



# Newsletter March 2013

Issue No. 30

## Editor's Note

Thank you once again to all the contributors to this edition of the IGI Newsletter.

The IGI were saddened to hear of the death of our colleague, George Emo, on February 10th 2013 after a long illness. George was an active member of the geological community and noted for his field skills and inquisitive mind. His skills in rugby were also well known. The large turnout of friends and colleagues from around the country at George's funeral was testament to the man and his life. Our sincere sympathies are extended to his wife Anne, and his three sons. May he rest in peace.



Marie Fleming (Editor)

All Articles to **Marie** at [marie.fleming@arup.com](mailto:marie.fleming@arup.com).

## IGI News

The Nominations Committee has produced a list of the following Candidates to stand for election at the 2013 IGI AGM which will be held on May 21st, 2013 in the Geological Survey of Ireland.

Additional nominations may be made in writing, signed by two (2) members in good standing, consented to by the nominee and delivered to the Secretary by the 8th of April, 2013. Please contact Susan Pyne at [info@igi.ie](mailto:info@igi.ie).

Executive Directors		
<b>President</b>	Gerry Stanley	1 <sup>st</sup> year of a 2 year term
<b>Vice-President</b>	Andy Bowden	1 <sup>st</sup> year of a 2 year term
<b>Treasurer</b>	Paul Gordon	1 <sup>st</sup> year of term
<b>Secretary</b>	Marie Fleming	1 <sup>st</sup> year of term

Non-Executive Directors	
EurGeol Riccardo Pasquali PGeo	3 <sup>rd</sup> year as a Board Member
EurGeol Dr Jim Hodgson PGeo	2 <sup>nd</sup> year as a Board Member
Ms Mairéad Glennon MIT	1st year as a Board Member
EurGeol Dr Peter Glanville PGeo	1st year as a Board Member
Dr Marie Cowan MIT	1st year as a Board Member
EurGeol Catherine Buckley PGeo	1st year as a Board Member

### Nominations Board Members:

- Dr John Kelly (Chair),
- Dr Eibhlin Doyle;
- John Clifford;
- Peter O'Connor;
- Gareth Ll. Jones;
- Kevin Cullen.

## IGI Risk Management in the Geosciences: Principles and Practice

As part of the IGI's commitment to Continuing Professional Development a seminar on Risk Management in the Geoscience took place in the Horse and jockey Hotel on the 17<sup>th</sup> October 2012. There were 17 participants who were treated to an excellent exposé on a wide range of topics related to the subject.

**Part I** of the seminar dealt with some of the principles of risk in a geoscientific framework. At the outset Roger Olsen defined **risk** as "an uncertain future event which could adversely affect the achievement of an organization's objectives" while Tim Joyce later suggested that a **risk** occurs when a hazard and people come together - where a **hazard** is a source of harm. Risk management was introduced as a topic which covered risk identification, mitigation (or control), monitoring and reporting.

Risk can be considered in terms of '**likelihood – impact**' matrices or specifically in the environmental sphere a '**source – pathway – receptor**' paradigm. In the case of environmental risk assessment two scenarios are considered – Human Health (where both cancer and non-cancer risks are taken into account) and an ecological risk assessment is carried out.

Risk assessments can be qualitative, semi-quantitative or quantitative. The likely consequences of the risk largely determine which is performed with a quantitative risk analysis being carried out for risks that are considered to be severe.

Legislation, which in Ireland's case, largely originates from the European Community, has introduced a range of process which assists in identifying various types of risk and the appropriate action to be taken to deal with these risks. Dawn Keating explained Strategic

Environmental Assessment (SEA), Environmental Impact Assessment (EIA) and Appropriate Assessment (AA). The last is sometimes known as Natura Impact Statement (NIS).

**Part II** of the Seminar consisted of the presentation of eight case histories which illustrated the principles outlined above.

A new term was introduced by Mike Schultz, residuals, which now commonly used for what is contained in **tailings management facilities**. Topics covered in the presentation included What are the risks?; some recent impoundment failures; typical deficiencies; short-term risk management; long-term risk management; rehabilitating existing impoundments; closure considerations; and finished with a view to what is likely to happen next.

Roger Olsen reported on a human health and ecological risk assessment for the former mine site at **Avoca**, co. Wicklow. He described the many issues at the site including site safety, water and rock spoil contamination, groundwater diffuse flow and heritage matters. He outlined the proposed remediation plan for the area which addressed all of the issues.

