

INSTITUTE OF GEOLOGISTS OF IRELAND



2012 - 2013

ANNUAL REPORT

and

FINANCIAL STATEMENT

MISSION

To promote and advance the science of geology and its professional application in all disciplines, especially the geosciences and to facilitate the exchange of information and ideas in relation thereto.

To require its members to uphold, develop and maintain the highest professional standards in the practice of their profession, as described in the Company's Code of Ethics and Conduct.

April 2013



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1 PRESIDENT'S REPORT

IGI Board 2012-2013

As the end of my Presidential term approaches, I have been reflecting on the role and the ongoing requirements for the development and recognition of our profession. The past two years have been extremely busy and rewarding, and we have managed to achieve a few major milestones in the Institute's development. I would like to sincerely thank the members of the Board, who continue to work voluntarily on behalf of our membership, in particular, Vice President Gerry Stanley; Honorary Secretary Jonathan Derham; Treasurer Barry Balding and Board Members Andy Bowden, Marie Fleming, Ric Pasquali, Bruce Misstear, Paul Gordon and Jim Hodgson, respectively.

Susan Pyne and Ethel Stringer have continued to support the Administration and Accounting functions, while Eamonn Kelly, as Webmaster, has continued to update and build our website www.igi.ie – many sincere thanks to them.



The IGI Board and Office Staff 2012-2013

L-R: Ethel Stringer, Jonathan Derham, Jim Hodgson, Marie Fleming, Deirdre Lewis, Barry Balding, Paul Gordon, Ric Pasquali, Susan Pyne, Gerry Stanley (*absent from photo, Bruce Misstear*)

The IGI welcomes the continued support of our sponsoring bodies, the Irish Mining & Quarrying Society (IMQS), Geophysical Association of Ireland (GAI), Geotechnical Society of Ireland (GSI), Irish Association for Economic Geology (IAEG) and the International Association of Hydrogeologists (Irish Group; IAH). Also, we are indebted to SLR Consulting and Golders for hosting monthly meetings and the Geological Survey of Ireland (GSI) for hosting the annual AGM. These supports play a critical role in the sustenance of the Institute's affairs.

The Institute has left its long-standing base this year, as the UCD School of Geological Sciences happily expands its teaching and research facilities, and we thank UCD for its

years of support in hosting the IGI office. The IGI is actively exploring a number of options for the location of the new office, and we look forward to resolving this matter in the very near future.

Many of our members actively contribute to the IGI's work, through the Standing Committees and Working Groups in the varied fields of accreditation and validation; ethics and disciplinary matters; development of technical guidelines and policy; corporate governance; European and international affairs; public advocacy and outreach, for which support the Board is extremely grateful.

Highlights of 2012-13 Term

On the international front, the Board is delighted that in March 2013, the IGI concluded our **Mutual Recognition Agreement (MRA)** with our colleagues in *Geoscientists Canada*, following lengthy due diligence procedures by both parties on geoscience education, codes of conduct and continuing professional education (CPD), as well as mutual fast-tracking arrangements for membership of the corresponding organisation. We plan to host a formal 'signing ceremony' in early May 2013, when the President of *Geoscientists Canada*, Professor Greg Finn, will be visiting Ireland, to mark this major milestone for both organisations. Our MRAs with the UK, South Africa, USA and Australia continue to operate successfully. The importance of maintaining these MRAs, based on continuing professional development (CPD) and ethically good professional practice cannot be underestimated, given the international nature of geological practice and the mobility of IGI's membership.

A major review of the **IGI's Articles of Association** was undertaken this year, following discussions at the 2012 AGM. The review set out to ensure consistency of the original articles coupled with voted changes in articles over the past thirteen years at AGM time; due to progressive changes, some articles were anachronistic, while others were contradictory. It was agreed by the Board to approve and update the layout of the Articles of Association to provide clarity and consistency, without changing the essence of the founding articles. A draft version of the proposals will be circulated for perusal in advance of the May 2013 AGM, and will be presented to the membership at the AGM for discussion and approval.

Another major achievement of the year has been the finalisation of the revised IGI, entitled '**Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements**'. A voluntary Working Group, chaired by Catherine Buckley PGeo, was established to devise a new risk-based methodology for the consideration of a range of geosciences in EIS, reflecting major changes in Irish and EU legislative, technical and environmental requirements since the previous IGI Guidelines were published in 2002. The underlying principle is that the revised Guidelines could inform both our members and also planners. Following significant expert feedback, the Guidelines are now complete and ready for publication. Our sincere thanks to the members of the Working Group for their commitment and diligence in delivering this complex piece of work.

In September 2012, the Environmental Protection Agency (EPA), in response to evolving EU requirements, sought clarification on the expertise of professionally qualified geoscientists (PGeo) to carry out hydrogeological assessments of historical landfill sites. The IGI, in response, convened an expert Working Group chaired by the President, which canvassed our membership to self-nominate those with the requisite qualifications and experience to be entered to a dedicated register of '**Professionally Qualified / Competent Persons to carry out Hydrogeological Assessments at Historical Landfill or Contaminated Sites**' – or '*The IGI Landfill Register*'. Each nominated candidate was vetted via rigorous assessment and defined procedures by the Working Group to validate the first batch of proposed candidates by December 2012. This has resulted in c. twenty-nine professionally qualified IGI members (PGeo or mutually recognized equivalent such as CGeol)) being entered to the 'Landfill Register' by April 2013. The Register is currently updated on a monthly basis to

facilitate new entrants, and will be updated on a quarterly basis from 2014 onwards. Only those who have been so validated and in receipt of an official IGI letter of verification, may work on behalf of the local authorities and EPA in hydrogeological assessment of historical landfill sites in Ireland.

Unfortunately, some nominated candidates, who are active members of the IAH and who have the requisite experience, cannot be entered to the 'Landfill Register' as they are not members of the IGI (or mutually recognised equivalent such as Geol. Soc. London), and thus are not 'professionally qualified' (PGeo, or mutually recognised equivalent e.g. CGeol). We would urge such candidates to apply for membership of the IGI forthwith. See <http://www.igi.ie/cpd-and-training.htm> for details on how to join the 'Landfill Register'.

The **Irish Geoscience Network (IGN)**, convened by the IGI, was formed in early 2012 to provide a unitary forum for communication and sharing of ideas and resources, and a *Geo-Calendar of Events* http://www.igi.ie/events_calendar.htm has been established to co-inform planning and promotion of events. Our second annual meeting was held on 13th February 2013, with executive representatives from IGI's five sponsoring bodies (IMQS, IAEG, IAH, GAI, and GSI), and the Irish Geological Association (IGA), Earth Science Ireland (ESI), Royal Irish Academy Geosciences Committee (RIAGC), Mining Heritage Trust of Ireland (MHTI), Irish Quaternary Association (IQUA), Speleological Union of Ireland (SUI), and Geothermal Association of Ireland (GAI). Members of the Geological Survey of Ireland (GSI), Geological Survey of Northern Ireland (GSNI) and Museum of Natural History (MNH) were also in attendance. Each of the four main geology teaching universities (UCD, TCD, UCG, UCC) was also invited to participate, as well as the Soil Science Society of Ireland (SSSI).

This year's IGN forum discussed matters of advocacy, course accreditation, events planning and potential administrative support for the smaller voluntary bodies by an expanded IGI function. We reviewed successful outreach models in Northern Ireland and will be working to develop such an approach in ROI. Geoscientific matters of current public interest, such as pyrite in aggregates and hydraulic fracturing 'fracking', require to be addressed scientifically in the public domain with a more unified approach. The IGN may examine more active engagement of IGI and IGN members as development / outreach volunteers.

