

Editorial

The start of Volume 46 marks the accession of a new Chief Scientific Editor (CSE) as Dr M. (Mike) G. Winter steps down from the post. In recognition of the change, editorials will in future be written as a joint effort between the CSE and one of the three Assistant Scientific Editors (ASE), and editorials will therefore become slightly 'thematic', and the theme for this one is the Hydrogeology content of the journal.

Mike Winter also steps down from the Editorial Board, on which he served for 5 years, including a period as an ASE, before serving for the last 6 years as Chief Scientific Editor. In this 11 year period the journal has gone through changes in style and content, with an increase in the number of papers submitted and a consolidation in statistics of esteem, such as citation indices. While a number of the changes reflect through all the Journals of the Geological Society's Publishing House, such as Online First and developments in Open Access Publishing, Mike Winter's personal stamp as CSE of *QJEGH* has been very clear. All of the Editorial Board Members are sorry to see him go, as he is the source of considerable knowledge and experience through this long service, quite apart from his strength of intellect and character, and the welcome he has always extended to new members of the Board.

This year is the Golden Jubilee of the formation of the Engineering Group of the Geological Society, and *QJEGH* owes its origins to the efforts of a number of the Engineering Group's founder members, most notably Rudolph Glossop, whose name and contribution is commemorated in the Glossop Lectures. Almost all of the Glossop Lectures have been published in *QJEGH*, and volume 46 may well contain more than one as it plays 'catch up' including the 12th Glossop Lecture by the incoming CSE. The Glossop Lectures in the recent past have been very long papers, so hopefully a somewhat shorter one will mean that having more than one this year will not displace too many submitted papers.

Right from the start, and even before 'Hydrogeology' was a part of the full name of the *Journal*, papers on Hydrogeology formed part of its regular content, and now represent a significant part of the content of the *Journal*, both in terms of the numbers of papers published and in their scientific significance. The early contributions became very clear as the entire set of papers from volume 1 No 1 to the present was read to extract the statistics for the paper (Bromhead *et al.* 2012) mentioned by Mike Winter in last year's editorial on the contribution of *QJEGH* to landslide studies, and presented at last summer's International Symposium on Landslides (and 2nd North American Symposium on Landslides). Although the first Hydrogeology paper appeared in Volume 1, it did have to wait until issue No 3! Then as now, the study area was an international one (the Tehran area, to save you looking it up in the Lyell Collection or in paper form). It occurs to us that *QJEGH* needs a strong vision for the future role of Hydrogeology in the *Journal*, and it appears to us that this role is an important and influential one.

It has often been said that Hydrogeology is a mature science, and statements such as that carry the implication that these fields are perhaps lacking in either new ideas or practical innovations. But look deeper, and it is possible to see in a number of recent technological developments that show that there is - both in the UK and further afield - a clear commitment to long term projects that are now setting the groundwork for a healthy future for both applied hydrogeology and groundwater science research.

Over the past few years there has been a veritable explosion in the hydrogeologists tool-kit as new techniques have been borrowed and adapted from other areas of science. There are new methods employing a range of environmental tracers and isotopes to understand groundwater age and provenance (Lapworth *et al.* 2008;



Fig. 1. Edward Bromhead, *QJEGH* Editor-in-chief.

Darling *et al.* 2012a); improved down borehole techniques for real-time visualization of active geological features (Gallagher *et al.* 2012); better parameterized rock properties feeding into faster, scalable computer models (Mansour *et al.* 2011); GIS (Wang *et al.* 2012), remote sensing and enhanced electrical resistivity tomography (Doetsch *et al.* 2012) to name but a few, all contribute to understanding groundwater systems and improved prediction of quality and resource sustainability.

Long term observatory platforms such as the UK's Demonstration Test Catchments provide a controlled infrastructure to better understand dominant catchment processes through traditional applied hydrogeological methods combined with high intensity monitoring. Recent funding calls have specifically targeted the potential of groundwater to support the poor of the world's developing countries, thus highlighting the importance of understanding this resource for many millions of the global population.

Closer to home a number of contemporary problems still provide a challenge for today's hydrogeologists. The provision of drinking water of good status means that nitrate concentrations in the unsaturated zone and pumped supplies continue to be a concern (Goody & Besien 2007). Development of shale gas and the potential for groundwater contamination has stimulated societal debate (Warner *et al.* 2012). In the UK, recent droughts and the potential for a winter of flooding have very much focused public attention on groundwater and its often unseen importance (Darling *et al.* 2012b). *QJEGH* welcomes discussion of similar issues worldwide.

So, although there has ostensibly been somewhat of a transition in groundwater investigations and even a changing of the guard, we see a clear future for hydrogeology with a number of challenges ahead. Hydrogeology is truly multidisciplinary and can continue to grow by learning from the cross-cutting areas of science with which it interacts. Beyond the science, hydrogeology is of significant societal value, posing a major challenge for us all is to ensure that value is realized and understood (Mistear 2013).



Fig. 2. Daren Goody, QJEGH assistant scientific editor (hydrogeology).

The content of Hydrogeology in *QJEGH* has never reached a full and equal balance with Engineering Geology, and we hope that as the decade moves on we enhance our reputation and attract papers, including review papers, that will make Hydrogeologists feel that a proper balance is achieved. We hope to attract papers that will reflect the vibrancy and adaptability there is within the hydrogeological community and the opportunity for discussion that contemporary issues bring.