In **hydraulic fracturing** (commonly referred to as **fracking**) Roger Olsen drew attention to a recent EC report on the topic. The main risks include high water usage, chemical usage, lower yields implies greater impacts per unit volume of gas produced, integrity of wells, spillages, site selection, toxicity of chemicals, transport risks, greater land take, air and noise emissions.

The issues relating to **quarries** were dealt with by Sean Moran. Sean referred to the various pieces of legislation which were written for quarrying directly and to those relevant pieces of legislation which cover quarrying such as the Planning Acts and the regulations issuing from them. He advised on issues arising directly from the quarrying activity and to ancillary activities at quarry sites such as asphalt plants.

**Flooding** risk was covered by Tim Joyce who told us that flooding is always a hazard. Tim emphasized that communication is key and that the role of the public is important in addressing flood risk. He also stressed the uncertainties that go with forecasts and the need to explain these to the public – there are no absolutes. Tim also addressed risk from a health and safety point of view as well as from the project management perspective.

Mike Schultz stressed the importance of site investigations prior to the commencement of **tunnelling** as surprises are what cause most the problems. In the tunnelling business the adage is that “the party that is in the best position to control the risk should be assigned the management of the risk”. A risk register (defined as “a tabulation of identified risks and tracking of actions taken to manage each risk”) should be developed and experienced personnel are vital.

Dawn Keating presented on the planned tunnel for the outfall from the **Ringsend waste water treatment facility**. She explained the complex range of issues affecting the location of the outfall and addressed topics from the Geological Site Investigation through the supporting studies to the actual Environmental Impact Assessment process.

In the final presentation Henning Moe spoke about **discharges to groundwater** in the context of the requirements of the Groundwater Quality Objectives (S.I. No. 9 of 2010). Both direct and indirect discharges were discussed, the three tier system of assessment was described and risk mitigation measures.

During discussion, of which there was plenty, the use of language came up several times. For example, the description of an impact as ‘disastrous’ etc. There was no universal response to this.

The presentations and references referred to during the seminar are available to purchase from the IGI Office for €20. Please contact Ms Susan Pyne at [info@igi.ie](mailto:info@igi.ie)

**EurGeol Gerry Stanley PGeo**

## Geophysical Association of Ireland



**Photo: Students gather to hear the benefits of geophysics in the beautiful surroundings of Lough Mask**

On the 2<sup>nd</sup> – 4<sup>th</sup> November 2012 the Irish Association of Economic Geologists (IAEG) and the Geophysical Association of Ireland (GAI) held a joint applied geophysical training course. Thirty-one students and recent graduates took part in the course which took place in the beautiful surroundings of Clonbur, Co. Galway. Overlooking Lough Mask the Petersburg Adventure Centre was home to the students and course leaders over a long weekend and provided a superb base to carry out geophysical surveys in the surrounding area. In particular the Doon Rock Fault which marks the boundary between Lower Palaeozoic rocks to the south and Dalradian rocks to the north and hosts a series of steeply dipping massive graphite conductors provided a perfect opportunity to use different geophysical methods.





**Photo: Students wrapped up before heading out to undertake some geophysical fieldwork**

Friday night was devoted to a series of informal lectures on different geophysical methods and how they can be used for different applications. Topics including magnetics, gravity, electrical methods, seismics and GPR were outlined by Tony Lombard (Apex Geoservices) Yvonne O'Connell (NUI Galway), Richard Unitt (University College Cork) and James Hodgson (GSI). A minerals perspective was given by Mark Patton (GSNI). An evening lecture on Marine Survey Techniques and INFOMAR by Cathal Clarke from the Marine Institute provided further interesting examples of the use of geophysics in a marine context.



**Photo: The exciting world of geophysics is explained**

On Saturday morning both students and course leaders rose early (some earlier than others) to take on a full day's geophysical survey work. Fortunately the weather was terrible allowing the students to experience how to use the

equipment in a variety of conditions including wind, rain, hail and even occasional sunshine. They also learned one of the first rules of geophysics in Ireland – to keep the equipment dry. Students used a variety of different methods including magnetic, electromagnetic, electrical resistivity tomography and seismic refraction profiling. Although cold and wet all were excited to return to Petersburg and start processing and interpreting the data.



**Photo: Students using a CM-31**

On Saturday evening James Hodgson gave a lecture on airborne geophysics and all retired for the night after a good days work.