Continuing Professional Development (CPD): As part IGI's ongoing commitment to CPD, three well-attended technical courses were held during the current term on *Risk Management in the Geosciences: Principles and Practice* (Tipperary, October 2012); *Professional Development Seminar for Hydrogeologists* (TCD, November 2012, aimed at aspiring as well as practicing hydrogeologists and run jointly by IGI and IAH; and finally, a weekend field course on *Applied Geophysical Training* (Galway, November 2012), run jointly by the GAI and IAEG, with field sponsorship by the IGI. The courses were very well attended, and a spectrum of courses reflecting the multi-disciplinary requirements of our members is planned through 2013/14. These courses are voluntarily organized by our Board members, to whom I am very grateful, and also to the many presenters for their informed contributions. Further details on each course are presented later in this report, and relevant course presentations are available on the IGI website at <http://www.igi.ie/cpd-and-training.htm>.

IGI Representation: IGI members continue to represent the Institute at regular consultative meetings of the Geological Survey of Ireland (Bruce Misstear), Geological Survey of Northern Ireland (John Kelly), and the Royal Irish Academy Geosciences Committee (Deirdre Lewis). Paul Gordon represents the IGI on the PERC Committee at European level.

The IGI continues to be an active National Association Member, as well as a National Licensed Body Member, of the European Federation of Geologists. The IGI is represented at the European Federation of Geologists by Andy Bowden and Marie Fleming, who have actively contributed to recent discussions concerning policy development, memberships,

engagement with the European Commission, as well as attending EFG meetings in Europe throughout the year. Thanks must also go to Gareth Ll. Jones and Piers Gardiner who continue to offer their expertise to the Board on all matters European.

The IGI was represented by Marie Fleming at the Round Table meeting of the European Geosciences Union, a convening of the national geoscientific societies of Europe, at the General Assembly of the EGU in Vienna in April 2012 and again in April 2013.

As President of IGI, I was invited to chair the opening session at the 'Safe Cities' conference in Dublin Castle on 18 April 2012, pertaining to case studies from Europe in data management, groundwater, flooding control, contaminated lands, the SURGE project and related topics, in celebration of Dublin as EU City of Science 2012.

As President, I also participated, on behalf of IGI, in the *Introduction to the News Media for Ireland's Geoscientists* event, which was held in the Royal Irish Academy on 17 May 2012.

Website: The IGI website www.igi.ie continues to provide information to the membership and promote the Institute and its objectives. In particular, this year we have developed a shared *Calendar of Events* for all-island Ireland geological events and sister geo-organisations are asked to send details of upcoming events/ field trips/ lectures / courses to webmaster Eamonn Kelly at ekelly@slrconsulting.com. As mentioned above, this should be a useful planning tool for geo-organisations to avoid clashing of events.

Newsletter: The IGI publishes its quarterly Newsletter with articles and news on topical geological items of interest to the membership. Significant thanks must go to the outgoing editor, Marie Fleming, who has continued this vital communication with membership for the past few years. Articles are always welcome and can be submitted to the upcoming Newsletter Editor (to be advised following the May 2013 AGM)

Outreach: Marie Fleming volunteered to join the GSI/ GSNI's 'Geology' Stand at the BT Young Scientist Exhibition in January 2013 to meet and interact with second level students. As ever, this was a fun-filled, high energy day and hopefully some of these budding scientists will join the ranks of the IGI in years to come.

Advocacy: The IGI continues to advocate on behalf of its members. In 2012-13, the IGI made written submissions on the following:

- National Consultation Paper on Contaminated Lands/Groundwater.
- National Consultation Paper on Establishment of a Public Water Utility
- Guidelines for National Geothermal Resource Characterisation
- EPA Terms of Reference on Research into Hydraulic Fracturing

The IGI issued a press release following the publication of the official report by the 'Pyrite in Aggregates Panel' to the Minister for the Environment, Community & Local Government in July 2012. The report commented on the lack of training at university level for engineers on the issue of pyrite in aggregates, while the report almost entirely overlooked the role of geoscientists. The IGI press release asserted that geoscientists receive significant petrographical training at third level, and could validly contribute to the assessment of suitability of aggregate sources. As it turns out, civil engineering students in UCD also receive petrographical training on assessment of aggregates through the School of Geological Sciences, a matter that was also overlooked by the report of the Panel.

In the event, IGI members John Kelly, Billy O'Keeffe and Gerry Stanley, are active on two of the National Standards Authority of Ireland (NSAI) inter-disciplinary panels pertaining to Pyrite in Aggregates, to produce agreed national specifications and standards focused on

acceptable levels for pyrite in aggregates and several other parameters including argillaceous content.

Additionally, IGI members, in particular Gareth LI. Jones, continue to engage with the media on scientific facts pertaining to hydraulic fracturing (fracking) for non-conventional shale gas and represented the IGI at the inter-parliamentary Stormont Assembly discussion on the matter in September 2012. Gareth spoke to a Royal Irish Academy Information Symposium for politicians and policy makers on 'fracking' in April 2013.

The IGI made a number of written submissions to both the Minister and Minister of State respectively at the Department of Communications, Energy and Natural Resources concerning the retirements of senior staff at the GSI and the need for permanent replacements as a matter of urgency. We were delighted that the role of Director of Geological Survey of Ireland has now been filled, and congratulate Koen Verbruggen PGeo, the new Director, on his recent appointment.

News of Members: I would like to offer our sincere sympathies to the family of our friend and geological colleague, George Emo, on his recent passing in February 2013. George was an excellent geoscientist and very popular in both geological and rugby circles; he will be remembered fondly, as evidenced by the huge attendance at his recent funeral. The moving rendition of the Limerick anthem 'There Is An Isle' by his rugby friends will not be forgotten by those who heard it for a long time to come.

The Board of the IGI considered that we should develop some form of regular and official recognition of outstanding contributions to the geosciences through an award, as is standard among similar professional organisations. Thus, following much discussion on the manner of such an award, the Board agreed that the outgoing President of the IGI will nominate a geoscientist of outstanding merit to receive the biannual **Medal of Honour** as the **President's Award**. As the outgoing President, I am really delighted to nominate the indefatigable polymath **Gareth LI. Jones** to receive the 2013 President's Award. Gareth has given, and continues to give, unstinting time, effort and enthusiasm to the systemic development of the IGI and the European Federation of Geologists, as well as his contributions to a range of geoscientific topics, including geology, micropalaeontology, petrography, speleology, karst, 'fracking' and geothermal energy. The IGI is delighted to congratulate Gareth on his nomination, and will be presenting Gareth with the President's Award at a ceremony (details* to be confirmed at time of writing) to which all of Gareth's friends and colleagues are most welcome to attend. **Details will be posted at a later date.*

It has been my great pleasure to work with the members of the IGI Board, a committed and energetic group of geoscientists, over the past two years, and I wish the incoming Board every success in the ongoing development of the Institute.

Sincere thanks must go to all those members who give extensive personal time to represent the IGI at Board level and at various conventions at home and abroad, and to those who participate voluntarily on working groups and committees in their own time. Such inputs ensure the continued, membership-led ethos of the IGI and contribute to its strength.



EurGeol Dr Deirdre Lewis PGeo
President, 22 April 2013

2 HON. SECRETARY'S REPORT

2012 Annual General Meeting

The 2012 Annual General Meeting (AGM) of the IGI was held on Wednesday 1st June 2012 at 7pm in the GSI Lecture Theatre, Beggars Bush, Dublin 4. The meeting was chaired by the IGI President, EurGeol **Dr Deirdre Lewis** PGeo. Minutes of the meeting have been distributed separately.