The year also marks the 50th Anniversary of the tragic Vaiont landslide, commemorated in the cover photograph for volume 46. One or two friends or colleagues of the incoming CSE will know that it was one of his photos, taken in 1988 before many of the trees on the devastated slopes had reached maturity, and from a rickety viewing platform that no longer exists – so that this view is no longer easily accessible. The landslide was, from the very first, the subject of both scientific and political controversy, and these continue to the present day with no sign of the interest abating. In Italy, the scientific and engineering aspects of the landslide will be covered in a commemorative conference held around the anniversary in October of the landslide.

As these words are written, another anniversary of a major Italian landslide is taking place, and that is the coastal landslide at Ancona, which last moved in a major way on the night of the 12th–13th December 1982. This is another landslide where controversy continues, but unlike Vaiont, there were no fatalities. Also unlike Vaiont, the coastal setting of the landslide meant that something needed to be done about it, and eventually, the choice was made to install a state of the art monitoring and alarm system.

The winner of this year's William Dearman award, who will be joining us on the Editorial Board for the coming year is Mr R. L. Terrington. His paper, with contributions from colleagues at BGS, is entitled 'Benefits of a 3D geological model for major tunnelling works: an example from Farringdon, east-central London, UK' (part 4, 405–414).

At the Geological Society Publishing House the challenges of Open Access Publishing, its funding model, and the impact this will have on potential Authors is a subject of some soul-searching, and no doubt, it will cause equal amounts of discussion among those Authors as it does amongst scientific publishers. At the moment, QJEGH complies with Green Open Access standards, which is essentially free to Authors, who may post their final draft to their own websites (although not the version set out by *QJEGH*). Authors must remember that publishing is not a free service, as it relies on a small but dedicated full time group of staff at the Geological Society Publishing House as well as the voluntarily donated services of Board Members and Reviewers. From 1 April papers submitted will also be eligible for Gold Open Access which will allow immediate free online access to the final published version to readers. This will not be a free service to Authors, either from *QJEGH* or its rivals, and the scale of charges will be announced in the coming weeks.

Notwithstanding the challenges ahead, there are matching opportunities, and we feel that especially with papers now in the pipeline for the early issues in Volume 46, that *QJEGH* is well placed to build upon the successes of the previous 45 volumes.

Eddie Bromhead & Daren Goody
Corresponding author
(e-mail Edward.Bromhead@BTInternet.com)

References

- BROMHEAD, E.N., WINTER, M.G., FLOYD-WALKER, H. & HOSSEYNI, M. 2012. The contribution of QJEGH to landslide knowledge: There and back in 45 volumes. In: EBERHARDT, E., FROESE, C., TURNER, A. K. & LEROUILL, S (eds) *Landslides and Engineered Slopes: Protecting Society through Improved Understanding*. London. Taylor & Francis Group, 2, 1475–1481.
- DARLING, W.G., GOODY, D.C., MACDONALD, A.M. & MORRIS, B.L. 2012a. The practicalities of using CFCs and SF6 for groundwater dating and tracing. *Applied Geochemistry*, 27, 1688–1697.
- DARLING, W.G., GOODY, D.C., MORRIS, B.L. & PEACH, D.W. 2012b. The hydrochemistry of a Chalk aquifer during recovery from drought. *Quarterly Journal of Engineering Geology and Hydrogeology*, 45, 473–486.
- DOETSCH, J., LINDE, N., VOGT, T., BINLEY, A. & GREEN, A.G. 2012. Imaging and quantifying salt-tracer transport in a riparian groundwater system by means of 3D ERT monitoring. *Geophysics*, 77, B207–B218.
- GALLAGHER, A.J., RUTTER, H.K., BUCKLEY, D.K. & MOLYNEUX, I. 2012. Lithostratigraphic controls on recharge to the Chalk aquifer of Southern England. *Quarterly Journal Of Engineering Geology and Hydrogeology*, 45, 161–172.
- GOODY, D.C. & BESSEN, T. 2007. Introduction to nitrate in groundwater papers. *Quarterly Journal of Engineering Geology and Hydrogeology*, 40, 333.
- LAPWORTH, D.J., GOODY, D.C., BUTCHER, A.S. & MORRIS, B.L. 2008. Tracing groundwater flow and sources of organic carbon in sandstone aquifers using fluorescence properties of dissolved organic matter (DOM). *Applied Geochemistry*, 23, 3384–3390.
- MANSOUR, M.M., HUGHES, A.G., SPINK, A.E.F. & RICHES, J. 2011. Pumping test analysis using a layered cylindrical grid numerical model in a complex, heterogeneous chalk aquifer. *Journal of Hydrology*, 401, 14–21.
- MISSTEAR, B. 2013. Water, but not on the brain. *Geoscientist*, 23, 1–9.
- WARNER, N.R., JACKSON, R.B., DARRAH, T. H., ET AL. 2012. Geochemical evidence for possible natural migration of Marcellus Formation brine to shallow aquifers in Pennsylvania. *Proceedings of the National Academy of Sciences of the United States of America*, 109, 11961–11966.
- WANG, L., STUART, M.E., BLOOMFIELD, J. P., ET AL. 2012. Prediction of the arrival of peak nitrate concentrations at the water table at the regional scale in Great Britain. *Hydrological Processes*, 26, 226–239.