**Photo: Magnetic surveying**

Further demonstrations of the different equipment were carried out on Sunday morning including trying to find the remains of a buried wall in the grounds of Petersburg using ground penetrating radar equipment.



**Photo: Sheep powered GPR proved unsuccessful**

The weekend was a great success and enjoyed by all and thanks must be given to all the leaders who devoted their time and the enthusiasm and willingness of the students who attended. It is hoped that the course will become a regular event.



**Photo: Final instructions**

The course wouldn't have been possible without the kind sponsorship of the IGI, The Geological Survey of Northern Ireland (GSNI) and the Geological Survey of Ireland (GSI) through the Tellus Border project. We must also thank Apex Geoservices, WaterWise Environmental, GSNI and GSI for the generous use of their equipment.

**EurGeol Dr. James A. Hodgson PGeo**

## IGI/IAH Professional Development Seminar for Hydrogeologists.

This one-day event was run jointly by the IGI and IAH. The seminar was aimed at aspiring and practicing hydrogeologists. It was good to see so many students and early career hydrogeologists present. Bruce Misstear (TCD) kicked off the programme with a talk on hydrogeology education, which covered course options available to Irish students and the threats currently facing the taught masters hydrogeology programmes in the UK. Morgan Burke gave a presentation on the importance of continuing professional development (CPD) for the practicing geologist. He described the advantages of joining the IGI and IAH, highlighting the different roles of these two organisations. This was followed by two interesting talks on CPD within the workplace, given by Donal Daly (EPA) and Catherine Buckley (Arup). The morning session ended with two presentations on topical subjects. In hydrogeology Matthew Craig (EPA) spoke about the recent EPA guidance on discharges to groundwater which aims to help practitioners and regulators achieve the "prevent or limit" objective of the Groundwater directive. Kevin Motherway (EPA) outlined a proposed framework for dealing with contaminated land and groundwater at EPA-licensed sites and for the purposes of land damage under the Environmental Liability directive.

After lunch David Ball gave an impassioned talk on the importance of site supervision for the hydrogeologist (indeed, much of the talk would have been relevant to other branches of geology). This was followed by three presentations linking hydrogeology to the legal profession. Firstly, Yvonne Scannell (TCD) described the importance of EU law in Ireland, where to find the law, how to interpret it and the main sources of law relevant to hydrogeologists. Then Rory Mulcahy (Barrister) outlined the duty



of the expert witness by reference to established principles and how the application of those principles affects the manner in which the expert, barrister, client and tribunal interact. Finally, David Ball spoke about his experiences as an expert witness. A useful discussion concluded the day. Feedback was very positive (with 96% of the questionnaire responses rating the presentations as “excellent” or “very good”). Although the theme of the seminar was hydrogeology, this format potentially could be applied to other branches of geology if there were sufficient interest from IGI members.

**Bruce Misstear**, PGeo, CGeol, CEng, FTCD.

### IGI helps to sponsor the inaugural Tanzania Young Scientists Exhibition

Last year, in January 2012, two IGI Board members volunteered a few hours to help out at the ‘Geology’ stand at the BT Young Scientists Exhibition at the RDS. There they met a group of Tanzanian people with Irish facilitator, Brendan Doggett, who were on a fact finding mission in Dublin, as they were planning to emulate the Irish YSE in their home country with the support of Irish Aid. Through a subsequent link with Brendan, the IGI were delighted to make a small donation on behalf of our membership to support the development of the YSE in Dar Es Salaam.

Lo and behold, at this year’s 2013 YSE, there were the proud young scientists from Tanzania, who had won top prize at their inaugural event. Their project dealt with nitrates run-off from industry in potable surface water supplies and said “science has a vital role to play in helping their developing society”.

The IGI hopes to continue this link to stimulate young Tanzanians to consider a career in earth sciences.



*Photo from the RTE website [www.rte.ie](http://www.rte.ie)*

### BT Young Scientist's Exhibition



The BT Young Scientist & Technology Exhibition took place for the 49<sup>th</sup> time this year, running from Wednesday the 9<sup>th</sup> to Saturday 12<sup>th</sup> of January in the RDS. The exhibition itself is the final stage in the competition which is open to all second level students from Ireland, both North and South. As well as the 550 student projects on display, there are a further four exhibition halls filled with science and technology based exhibits and entertainment, making it a thrilling event for those who enter and for general visitors too.