At the AGM the following were elected to the Board of the IGI to serve during the year 2012/2013:

| | |
|---|---|
| <i>Dr Deirdre Lewis, President</i> | <i>Andy Bowden, Board Member</i> |
| <i>Gerry Stanley, Vice President</i> | <i>Prof. Bruce Misstear, Board Member</i> |
| <i>Dr Jonathan Derham, Honorary Secretary</i> | <i>Riccardo Pasquali, Board Member</i> |
| <i>Barry Balding Honorary, Treasurer</i> | <i>Paul Gordon, Board Member</i> |
| <i>Marie Fleming, Board Member</i> | <i>Dr Jim Hodgson, Board Member</i> |

Board Meetings

The IGI Board met ten times in 2012/13 between the 2012 AGM and April 2013, on the following dates 23rd May (AGM), 26th June, 25th July, 12th September, 23rd October, 20th November, 18th December, 22nd January 2013, 26th February, and 26th March. At the time of writing, one further meeting is scheduled to take place in early May in advance of the 2013 AGM on 21st May 2013, comprising eleven meetings in all over the year. In addition the Board held a number of virtual meetings through electronic resolution and voting.

The number of meetings (out of ten to date) attended by Directors and Board Members was as follows: Deirdre Lewis (10), Gerry Stanley (8), Jonathan Derham (8), Barry Balding (7), Marie Fleming (7), Andy Bowden (7), Ric Pasquali (9), Paul Gordon (6), Bruce Misstear (8), and Jim Hodgson (8). Attendance at meetings is not a measure of the entire contribution of members, much of which is undertaken between meetings.

Membership

As of the 1 April 2013, there are 164 Professional Members (PGeo) of the Institute, 24 Members-In-Training (MIT), 4 Retired Members and 2 Associate Members. At time of writing there were 7 applications for PGeo status in hand. The figures demonstrate the continued and steady growth of the institute.

Four new Professional Members were elected during the year and 4 new Members-In-Training were elected during the year. No persons transferred to Retired status. One member resigned during the year. Three members were unfortunately delisted in February 2013 for non-submission of fees and/or CPD. Notable were the presence of MITs in this delisting, which suggests that better mentoring of MITs working in professional organisations might benefit their continued engagement with IGI.

Secretaries Appreciation

The Board is supported in their work by a large number of members in various committees, panels and working groups (refer section 4 of this report), which is gratefully acknowledged.

Members also represent the IGI with distinction on national and EU committees (GSI and GSNI consultative committees; Geology in EIS working group; National working group on Pyrite in engineering fill; PERC; EFG; etc). Members also contribute to the delivery of IGI training courses and workshops, and otherwise supporting the Board, this too is acknowledged. All Board Members attend committee meetings in their own time and at their own expense.

On behalf of IGI, I would like to gratefully acknowledge the support of SLR Consulting in providing the Board meeting venue, as well as Golder Associates Naas, and EPA Kilkenny, for similar on occasion.

The support of UCD Geology Department in hosting the IGI offices is also acknowledged. This arrangement came to an end in January 2013 due to expansion pressures at the Department. At the time of writing, the Board are actively pursuing a number of lines of enquiry in relation to securing a new 'home' for the IGI office.

My role as Honorary Secretary is greatly assisted through the efforts of the IGI office staff, Susan Pyne & Ethel Stringer respectively, for which I am grateful. In particular, I wish to acknowledge the kindness of Susan and Ethel in accommodating the functioning of the office during the re-homing challenge.

The major issues coming before the Board in 2012/ 2013 are presented in the President's Report herein; however, as Honorary Secretary, and in relation to the business of the Board, there are a couple of further issues that merit mention. As reported last year, the committee and the IGI office spend a great deal of time dealing with matters associated with Members who do not submit their annual subscriptions and/or their CPD records. I repeat the message of last year that Members must address their professional responsibilities in a timely fashion, not only as a professional necessity, but also as a courtesy to your colleagues who volunteer to administer the Institute.

Secondly, I believe that IGI needs to make some long term plans to provide a permanent home for the Institute where we are not having to borrow space, and from where we could offer a comprehensive and better resourced service (members meeting rooms, IT services for visitors, etc). A building fund needs to be established, where solicited donations from geoscience companies (e.g. mining), any State support, and bequests from IGI members could be put. And without being morbid, if members could remember IGI when making wills, such a kindness could be remembered on a roll of honour placed in the new office. IGI's search for a 'home' could be done on our own or perhaps more logically with other professional and non-professional 'sciences' bodies in Ireland, in effect a Sciences centre equivalent to Engineers Ireland. The incoming Board may wish to explore this possibility. Such an initiative is a long game and will span a number of Board cycles which represents a governance challenge; however a start has to be made.

Dr Jonathan Derham PGeo
Honorary Secretary

3 HON. TREASURER'S REPORT

A copy of the 2012 Financial Statement for the IGI as prepared by Kieran Ryan & Co, Chartered Accountants and Registered Auditors, is attached to the Annual Report. This is the third year Kieran Ryan & Co. has audited the Institute's accounts and prepared its financial statement. I am glad to report that this firm have been very helpful and supportive throughout the past year.

The financial statement reflects the Institute's financial position in the year 2012 to the 31st of December.

The Institute realised a deficit of €1,033 between its income and expenditure in 2012. This figure excludes income receivable from interest on investments of €681, which when included decreases the retained deficit for 2012 to €352. This compares to a retained surplus of €5,291 in 2011.

Total income for 2012 including bank interest is €33,761 versus €34,113 expenditure for the year.

The forecast surplus of €51 for 2012 was not realised due largely to an increase in expenditure during the year more than was forecast, particularly on course conference expenses.

The 2013 budget aims to meet the Institute's day to day running costs from membership subscriptions and application fees. However, income and expenditure for 2013 is conservatively predicted to have a deficit, primarily based on the inclusion of an allowance for rental of office space (€5,000) and the administration of the IGI website (€2,400). The budget for the calendar year 2013 was approved at a Board meeting held on the 26th March 2013.

The Board will work assiduously to redress this predicted deficit through reduced office rental costs, increased income via courses and increased membership numbers.

EurGeol Barry Balding PGeo
Hon. Treasurer

4 IGI COMMITTEE / WORKING GROUP REPORTS

Volunteers for each of the following IGI Committees are always welcome, so if you would like to participate, please contact the Honorary Secretary, or any Board member.

4.1 VALIDATION COMMITTEE

The Validation Committee held three validation interview sessions during 2012.

On the 21st August 2012 a panel comprising Morgan Burke, Deirdre Lewis and Dave Blaney interviewed two candidates:

- i) **Andrew Murrells**
- ii) **Paul Henry**

The two candidates met the required educational and technical criteria and were recommended by the interviewing panel for acceptance as Professional Geologists.

On the 17th October 2012 a panel comprising Morgan Burke, Mark Conroy and Robbie Meehan interviewed two candidates:

- i) **Dave McDermott**
- ii) **Deirdre Larkin**

The two candidates met the required educational and technical criteria and were recommended by the interviewing panel for acceptance as Professional Geologists.

On the 11th December 2012 a panel comprising Morgan Burke, Deirdre Lewis and Dave Blaney interviewed two candidates:

- i) **Karel Maly**
- ii) **Roy Coates**

Both candidates met the required educational and technical criteria and were recommended by the interviewing panel for acceptance as Professional Geologists.

The Validation Committee has also recommended the re-admission of two resigned members as Professional Geologists in 2012.

- i) **Paul O'Sullivan**
- ii) **Jenny Rush**

Both candidates had previously met the required education and technical criteria for acceptance as a Professional Geologist and had continued to work on a fulltime basis in geosciences since the time of their resignations.

Three applicants for the MIT category were approved by the Validation Committee in 2012:

- i) **Charlie Carlisle**
- ii) **Tara Leacy**
- iii) **Keith Byrne**

The mix and competence of candidates interviewed and assessed in the past year has demonstrated the varied disciplines in the IGI, extending from mineral geology, to hydrogeology, to environmental geology. The elected candidates are a welcome addition to the collective experience of IGI members.

EurGeol Morgan Burke PGeo
Chair of the Validation Committee

4.2 CONTINUING PROFESSIONAL DEVELOPMENT

The IGI's standing in the geological international community is very much dependant on the rigour and completeness of our Continuing Professional Development process. Our CPD process has been closely scrutinised by all the professional bodies abroad with which we have mutual recognition agreements and was found to be very sound, most recently through our successfully negotiated MRA with Canada. Mutual recognition is one criterion by which we may judge our process; another criterion is how our members find it.

