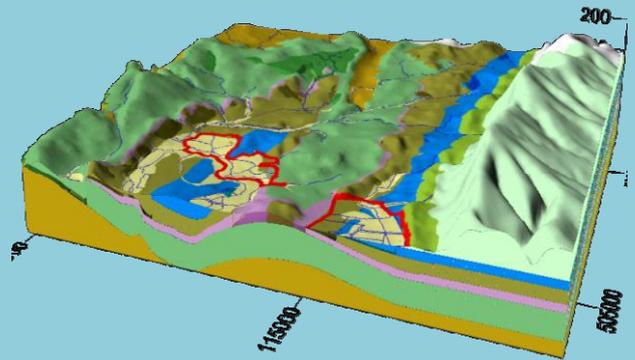
The UK Groundwater Modellers' Forum (GWMF) is organising a meeting which combines the 14<sup>th</sup> GWMF workshop and the National Ground Water Research and Educational Foundation (NGWREF)'s Darcy lecture.

### GWMF Workshop

A large number of regional and local scale groundwater models exist in the UK and increasingly, these are being adapted for application beyond the purpose, scale or time frame for which they were originally intended.

A number of **talks** will consider recent examples of repurposed models being used by the wider UK community. Collectively, they will:

1. provide an overview of the current distribution of models and the motives behind their development;
2. give examples of recent model repurposing; and
3. consider the applicability of models for alternative uses.



Technical aspects of repurposing will be discussed including re-gridding, the use of sub-models, extrapolation beyond initial calibration motivations and repurposing groundwater flow models for bespoke applications. The talks will be complemented by a **Modellers' Fair** which will further showcase studies of how and where model repurposing has been applied.

### Darcy Lecture



The 2016 Darcy lecture will be given by **Professor Ty Ferré** (University of Arizona). It is entitled "**Seeing Things Differently: Rethinking the Relationship between Data and Models**" and will present an integrated overview of the relationships among models, measurements, and decisions. As part of this, it will explore how the practice of hydrogeology (which today largely depends on computer models) and the methods for characterising and monitoring the subsurface have evolved almost completely independently of one another and argue that a unified approach is needed, i.e. designing measurement methods in the context of numerical analyses that address specific scientific and management questions.

The Darcy lecture is part of a lecture series organised by the NGWREF. Attendance at the Darcy lecture is open to all and is free of charge.

### AGM of the Hydrogeological Group of the Geological Society

The GWMF is part of the Hydrogeological Group of the Geological Society and will be hosting the Annual General Meeting during this event. Fellows of the Geological Society are invited to attend.

For further information please contact one of the meeting convenors:

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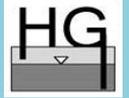


## PROGRAMME

<b>MORNING</b>	0930 – 1000 <b>Arrival &amp; Tea/Coffee - 30 mins</b>
	1000 <b>Repurposing the Environment Agency's groundwater models; new uses for new users</b> (Mark Whiteman, Travis Kelly & Rolf Farrell, <i>Environment Agency</i> ) - 40 mins
	1040 <b>Applying regional models to local problems: using sub-models to improve runtimes and resolution</b> (Alastair Black, <i>Groundwater Science</i> & Adam Taylor, <i>GWMS</i> ) - 40 mins
	Short Break – 10 mins
	1130 <b>Simulating diffuse nitrate pollution using the Environment Agency's regional groundwater models</b> (Geert Schut, <i>Mott MacDonald</i> & Paul Davison, <i>AMEC</i> ) - 40 min
	1210 <b>Using regional models for groundwater in sight: Modelling alternative 'surface' expressions of groundwater</b> - (Mike Streetly, <i>ESI</i> ) - 20 mins The focus of discussion about the Environment Agency's regional groundwater models is often in terms of conventional groundwater-surface water interaction in streams. Whilst this has been an important driver for model development, issues related to other expressions of groundwater at surface have been there from the start and are becoming increasingly important. This presentation reviews these drivers, the technical challenges involved and some of the tools available for tackling them.
	1230 <b>Questions</b> + Instructions for Modellers' Fair– 15 mins
<b>LUNCH</b>	1245 <b>Lunch Break</b> (Please note lunch is not provided for delegates) – 60 mins
	1245 <b>AGM HydroGroup</b>
<b>AFTERNOON</b>	1345 <b>Modellers' Fair (10 mins presentation + 3 mins questions per stand) – 105 mins (incl. break)</b> Semi-Analytic Transport Modelling with Regional Resource Models to Forecast Transient Risk to Supply Wells from DNAPL Sources (Christopher Barry, <i>University of Birmingham</i> ) Using groundwater and catchment models for groundwater flood modelling (Geoff Parkin, Liz Lewis & Ben Smith, <i>University of Newcastle</i> ) The Adaptation of a Simple Groundwater Flow Model to Test Potential Remediation Scenarios (Bridget Plimmer, <i>Golder Associates</i> ) Managed Aquifer Recharge: adaptation of a historical model for a modern use (Victoria Price, <i>Mott MacDonald</i> ) New uses for the Environment Agency's groundwater models of the Thames Basin (Travis Kelly, Environment Agency & Janet Riley, <i>ESI</i> ) <del>Using and refining an existing EIA model to assess mine water supply options (Sarah Shaw, <i>Schlumberger</i>)</del>
	1530 <b>Tea/ Coffee break – 30 mins</b>
	1600 <b>Whitaker medal ceremony – 15 mins</b>
	1615 <b>Darcy Lecture : Seeing Things Differently: Rethinking the Relationship between Data and Models</b> Ty Ferré, University of Arizona – 60 mins
	1715 <b>Questions and Closure – 15 mins</b>
	1730 <b>Wine reception</b>



## 14<sup>th</sup> GWMF Workshop & Darcy Lecture



### REGISTRATION

This meeting is expected to be very well attended so it is recommended that you register early to avoid disappointment. **Places are limited to 85 participants** which will be allocated on a first come-first served basis.

Costs for the meeting are **£87 (Non-fellow)**, **£57 (GeoSoc fellow + retired)** and **£37 (students)**, which includes the Geological Society's online booking fee of £7.

Please note that **lunch is not provided** for delegates but there are various places nearby where lunch can be obtained. All delegate and speakers are invited to join the **complimentary wine/drinks reception** in the Library at Burlington House after the workshop.

Registration and payment for this event must be made in advance. The deadline is **06 May 2016**.

For details on how to register and pay, please visit the Geological Society's web page for this event at

<http://www.geolsoc.org.uk/14th-Groundwater-Modellers-Forum-and-Darcy-Lecture>

All payments must be made through the Geological Society.

If you require more information about booking please contact Georgina Worrall (Email: [georgina.worrall@geolsoc.org.uk](mailto:georgina.worrall@geolsoc.org.uk) / phone +44 (0)207 434 9944).

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