The Geosciences were well represented at the BTYS Exhibition with the Geological Survey of Ireland (GSI) hosting a large stand.



The IGI is keen to engage with young scientists who may be considering geology as a career. Two members of the IGI Board joined the GSI's 'Geology' Stand to chat to enthusiastic students and hopefully encourage more students into geological careers.



The GSI sponsored a Special Award to the project that best demonstrates the use of new geological data. The award was won by Tom McDonald and his project title is:  
"Predicting changing sands on Skerries South Strand".

(<http://www.gsi.ie/News/GSI+Prize+at+BT+Young+Scientist+and+Technology+Exhibition+2013.htm>)

## Geotechnical Society of Ireland: Forthcoming Event

### Designing and constructing the Autoroute 30 in Canada

**Alan Phear (Arup) and Paul Quigley (Arup)**  
Thursday, 6:00pm, 18<sup>th</sup> April 2013  
Engineers Ireland, 22 Clyde Road, Dublin



The A30 Montreal project consists of 42km of highway includes 31 bridges totalling some 7km in length, and a tunnel. It completes the city's south orbital road, allowing traffic to bypass the centre of Montreal. The ground conditions included extensive deposits of up to 26m of soft, sensitive clays. This talk will describe some of the geotechnical challenges and solutions used and also some insight into road design and practicing engineering in Canada from overseas.



Alan Phear is an Associate Director with Arup and is based in Solihull, UK. Alan is one of Arup's leading technical specialists on earthworks with 29 years' experience of the design and construction of road and rail projects.

Paul Quigley is a Chartered Engineer with Arup in Dublin and Chairman of the Geotechnical Society of Ireland. Paul specialises in soft ground problems and has worked on a number of challenging projects in Ireland and elsewhere.



Paul Quigley Chartered Engineer (Arup)

**Further Details:**

[www.engineersireland.ie](http://www.engineersireland.ie)

## Initial Findings of Tellus Border Project Revealed



The Tellus Border project is an EU INTERREG IVA-funded mapping project that involves the collection of geoscientific data on soils, sediments, waters and rocks across the six border counties of Ireland (Donegal, Sligo, Leitrim, Cavan, Monaghan and Louth) and the integration of these with existing data collected in Northern Ireland as part of the Tellus project

in 2007. The Geological Survey of Ireland is a partner in this cross-border initiative, which is led by the Geological Survey of Northern Ireland in Belfast. After the successful completion of the geophysical and geochemical surveys in summer 2012, the three-year project is now in a data interpretation and mapping phase ahead of completion in December 2013.

Preliminary data has been already been released, with a data launch event on 5<sup>th</sup> February 2013 in the Davenport Hotel, Dublin. The event unveiled preliminary geophysical and geochemical data as well as a bespoke online Tellus Border data viewer which enables stakeholders to easily access the free data. Minister for Natural Resources, Mr. Fergus O'Dowd, T.D., spoke on the day to over 80 stakeholders from central and local government and the research, environmental, agriculture and mineral exploration sectors, saying

***"The maps released today represent a significant body of work which characterises in great detail the geology and environment of the border region. Sustainable environmental management not only protects our environment but supports many sectors of the cross-border economy including agriculture and tourism".***

The airborne survey data has revealed extraordinary new detail to regional geological features which extend throughout the border region. New information on subsurface structures such as faults and igneous dykes is already helping to improve and update the Geological Survey of Ireland's existing geological maps, which support sustainable planning countrywide. The launch event also saw a preview of the geochemical data, which is revealing important natural and man-made influences on the soil and water chemistry of the area, significant for managing the environment and optimising agricultural productivity on a cross-border basis. Maps for forty seven elements in topsoil are currently available to view; while soil, water and sediment



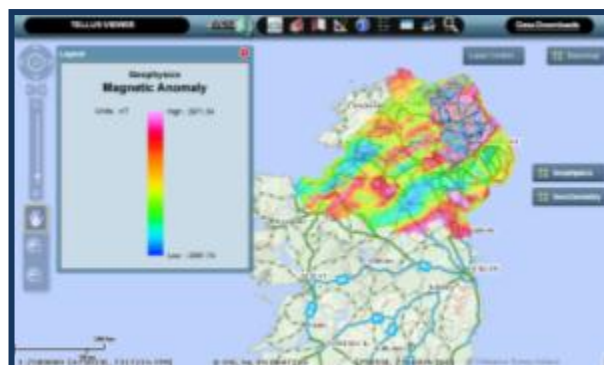
geochemical data will be released for download later in 2013 following continuing quality checks and interpretation. Ray Scanlon, Acting Principal Geologist and manager of the Tellus programme at the GSI, said the Tellus Border team was pleased with the early release of the data:

***“We’re delighted to be able to deliver this data to our stakeholders some 10 months before the end of this phase of the project in December 2013. The early release of the airborne geophysical data and the preview of the geochemical data will allow researchers, planners, environmental managers and mineral exploration companies to start using the data from this flagship project straight away for the benefit of the environment and the economy”.***

A conference will be held in October 2013 to present the full findings from the survey and accompanying academic research projects. To register for notifications for upcoming data releases, please email your details to [tellusborder@gsi.ie](mailto:tellusborder@gsi.ie).



**Pat Colgan, CEO Special EU Programmes Body; Dr Marie Cowan, Tellus Border Project Manager (GSNI), Minister for Natural Resources Fergus O'Dowd, T.D., and Koen Verbruggen, Director GSI view the newly released Tellus Border data on 5th February 2013.**



The Tellus Border viewer, available online at [www.tellusborder.eu](http://www.tellusborder.eu)

**Mairead Glennon, Tellus Border project,  
Geological Survey of Ireland**

## EPA releases

To coincide with World Wetlands Day **EPA Research has just published: STRIVE 100: Evaluating the influence of groundwater pressures on groundwater-dependent wetlands** This full report is available on the EPA Website: [http://www.epa.ie/downloads/pubs/research/water/STRIVE\\_100\\_web.pdf](http://www.epa.ie/downloads/pubs/research/water/STRIVE_100_web.pdf)

This research will influence policy in the Water Framework Directive Area (WFD).

Researchers in Trinity College Dublin (TCD):

1. Dr Sarah Kimberley [kimberls@tcd.ie](mailto:kimberls@tcd.ie)
2. Dr Catherine Coxon [cecaxon@tcd.ie](mailto:cecaxon@tcd.ie)

### Summary:

The chemical and quantitative status of groundwater bodies must be classified as either good or poor to meet the requirements of the EU Water Framework Directive (WFD). The classification process involves a series of tests, one of which relates to groundwater-dependent terrestrial ecosystems (GWDTes). The EPA commissioned research in this area

to contribute to the development of chemical and quantitative status tests for GWDTEs. The published report recommends the following (some of which EPA have already started implementing on foot of this research).

- The key recommendation is that the EPA and NPWS agree on a priority list of GWDTE types for determining GW nutrient Threshold Values (TV) and GW level standard development for the next WFD River Basin Cycle.
- The main conclusion of the research is that currently available data for GWDTEs are insufficient for determination of scientifically robust nutrient threshold values (TV) for calcareous fens.
- The main knowledge gaps hindering the development of chemical and quantitative tests for Irish GWDTEs are the lack of (a) reliable information on the spatial extent of some GWDTE types; (b) reliable information on the ecological condition of GWDTEs and (c) monitoring of GW Quality and GW level and/or flow within GWDTEs and their associated zones of contribution.
- Baseline surveys are also recommended to confirm the presence, extent and ecological condition of some GWDTE designated for conservation. Groundwater nutrient data should be collated from the monitoring network, or collected from installed boreholes, for sites representative of good and poor ecological conditions in order to generate a reliable dataset for TV development.

The EPA personnel involved in the project included Matthew Craig and Lisa Sheils. Aine O' Connor from National Parks & Wildlife Service (NPWS) and Johan (Hans) Schutten from the Scottish EPA (SEPA) were also members of the steering committee.

## Irish Geological Research Meeting 2013

The University of Ulster's Magee campus in Derry played host this year for the first time to the 56th Annual Irish geological research meeting. Approximately 120 delegates from universities, government agencies, local societies and associations attended over the three-day event. The meeting allows both students and senior researchers to inform the wider geoscience community about their on-going research. A total of 43 oral and 39 poster presentations were given, all of a high quality. Delegates heard a wide range of talks covering all aspects of geoscience from the geochemical signature of granites, microseis noise associated with volcanoes, earthquake seismicity, geothermal exploration, fault analysis, characterisation of deep-water deposits, the genesis of ureilite meteorites and the naming of Neanderthals to name but a few.