The only method of judging how our members find the process is by noting how quickly the annual CPD returns come in and in the CPD Audit carried out on a random 25% of the returns.

The majority of our members submit their returns for each year by the end of April of the following year as required by our rules. As I write this report, half way through April 2013, we have received 70 CPD returns for 2012, but expect many more in the next two weeks. Unfortunately, there are members who do not submit their returns on time and these have to be chased up individually, a cumbersome process. In 2012, we had to take the onerous decision to de-list some members who had failed to submit their 2010 CPD returns. Whether it was the threat of de-listing or the slightly expanded definitions for 'informal activity', and the small increase in allowable hours for this category that came into force in 2012, is unclear but it is with pleasure that I can report that all members had submitted their 2011 returns by early this year and no member was de-listed.

The CPD audit carried out each year on a random 25% of the returns is an absolutely necessary part of the process and is a requirement by other bodies for mutual recognition. The Audit committee is composed of two senior figures in the profession but from different specialities, for instance this year's committee is composed of a hydrogeologist and a minerals geologist. In the main it appears the CPD returns are being completed correctly and fairly; thus, only one member will need to be contacted and asked to improve their submission.

Thank you for your collaboration in this matter of CPD; it fundamentally underpins the integrity of the **PGeo** title conferred on professional members of the IGI.

EurGeol Andy Bowden PGeo

4.3 CPD COURSES

As part of the IGI's commitment to Continuing Professional Development, three technical courses were held in 2012, which are summarised below. Relevant course presentations are available on the IGI website at <http://www.igi.ie/cpd-and-training.htm>. Further workshops and courses, to address the CPD needs of members, are planned through 2013-14. The details will be circulated in due course.

Risk Management in the Geosciences: Principles and Practice Horse and Jockey, Co. Tipperary, 17th October 2012

A seminar on Risk Management in the Geosciences took place in the Horse and Jockey Hotel on 17th 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 latter is sometimes known as Natura Impact Statement (NIS).

Part II of the Risk 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 report 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 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 was 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 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 taking to manager 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 discussions, 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

EurGeol Gerry Stanley PGeo

Professional Development Seminar for Hydrogeologists Trinity College Dublin, 29th November 2012

A *Professional Development Seminar for Hydrogeologists* was held on 29th November 2012. This one-day event was run jointly by the IGI and IAH. The seminar was aimed at aspiring as well as practicing hydrogeologists and it was very well attended.

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 for the practicing geologist. This was followed by two 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, whilst Kevin Motherway (EPA) outlined a proposed framework for dealing with contaminated land and groundwater at EPA-licensed sites.

After lunch, David Ball emphasised the importance of site supervision for the hydrogeologist. 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”).

Prof. Bruce Misstear PGeo

Applied Geophysical Training Field Course Clonbur, Co. Galway, 2-4th November 2012

With the support of the IGI, the Irish Association of Economic Geologists (IAEG) and the Geophysical Association of Ireland (GAI) held a joint applied geophysical training course on the 2nd-4th November. Thirty-one students and recent graduates took part in the course which took place in Clonbur, Co. Galway.

This weekend course saw 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/IGI).

A minerals perspective was given by Mark Patton (GSNI). Evening lectures on Marine Survey Techniques and INFOMAR by Cathal Clarke from the Marine Institute and Airborne Geophysics James Hodgson (GSI) were also provided.

The main part of the course was introducing the students to the different geophysical methods and allowing them to collect their own data in the field. Data was then processed and interpretation discussed back at the field centre.

Along with the support of the IGI sponsorship and assistance was also received from the Geological Survey of Ireland (GSI), and Geological Survey of Northern Ireland. Geophysical equipment was supplied by Apex Geoservices, Waterwise Environmental, GSI, GSNI and University College Cork.

It is hoped that this course will be run bi-annually and for further information please contact Jim.hodgson@gsi.ie

Dr Jim Hodgson PGeo

4.4 ETHICS & DISCIPLINARY COMMITTEES 2012-13

The Board is happy to report that the Code of Ethics has not been breached during the year and the Board has not received any complaints, including those that may require disciplinary response, in the period.

The Board wishes to sincerely thank Professor Ben Kennedy for his chairmanship of the Ethics Committee over a long number of years. Ben has decided to relinquish this particular chair, due to his other commitments, in which we wish him well. From June 2013, the Board has appointed the outgoing Honorary Secretary, Dr Jonathan Derham PGeo, as Chair of the Ethics Committee.

The Disciplinary Committee has happily never been called upon to deliberate since the foundation of the IGI. Nonetheless, the Committee is ever at the ready, and from June 2013 the Board has agreed that the DC will comprise Dr Eibhlín Doyle (Chair), Nick O'Neill and outgoing President, Deirdre Lewis.

EurGeol Deirdre Lewis PGeo

4.5 COMMUNICATIONS

The IGI communicates with its membership throughout the year via the IGI's website www.igi.ie, direct emails from the IGI office and the IGI Newsletter (e-zine).

As well as up-to-date information on news, employment opportunities, upcoming events and training courses, the IGI website also contains copies of all of the IGI's publications. These include a membership directory, IGI codes and guidelines, published papers, past conference presentations and other documents, all available for free download.

Members are encouraged to send any events, activities or positions that they wish to advertise on the website to admin@igi.ie. Geological photographs are also welcome.

The shared '**Calendar of Events**' attempts to create an all-island geoscience calendar to permit more efficient planning and promotion of events, while preventing of clashing field trips/ lectures by different organisations. Full marks must go to Eamonn Kelly for keeping this up-to-date, given the volume of activity across all the geoscience bodies active in Ireland. Please email any advance notices of geo-events/ field trips/ AGMs to ekelly@slrconsulting.com

The 'PayPal' facility on the IGI website continues to provide efficient payment mechanisms for subscriptions, application fees, course fees etc. electronically via the website. This has also considerably reduced administration time at the office.

Three newsletters were published in 2012-13, at approximately quarterly intervals (Issues 28, 29, 30). The newsletters provided an update to the IGI membership on key activities of the IGI during the year, including summary of courses held by the IGI and on upcoming conferences and news of members.

Articles were also gratefully received from a number of the IGI Sponsoring Bodies such as the Geotechnical Society of Ireland (GSI) and the Geophysical Association of Ireland (GAI). The newsletter circulated in February 2012 focused on Geothermal Energy with contributions from SLR, the Geological Survey of Ireland and the Geothermal Association of Ireland (GAI). In September 2012 the newsletter included articles on items such as the IGI's response to the findings of the Pyrite Panel (pyrite in aggregates) report. Gareth LI Jones provided an overview of his reporting and presentations on Hydraulic Fracturing. One of the highlights of this issue of the newsletter was articles submitted by a number of students on their work placement experiences during the summer of 2012.

As reported in the Spring 2012 newsletter, the Institute has come to an arrangement with the Geological Society of London whereby IGI members can now subscribe to the *Journal of the Geological Society* and/or the *Quarterly Journal of Engineering Geology and Hydrogeology*. Further information about these long-standing and well-regarded journals can be found at:

<http://jgs.lyellcollection.org>

<http://qjegh.lyellcollection.org>

EurGeol Marie Fleming PGeo

4.6 PUBLIC OUTREACH

BT Young Scientists Exhibition: Marie Fleming volunteered to join the GSI/ GSNI's 'Geology' Stand at the BT Young Scientist Exhibition in January 2013 to meet and interact with second level students. As ever, this was a fun-filled, high energy day and hopefully some of these budding scientists will join the ranks of the IGI in years to come.

In January 2012, at the BT Young Scientists Exhibition, IGI volunteers met a group of Tanzanian delegates 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. At this year's 2013 BTYSE in Dublin, 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 was delighted to support this inaugural event and hope to continue to link with the Tanzanian event.