Two guest lectures were given by Jan Zalasewicz (University of Leicester) on the Anthropocene: a new chapter in Earth history and by Gerald Roberts (Birkbeck University) on earthquake recurrence with a focus on Italy. Both provided much debate and lively discussions over the wine receptions hosted by the Mayor of Derry and at the conference dinner at the Tower Hotel.

The IGI is delighted to help co-sponsor this meeting as it provides a unique opportunity for all aspects of geoscience to be discussed in one place. In particular a geophysicist like me can learn about fossils that I cannot pronounce or the role of oxygen isotopes in the determining the ages of Neolithic passage tombs. The meeting is also a great opportunity for students, often for the first time, to present their data and face questions of their work from a variety of sources and knowledge. For those of us long passed our student days it provides an occasion to meet up with old friends and to find out what is happening in the earth sciences in Ireland.

Thanks should be given to John McCloskey and Shane Murphy of the University of Ulster for their hard work in organising this excellent event and for being such good hosts.

It is great to see the IRGM go from strength to strength and I personally hope to attend many more in the future.

**EurGeol Dr. James A. Hodgson PGeo**

## **Irish Mining & Quarrying Society (IMQS)**

### **Sean Finlay elected President of the Irish Mining & Quarrying Society**

**8th March 2013:** The Irish Mining & Quarrying Society has elected Sean Finlay as its President at the Society's AGM held recently in Dublin. Sean is Director of Business Development for Geoscience Ireland. Siobhán Tinnelly, Associate, Tobin Consulting Engineers has been elected Vice-President.

Founded in 1958, the IMQS is the leading representative vocational body representing all aspects of the extractive industries in Ireland. It provides a forum for a wide range of participants-geologists, surveyors, engineers, suppliers, environmental scientists, equipment manufacturers and proprietors- to improve knowledge and understanding of the industry.

Speaking at the AGM, Sean Finlay said: "The programme for 2013 for the IMQS will support geology and mining heritage events for "The Gathering" which aim to attract visitors to the rich historical tradition of Irish mining. These include a Vale of Avoca Welcome Week; Castlecomer Underground; Allihies Connect and a Conference in Glendalough on historical mining landscapes.

I am very pleased to note the election of Siobhán Tinnelly as the first woman Vice President of IMQS this year and I hope, as President in 2014. Siobhan has served as an exceptionally effective council member and Honorary Secretary to IMQS since 2008."

There are four new Council members for the Society in 2013: Alan Dolan of Boliden Tara Mines; Mark Galvin of Bennetsbridge Limestone; Keith McGrath of

McGrath Limestone Works; and Phil Morrissey of Dan Morrissey Ireland.

"At a time when the quarrying sector in particular is experiencing possibly the harshest trading conditions ever encountered, it is encouraging that younger members of the Society are prepared to step up to support the industry," said Finlay.

### **Irish Mining & Quarrying Society (IMQS) - Council for 2013**

**President** - Sean Finlay

**Vice – President**- Siobhán Tinnelly

**Past President** - P.J. O'Donnell

**Treasurer** - Les Sanderson

**Secretary** - Siobhan Tinnelly (pro tem)

### **Council Members; (\* represents new member)**

#### **Quarrying;**

Mark Galvin\*

Ronan Griffin

Keith McGrath\*

Phil Morrissey\*

#### **Mining;**

Alan Dolan\*

Mick Flynn

Mike Lowther

#### **Environment;**

Brendan O Reilly

Issued on behalf of the Irish Mining & Quarrying Society by Heneghan PR

### **Enquiries**

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## European Federation of Geologists (EFG)



A special issue of the European Geologist magazine on "Hydrogeology" will be published in May, having received more article proposals than they can publish in the usual format of the magazine.

Therefore, they are seeking advertisers for this issue who can help finance the regular format of the issue, but who might also support the copy editing of additional submissions we received and which could at least be published online. Issue 35 will be a publication relevant to professionals and companies active in the field of hydrogeology. For this reason they would like to offer the opportunity to companies directly or indirectly active in hydrogeology to publish their advertisements in the EFG magazine.