Winning Tanzanian Young Scientists: Nengai Moses, Aisha Nduka and Monica Shirima (photo-RTE)

Here at home, another IGI member, Laurena Leacy MIT, gave a short talk to 6th year students in Mohill, Co Leitrim, on career options in geology, with the kind permission of Lundin's exploration management.

EurGeol Deirdre Lewis PGeo

4.7 UPDATING OF IGI GUIDELINES 'GEOLOGY IN EIS'

The IGI's *Guidelines for Geological Contributions to Environmental Impact Statements (EIS)*, published in 2002, were significantly revised and updated in 2012-13, one of the major achievements of the year. The revised ***Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements*** were developed by a voluntary Working Group comprising IGI members, who have given their expertise and time to totally update the 2002 Guidelines. The group was chaired by Catherine Buckley, with liaison via Andy Bowden and Jim Hodgson to the Board. The group devised a new risk-based methodology for the preparation of soils, geology and hydrogeology chapters for EIS, incorporating Irish and EU legislative, technical and environmental requirements. Extensive work was carried out in developing the document and associated matrix, which has been constructed to simplify the procedure and highlight the requirements required for the EIS. Considerable time was spent discussing and testing the matrix and providing a well formatted and easy to use and understand document. The guiding principle was that the Guidelines could act both as a guide for our members, and also as a guide for planners. The risk-based matrix approach will allow project type to be contrasted with geological risk, an approach similar to that taken by other agencies, such as NRA, for equivalent guidelines.

Following broad-ranging feedback, the Guidelines are ready for publication before Summer 2013. A hard copy will be circulated to the membership, and relevant departments of the local authorities and statutory agencies. A digital copy will be available in the 'Publications' section of the IGI website.

The following members of the working group are thanked most sincerely for their hard work and dedication in producing a timely and well written document: Catherine Buckley, Sophie Preteseille, Emer Blackwell, Andy Bowden, Kevin Cullen, Eugene Daly, Aldona Binchy, Suzanne Tynan, Mike Boland, Eamonn Grennan, Jim Hodgson and Teri Hayes.

EurGeol Jim Hodgson PGeo

4.8 NSAI PYRITE IN AGGREGATES PANELS

The National Standards Authority of Ireland (NSAI) is working to develop national standards and specifications for the use of aggregates for hardcore. The IGI is represented on two panels.

NSAI Standard I.S. 398-1.

IGI were represented on the NSAI Panel establishing I.S. 398-1 by EurGeol Dr John Kelly PGeo and EurGeol Gerry Stanley PGeo. I.S. 398-1 is a new standard directed to determining if houses with sub-standard, non-compliant, sub-floor fill were likely to be impacted by swelling of these fills. The problematic fills are typically very poor quality materials that do not meet the specifications for aggregates that are suitable for sub-concrete floor fills.

The defective materials mainly comprise very argillaceous (mudstone and siltstone rich or dominated) rocks that are weak, water absorbent, non-durable and prone to fragmentation. The presence of very fine-grained, highly reactive pyrite leads to pyrite oxidation as the material absorbs water, leading to gypsum formation and swelling of the weak, non-durable material. Compliant fills are typically non-argillaceous lithologies that are strong, have low water absorbency, are durable and resistant to fragmentation.

The standard is to provide a sampling, testing and assessment methodology to determine if the sub-floor fill is suitable for purpose and, if not, to determine the likely risk of the fill expanding and damaging the property. A threefold classification has been devised with properties being assigned a green (no damage and no risk of the fill swelling), red (property damaged and requires remediation) or orange (property not currently damaged but may be in the future).

The panel comprised a wide range of interests including government department staff, insurance companies, testing laboratories, the quarry industry, the construction industry, consulting engineers and geologists. Discussions were varied and wide ranging before a consensus was established.

EurGeol Dr John Kelly PGeo

NSAI 'Aggregates Panel'

Billy O'Keeffe represents the IGI on the NSAI '*Aggregates Panel*' whose mission is to produce a specification for hardcore. Discussion is focused on acceptable levels of pyrite in aggregates and several other parameters including argillaceous content. It also examines the role of geologists and petrographic analyses to examine the different lithologies within a given quarry to identify reactive pyrite and quantify it.

Main parameters are Grading, Resistance to Fragmentation, Water Absorption, Acid Soluble Sulphate, Total Sulphur and Magnesium Sulphate soundness. The final specifications will be outlined in a guidance document.

There will be new standards for aggregates but the final draft is still very much in progress. There are two further meetings planned for April and May 2013 but debate and discussion on

the appropriate content of pyrite, argillaceous content and protocols continue, thus there may be quite a way to go before final agreement and ultimately publication.

EurGeol Dr Billy O’Keeffe PGeo

4.9 PROFESSIONAL INDEMNITY INSURANCE SCHEME FOR MEMBERS

The IGI has been working in collaboration with Thompson Insurances brokers in the development of an exclusive **Professional Indemnity (PI) insurance scheme** for the members of the IGI and affiliated organisations.

PI Insurance cover protects a professional person against legal liability to pay damages to clients or persons who have suffered financial loss arising from professional negligence, irrespective of whether this has occurred through negligence, lack of care or skill or through genuine mistake.

PI Insurance typically covers the costs of any potential compensation that may arise from a claim, but also the legal costs associated with defending a claim irrespective of negligence taking place.

IGI Members and members of affiliated organisations frequently find it difficult to obtain a quote or secure PI Insurance as a result of the poor understanding of our members’ operational sectors. This leads to elevated premiums or outright refusal to quote from insurance companies.

Aside from the increased willingness of clients and persons to seek compensation when they feel the professional advice/ service they have received has not met their expectations, PI insurance cover is now a standard requirement for many international or government agency and local authority contracts.

As part of one of the IGI’s services to its Members, the IGI has been working in collaboration with Thompson Insurances brokers, to identify a single insurance company that would provide to the IGI a dedicated PI insurance scheme for its Members simplifying the application process.

The advantage of this block premium would be to essentially provide a ‘one-stop-shop’ for Members’ PI needs allowing better negotiation of premium, claims settlements and provide cover enhancements that include:

- non aggregated limit of indemnity (€1m being the standard limit),
- negligence and civil liability wording,
- loss of documents extension,
- pollution extension,
- dishonesty of employees extension,
- libel and slander,
- compensation for court attendance, and
- defence of intellectual property rights.

Thompsons Insurances put out a request for interested parties during the course of 2012 with large insurance companies who already provide PI cover and dedicated schemes to engineering and geoscience professions. Three companies showed genuine initial interest to provide a dedicated scheme and requested further details with regard to the IGI, its Members’ application process, the areas of expertise of the Institute’s Members and our code of ethics.

Follow up consultations were undertaken with two companies and whilst this process is still ongoing, both of these have expressed interest in providing PI Insurance to IGI Members, but remain concerned that the cross section of skills covered by the Institute's membership may be too broad to be considered under the structure of a single dedicated scheme.

Despite a dedicated scheme being unlikely to be available, the IGI and Thompson Insurance are working on facilitating the application and completion of proposal forms through a dedicated system available only to members of the IGI. This facility would be managed by Thompson Insurance through a dedicated contact.

Details of the proposed PI facility for the members of the IGI and affiliated organisations are still being finalised. We hope to provide further details during 2013.

EurGeol Ric Pasquali PGeo

4.10 THE IGI 'LANDFILL REGISTER'

IGI Register of Professionally Qualified / Competent Persons for Hydrogeological Assessment of Historic Landfill Sites

In September 2012, the Environmental Protection Agency (EPA), in response to evolving EU requirements, sought clarification on the expertise of professionally qualified geoscientists (PGeo) to carry out hydrogeological assessments of historical landfill sites. The IGI, in response, convened an expert Working Group chaired by the President, which canvassed our membership to self-nominate those with the requisite qualifications and experience to be entered to a specialist register of '**Professionally Qualified / Competent Persons to carry out Hydrogeological Assessments at Historical Landfill or Contaminated Sites**' – the so-called '**Landfill Register**'.

Each self-nominated candidate was vetted via rigorous assessment and defined procedures by the Working Group, to validate suitably qualified candidates by December 2012. Candidates indicated that they would be available for interview by the Working Group if the need arose. In total, 28 professionally qualified IGI members were formally entered to the 'Landfill Register' by January 2013, rising to 30 entrants at time of writing. The 'Landfill Register' is currently updated on a monthly basis in 2013 to facilitate new entrants, and will be updated on a quarterly basis thereafter. All suitably qualified professional registrants must commit to maintaining their CPD in this area of expertise.

The EPA and local authorities have been notified of this formal validation process. From 2013, only those who have been so validated and entered to the 'Landfill Register' (see <http://www.igi.ie/cpd-and-training.htm>) and in receipt of an official IGI letter of verification, may work on behalf of the local authorities and EPA in hydrogeological assessment of historical landfill sites in Ireland.

Unfortunately, some nominated candidates, who are active members of the IAH (Irish Group) and who may have the requisite expertise and experience, cannot be entered to the 'Landfill Register' as they are not members of the IGI (or mutually recognised equivalent such as Geol. Soc. London), and thus are not 'professionally qualified' (PGeo, or mutually recognised equivalent e.g. CGeol). We would urge such candidates to apply for membership of the IGI forthwith. See <http://www.igi.ie/cpd-and-training.htm> for details on how to join the 'Landfill Register'.

EurGeol Deirdre Lewis PGeo

5 REPRESENTATIONS: DELEGATE REPORTS

5.1 EUROPEAN FEDERATION OF GEOLOGISTS

The European Federation of Geologists (EFG) is a non-governmental organization that was established in 1981 and currently includes twenty-one (21) European national associations as members. The IGI Delegates to the EFG for 2012 were Andy Bowden and Marie Fleming.

During 2012-13, the EFG continued to promote the professional mobility and status of geologists in twenty-one member states across Europe, through the expanding use and recognition of the EurGeol title, involvement in two EU funded projects, making representations to the EU Commission and liaison with other international geological bodies. National and international awareness of the profession is maintained through publication of the *European Geologist* magazine and the EFG newsletter, close liaison with the EU parliament and via its own web site at www.eurogeologists.eu.

The Federation is run by a Council consisting of delegates from all member national associations such as the IGI, from which a 5-member Board is elected. Each member country has one vote at Council Meetings. The current EFG President is Ruth Allington from the UK. Ruth will be succeeded in June 2013 by Vítor Correia from Portugal.

The Council meets twice a year with a Winter Council meeting held in November/December in Brussels and a Summer Council member held in June in one of the member countries. The executive authority of the Council is enacted by the Board, which is appointed for a two year term and comprises a President, Vice-President, General Secretary, Treasurer and EU Delegate. The Board meets four to six times per year, mostly in Brussels, with the day to day business of EFG maintained within the Board by email.

Two meetings of Council in 2012 were as follows:

1. May 2012

Marie Fleming attended the formal Summer Council meeting which was held in Tenerife in May 2011. The main focus of the meeting was to work on establishing a rolling 5-year strategic planning cycle for the EFG and to set the EFG's strategic objectives for 2013 to 2016. A workshop and field trip on Natural Hazards was organized for the days preceding the Council meeting. Board elections were also held, with the election of the President Elect, Secretary General and Treasurer.

2. November 2012

Marie Fleming and Andy Bowden attended the regular Winter Council meeting in the Belgian Geological Society in Brussels on the 24/25th November 2012. Twenty-two Council members from twelve member countries attended.

The *EFG Medal of Merit* was awarded to Antoine Bouvier from France. This honour is awarded to individuals who, in the view of Council, have provided exceptional and distinguished contributions to the EFG or to the geological profession in Europe. From an Irish perspective the *Medal of Merit* has previously been awarded to John Clifford and Gareth LI Jones in 2008 and 2009 respectively.

The forthcoming Summer Council Meeting will be held in Stockholm on 1st- 2nd June 2013. This will be preceded by on May 30th - 31st by a workshop on Radioactive Waste Disposal at Stockholm University and fieldtrip to Forsmark.

Marie Fleming will step down as one of the Irish Delegates to the EFG in June 2013 and will instead take on a 3-year role on behalf of the EFG as Chair of the Registration Authority. The latter role is currently held by David Norbury of the UK. The object of the Registration Authority is to provide quality assurance and quality control of the EFG including the National Vetting Committees and Licensed Bodies and procedures concerned with awarding and maintenance of the title of European Geologist.

Riccardo Pasquali will succeed Marie as delegate, who with Andy, will continue to represent the IGI in Europe.

EurGeol Marie Fleming PGeo
EurGeol Andy Bowden PGeo

5.2 GSI CONSULTATIVE COMMITTEE

The GSICC normally meets on a six-monthly basis. However, following the retirement of Dr Peadar McArdle and other senior members of GSI staff, the last meeting was held in October 2011. Due to the interim period until the appointment of the new Director in 2013, no further meetings were held since then.

The IGI is delighted to congratulate Koen Verbruggen on his recent appointment to the role of Director of the Geological Survey of Ireland – may he enjoy many a long year at the helm of ‘the Survey’. We also wish Peadar a very happy and enjoyable retirement.

Prof. Bruce Misstear PGeo, CGeol, CEng, FTCD

5.3 GSNI CONSULTATIVE COMMITTEE

The GSNICC met in Colby House, Belfast, on the 13th of February, 2013. The meeting covered matters arising from the previous meeting in January 2012 and review of the GSNI annual Report for 2011 – 2012 prior to final issue.

GSNI Team leaders then outlined GSNI progress against stated objectives for the DETI/NERC Service Agreement for 2011 – 2014. Presentations were given on progress in areas covering TELLUS Border, minerals and hydrocarbons, other government department inputs, environmental assessments, renewable energies (geothermal, CAES etc.), mining heritage, abandoned mine safety, hydrogeology, planning and land use, training and bedrock mapping. Most objectives continue to be met with any delays largely out of GSNI control. The loss of the expertise and knowledge of the late Dr W. Ian “Mitch” Mitchell was particularly regretted. A number of new hires are particularly welcomed.

A detailed presentation was also made on GSNI input to ongoing energy status and GSNI studies in areas such as hydrocarbons exploration, underground energy storage both as natural gas and compressed air energy storage (CAES) in Permian and Triassic halites, coal and lignite exploration and deep geothermal studies, including detailed analysis of Sherwood Sandstone material. Energy projects are consuming substantial staff time in relation to public enquiry and comment.

In summary, GSNI remains in robust health and will continue to make a solid contribution to the geoscience interests of Northern Ireland and adjacent areas.

EurGeol Dr John Kelly PGeo

5.4 RIA GEOSCIENCES COMMITTEE

The Royal Irish Academy Geosciences Committee (RIAGC) is an all-island representative body for the geosciences. The RIAGC comprises representatives of the academic, public and private geoscience sectors, including both Geological Surveys, EPA, Meteorological Office, Dublin Institute of Advanced Studies and each of the Universities. Deirdre Lewis represents the IGI on the Committee.

The RIAGC advises the Academy on policy and research issues pertaining to minerals, energy, geophysics, groundwater, hydraulic fracturing and also geo-related climate issues, such as carbon capture and storage. The Committee meets physically on a six-monthly basis (14 June and 13 December 2012, respectively), and more frequently via working groups on specific issues.

See: <http://www.ria.ie/our-work/committees/committees-for-science/geosciences.aspx>.