EFG proposes various options for advertisement, in a range from 90 to 2500€. The prices are as follows:

<b>EUROPEAN GEOLOGIST MAGAZINE</b>	Full page colour (Price for one issue/per year)	820€	1320€	
	Half page colour	420€	670€	
	Quarter page colour	220€	350€	
	Full page b&w	420€	670€	
	Half page b&w	220€	350€	
	Quarter page b&w	120€	200€	
	Business card size	90€	150€	X
	Preferential location	+25%		
	Outside back	1200€	1900€	

	cover colour			
	Second page colour	1000€	1600€	
	Second last page	1000€	1600€	
<b>GEONEWS</b>	Ad at the bottom of the newsletter and regular newsfeed	1300€		X
<b>EFG HOMEPAGE</b>	Advertisement column on the right hand side of the homepage and regular newsfeed	1300€		X
<b>UNIVERSITY AD</b>	Ad for training opportunities in the job area of the homepage	500€		
<b>PACKAGE</b>	Business card size ad in the EGM, GeoNews and Homepage.			2500€

Follow up/Reference:

<http://www.eurogeologists.de/>

## Book Review



Please submit your book reviews to [marie.fleming@arup.com](mailto:marie.fleming@arup.com).

## Conferences

### IAH Annual Groundwater Conference

The Irish Group of the International Association of Hydrogeologists (IAH) are pleased to invite you to join us at our forthcoming annual groundwater conference which will be held at the Tullamore Court Hotel on the 23rd and 24th April 2013.

The conference theme this year is 'Groundwater and Catchment Management'.

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### Exploration, Resource and Mining Geology Conference 2013: "Getting it right from the Outset" –GSL/ AusIMM

21-22 October 2013, Cardiff, Wales UK

Links to the conference website and flyer can be found below: <http://www.ermg2013.com>

[http://www.ermg2013.com/docs/Explorationx\\_Resource\\_x\\_Mining\\_Geology\\_2013\\_ADVERT.pdf](http://www.ermg2013.com/docs/Explorationx_Resource_x_Mining_Geology_2013_ADVERT.pdf)

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### The Gathering 2013-Events



**Vale of Avoca Welcome Home Week. 24th-30th May 2013.**

Includes re-enactment of 200 years of mining on 29th May 2013.

**Dig Deep Castlecomer Underground. 26th July – 4th August 2013.**

A community celebration of the unique history of

Castlecomer and its Coal Mining heritage. Tel. 087 6979264.

**Symposium 2013 OU Geological Society. 9th-11th August 2013.**

The Open University Geological Society in Ireland are welcoming fellow members from all over the U.K. and Europe to Symposium 2013, to be held in Dublin City University. We plan to introduce our visitors to those doing exciting research on Irish geology.

**Allihies Connects. 12th-15th September**

**2013.** Includes illumination of man engine house of the chimney, miners clan gathering, story tellers and event in the mine workings. Tel. 027 73218.

**The Forgotten State of Industry? Irish Industrial Landscapes and Heritage in a Global Context, 17-19 October 2013.**

This is an exciting two-day International Conference taking place in the Glendalough Hotel, Co. Wicklow, gathering together speakers and audiences from across Europe and beyond. It will be an opportunity to share experiences of managing and presenting our historical industrial landscapes (including mining landscapes) which are often poorly understood and vulnerable as a result. Conference to be held as part of the 'Metal Links: Forging Communities Together' Project by the Glendalough Mining Heritage Project with assistance from the Mining Heritage Trust of Ireland. Contact: <mailto:dburns@wicklowcoco.ie> and [www.facebook.com/glensoflead](http://www.facebook.com/glensoflead).

## IGI Subscriptions

Thursday, 28th March, 2013, is the last day for payment of IGI subscriptions. Members who haven't paid by that date you will no longer be considered to be in good standing.

The fees are:

**Professional member - €145.00**

**Associate Member, MIT or Retired Member - €35.00**

**EurGeol. - €28.00**

Fees may be paid by PayPal, credit card, cheque, EFT or even cash!

All 2012 CPD forms should be submitted prior to Friday 26<sup>th</sup> April 2013. All CPD forms will be acknowledged, however in the event you do not receive an acknowledgment please contact the IGI Office on [info@igi.ie](mailto:info@igi.ie).

## News of Members

Congratulations to EurGeol Catherine Buckley PGeo and husband Andy Day on the birth of their son Nathan.



**Photo:** Potential Future Hydrogeologist Nathan

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### **New Professional Members (PGeo):**

- Deirdre Larkin
- David McDermott
- Roy Coates
- Karel Maly

...

### **New Members in Training (MIT):**

- Keith Byrne
- Denise Taylor
- Marie Cowan

## Photo-File



**Lough Gur in beautiful County Limerick**  
**Photo submitted by Marie Fleming**

Please send a favourite geo – or environmental picture to this spot.

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### **Newsletter published by:**

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