Professor Pat Shannon of UCD is the current Chair of the Committee. The focus in 2012 was on planning for the celebration of **'Dublin City of Science'** through the organisation of the *'Safe Cities'* conference in Dublin Castle on 18 April and *'Introduction to the News Media for Ireland's Geoscientists'* on 17 May.



Photo (L-R): Prof. Pat Shannon, Prof. John McCluskey, Dr. Deirdre Lewis, Ian Jackson, Garth Earls

This novel Media event comprised two sets of panelists to address the twin topics of scientific reporting and geoscientists' engagement in the news media: the first panel made up of well-known journalists and broadcasters and the second panel comprising well known Irish geoscientists.

RIAGC also engaged with the annual Irish Geological Research Meeting (IRGM) and other initiatives such as the Tellus Border project. In April 2013, the RIAGC held two key *Information Briefings* for politicians and policy makers on hydraulic fracturing, with local councillors and politicians (Ministers, TDs and MLAs) actively participating. The Academy is increasingly focused on engagement on issues of public concern, providing an independent forum for discussion and evidence-based rationale for decision making.

EurGeol Deirdre Lewis PGeo

5.5 IRISH GEOSCIENCE NETWORK

The **Irish Geoscience Network (IGN)**, convened by the IGI, was formed in early 2012 from a gathering of active, voluntary geoscience bodies working across the island of Ireland. The IGN provides a unitary forum for communication and sharing of ideas and resources, and a **Geo-Calendar of Events** http://www.igi.ie/events_calendar.htm to inform planning and promotion of events.

Our second annual meeting was held on 13th February 2013, with executive representatives from IGI's five sponsoring bodies (IAEG, IAH, IMQS, GAI *geophys*, GSI *geotech*) and the Irish Geological Association (IGA), Earth Science Ireland (ESI), Royal Irish Academy Geosciences Committee (RIAGC), Mining Heritage Trust of Ireland (MHTI), Irish Quaternary Association (IQUA), Speleological Union of Ireland (SUI), and Geothermal Association of Ireland (GAI). Members of the Geological Survey of Ireland (GSI), Geological Survey of Northern Ireland (GSNI) and Museum of Natural History (MNH) were also in attendance. Each of the four main geology teaching universities (UCD, TCD, UCG, UCC) was also invited to participate.



Some attendees at the Irish Geoscience Network Meeting 2013

L-R: Seán Finlay (Geoscience Ireland), Bettina Stefanini (IQUA), Matthew Parkes (MNH/ MHTI), Maireád Glennon (GSI/ Tellus Border), Martin Critchley (MHTI), Laura Smith (IGA), Siobhán Tinnelly (IMQS), Julian Menuge (UCD/ RIA), Roy Coates (IAEG), Pat Shannon (RIAGC/ UCD) Stephen Daly (UCD)

This year's IGN forum discussed matters of advocacy, accreditation, events planning and potential administrative support for the smaller voluntary bodies by an expanded IGI function. The 'Geology Stand' at the *BT Young Scientists Exhibition*, organised by the GSI and GSNI, was also supported by IGN volunteers, and it was agreed that geoscience outreach to young people needs to be addressed with more purpose. We reviewed successful models being rolled out in Northern Ireland and will be working in the coming months to develop an agreed approach and schedule.

Geoscientific matters of current public interest, such as pyrite in aggregates and hydraulic fracturing 'fracking', require to be addressed scientifically in the public domain with a more unified approach.

The IGN has the potential to become a strong, representative voice for geosciences in Ireland and we may examine more active engagement of IGI and IGN members as development / outreach volunteers.

EurGeol Deirdre Lewis PGeo

5.6 RESOURCE REPORTING – PERC AND CRIRSCO1

The PERC (Pan-European Reserves and Resources Reporting Committee) Code is binding on all those members of its sponsoring bodies (IGI, Geol. Soc. London, IMMM, EFG), who act as Competent Persons in the field of resource reporting.

In mid-2012, PERC began a transition to becoming a non-profit organization based in Brussels, in office space kindly supplied by the European Federation of Geologists.

The principal activities of PERC are now:

- To manage the PERC Code (to be re-named as a 'Standard').
- To represent the European region on CRIRSCO, the international body harmonizing reporting standards and codes in various national and pan-national jurisdictions. CRIRSCO membership includes JORC, SAMREC and CIM.
- To liaise with ESMA (European Securities and Markets Authority), LSE, AIM and other stock exchanges in Europe.
- To promote good practice in the reporting of mineral resources and reserves (it is intended that as part of this, PERC will offer training courses for professionals involved in resource and reserve reporting).
- Participation as advisers in national and international minerals statistics and similar projects.

PERC produced a consultation document on revising the code, to which the IGI responded in July 2012. The principal issues addressed were:

- A proposal to rename the PERC Code to the PERC Standard
- Changing the definitions to match, word for word, the CRIRSCO definitions.
- The maintenance of a list of Recognised Professional Organisations.
- To include reporting for Oil Shales, Tar Sands and other energy minerals extracted by mining methods.
- To include reporting for metallic and non-metallic minerals extracted by solution mining.
- To include reporting for coal-bed methane, shale gas, and similar non-mobile hydrocarbon minerals bound within solid rock, usually extracted by pre-fracturing ("fracking") or other physical methods, though not usually by conventional mining.
- The provision of guidance regarding the materiality of individual operations where a particular company has a large number of operations.

The IGI agreed with all of the proposed changes, albeit with some qualification with regard to definitions, reporting on energy minerals, solution mining and hydrocarbons extracted by fracking. The standard definitions need to be changed at CRIRSCO-level rather than at PERC-level. IGI's comments on energy minerals and solution mining were taken into

1 Committee for Mineral Reserves International Reporting Standards

consideration in the final wording, and reference to fracking methods was removed from the final draft.

The newly-organised PERC held its first committee meeting in Brussels on 15th March of this year. One of the principal actions of the meeting was to pass the PERC 2013 Standard, as outlined above. The acting chairman, Stephen Henley, stood down but was elected as Deputy Chairman. The IGI would like to recognize the enormous contribution made by Stephen during the recent transitional period.

A new committee was elected, with Eddie Bailey as Chairman. A very positive discussion took place regarding the integration of the PERC Standard with the Fennoscandian Review Board, in order to further standardize reporting right across Europe.

The IGI's representatives on PERC are Dr. Eibhlín Doyle, Andy Bowden, John Barry and Paul Gordon.

PERC documents may be viewed at www.perc.com

EurGeol Paul Gordon PGeo

6 INTERNATIONAL AGREEMENTS

6.1 MRA WITH CANADA

On the international front, the Board is delighted that in March 2013, the IGI concluded our **Mutual Recognition Agreement (MRA)** with our colleagues in *Geoscientists Canada*, following lengthy due diligence procedures by both parties on geoscience education, codes of ethics and continuing professional education (CPD).

The MRA will allow professional members of each 'home' organisation to practice in the 'host' country, including each of the Provinces of Canada. Additionally, the MRA will allow for mutual fast-tracking arrangements for members of the 'home' country to activate full membership of the 'host' country's organisation.

The agreement took considerable time to negotiate due to the requirement for each Provincial organisation in Canada and IGI in Ireland to agree to the terms of the MRA. Many thanks to all previous Board members and our academic colleagues for their assistance and collaboration during the due diligence process: in particular, Dr. Julian Menuge (UCD), Prof. Ben Kennedy (DIAS), Dr. John Graham (TCD), Dr. Eve Daly (UCG) and Dr. Bettie Higgs (UCC), without whom this would not have been achieved.

We plan to host a formal 'signing ceremony' in early May 2013, when the President of *Geoscientists Canada*, Professor Greg Finn, Vice-Provost of Brock University in Ontario, will be visiting Ireland, to mark this major milestone for both organisations.

6.2 OTHER MRAS

The IGI's MRAs with the UK, South Africa, USA and Australia continue to operate successfully.

The importance of maintaining these MRAs, based on continuing professional development (CPD) and ethically good professional practice cannot be underestimated, given the international nature of geological practice and the mobility of IGI's membership.

EurGeol Deirdre Lewis PGeo

7 NOTICE OF ANNUAL GENERAL MEETING

Notice is hereby given that the Annual General Meeting of the Institute of Geologists of Ireland Limited will be held at **7.00 p.m. Tuesday 21st May 2013** at the **Geological Survey of Ireland, Beggars Bush, Haddington Road, Dublin 4** for the following purposes:

- i) To receive and consider the Directors' Reports
- ii) To receive and consider the Audited Accounts for year ended December 31st 2013.
- ii) To elect Directors.
- iii) To transact any other ordinary business of the Annual General Meeting.

By Order of the Board

Dr Jonathan Derham
Secretary

Dated April 20th 2012

8 NOMINATIONS FOR DIRECTORS

The Nominations Committee, under the Chair of Dr John Kelly (immediate Past-President), has presented the following list of candidates to stand for election at the forthcoming Annual General Meeting on 21st May 2013.

Executive Directors

| | | |
|------------------------|----------------------------|---------------------------------------|
| President: | EurGeol Gerry Stanley PGeo | (1 st year of 2 year term) |
| Vice-President: | EurGeol Andy Bowden PGeo | (1 st year of Term) |
| Treasurer: | EurGeol Paul Gordon PGeo | (1 st year of Term) |
| Secretary: | EurGeol Marie Fleming PGeo | (1 st year of Term) |

Non-Executive Directors

| | |
|---------------------------------|--|
| EurGeol Riccardo Pasquali PGeo | (3 rd Year as a Board Member) |
| EurGeol Dr Jim Hodgson PGeo | (2 nd Year as a Board Member) |
| Ms Mairéad Glennon MIT | (1 st Year as a Board Member) |
| EurGeol Dr Peter Glanville PGeo | (1 st Year as a Board Member) |
| Dr Marie Cowan MIT | (1 st Year as a Board Member) |
| EurGeol Catherine Buckley PGeo | (1 st Year as a Board Member) |

NOMINATIONS COMMITTEE (*Comprising Past Presidents*)

EurGeol Dr John Kelly PGeo (Chair)
 EurGeol Kevin Cullen
 EurGeol Gareth LI. Jones PGeo
 EurGeol Dr Eibhlín Doyle PGeo
 EurGeol Peter O'Connor PGeo
 EurGeol John Clifford PGeo

No additional nominations to those above made by the Nominations Committee were received by the IGI Secretary by the deadline of Monday 8th April 2013.

9 IGI CORPORATE STRUCTURE

| | |
|---------------------------------|---|
| IGI OFFICE | <i>New Office address to be advised in due course</i> |
| WEBSITE | www.igi.ie |
| ADMINISTRATIVE SECRETARY | Ms. Susan Pyne admin@igi.ie |
| ACCOUNTS | Ms. Ethel Stringer |
| WEBMASTER | Mr Eamonn Kelly ekelly@slrconsulting.com |
| AUDITORS | Kieran Ryan & Co. Chartered Accountants and Registered Auditors 20 Upper Mount Street, Dublin 2 |
| BANKERS | Bank of Ireland, College Green, Dublin 2 |
| IGI REGISTERED OFFICE | 6 Northbrook Road, Dublin 6 |
| COMPANY NUMBER | 31440 |
| CHARITY NUMBER | CHY 13580 |

IGI Board Members (2012-2013: Outgoing)

Executive Directors

| | |
|-----------------|-------------------------------|
| President: | EurGeol Deirdre Lewis, PGeo |
| Vice President: | EurGeol Gerard Stanley, PGeo |
| Secretary: | EurGeol Jonathan Derham, PGeo |
| Treasurer: | EurGeol Barry Balding, PGeo |

Non-Executive Directors:

EurGeol Riccardo Pasquali, PGeo
EurGeol Andy Bowden, PGeo
EurGeol Bruce Misstear, PGeo
EurGeol Paul Gordon, PGeo
EurGeol Marie Fleming PGeo
EurGeol Jim Hodgson PGeo

EFG National Licensed Body

The IGI is licensed by the European Federation of Geologists to award the professional title of European Geologist (EurGeol)

Standing Committees (2013-)

Ethics Committee

EurGeol Dr Jonathan Derham, PGeo (Chair, June 2013+)
EurGeol Dr John Ashton, PGeo
EurGeol Shane O'Neill, PGeo
EurGeol Dr Matthew Parkes, PGeo

Disciplinary Committee

EurGeol Dr Eibhlín Doyle PGeo (Chair)
EurGeol Dr Deirdre Lewis PGeo (June 2013+)
EurGeol Nick O'Neill, PGeo

Nominating Committee

EurGeol Dr John Kelly PGeo (Chair)
EurGeol Kevin Cullen PGeo
EurGeol Gareth Ll. Jones, PGeo
EurGeol Dr. Eibhlín Doyle PGeo
EurGeol Peter O'Connor PGeo
EurGeol John Clifford PGeo

Validation Committee

EurGeol Morgan Burke PGeo (Chair)
 EurGeol Mark Conroy PGeo
 EurGeol David Blaney PGeo
 EurGeol Kevin Cullen PGeo
 EurGeol Sean Finlay PGeo

CPD Audit Committee

EurGeol Andy Bowden PGeo (Chair)
 EurGeol Eugene Daly PGeo
 EurGeol Dr Julian Menuge, PGeo
 EurGeol Gareth V. Jones, PGeo
 EurGeol Dr Ian Somerville, PGeo

IGI Representation on Geoscience Bodies

| Organisation | IGI Representative |
|-----------------------------------|--|
| European Federation of Geologists | EurGeol Andy Bowden PGeo EurGeol Marie Fleming PGeo |
| EFG CPD Working Group | EurGeol Dr Julian Menuge PGeo |
| EFG CCS Working Group | EurGeol Nick O'Neill PGeo |
| EFG Disciplinary Committee | EurGeol Christian Schaffalitzky PGeo |
| GSI Consultative Committee | Prof. Bruce Misstear PGeo |
| GSNI Consultative Committee | EurGeol Dr. John Kelly PGeo |
| RIA Geosciences Committee | EurGeol Dr. Deirdre Lewis PGeo |

Founding Sponsoring Bodies

The IGI was established in 1999 with the support of the following sponsoring bodies:

| | |
|---|--|
| The Irish Association for Economic Geology | www.iaeg.org |
| The Geophysical Association of Ireland | www.gai.ie |
| The International Association of Hydrogeologists (Irish Group) | www.iahireland.org |
| The Irish Mining and Quarrying Society | www.imqs.ie |
| The Geotechnical Society of the Institution of Engineers of Ireland | www.iei.ie |

Affiliated Bodies

| | |
|---------------------------------------|--|
| The Geothermal Association of Ireland | www.geothermalassociation.ie |
|---------------------------------------|--|

Bodies with Reciprocal Links and/or Co-Operation Agreements

American Institute of Professional Geologists

Australian Institute of Mining & Metallurgy (JORC Committee)

Geological Society of London

Geoscientists Canada

South African Council for Natural Scientific Professions

South African Institute of Mining & Metallurgy (SAMREC Committee)

Bodies Recognising PGeo (or mutually recognised equivalent)

Ireland

Exploration and Mining Division, DCMNR – required for prospecting licence work reports

Environmental Protection Agency – preferred for professional work and reports; obligatory for hydrogeological assessment of historic landfill sites

Department of Education and Skills - – preferred for professional work and reports

An Bord Pleanála – preferred for professional work and reports

Local Authorities - preferred for professional work and reports; obligatory for hydrogeological assessment of historic landfill sites

Stock Exchanges

Ireland, Dublin Stock Exchange

UK, London Stock Exchange

Australian Stock Exchange

Canadian Securities Administrators

South Africa, JSE Securities Exchange

10 AUDITOR'S REPORT