The 2014 ISRM Year, the Secretary-General’s 2014 report
ISRM Board’s Accomplishments 2011–2015

Highly successful ISRM Students’ Night dinner party held in Sapporo, Japan
on 14 October 2014 as part of the ARMS8 Symposium activities
(Abstract submission has closed)
Registration and all information at www.isrm2015.com
The Finnish National Group of ISRM and the Finnish Association of Civil Engineers RIL invite you to the 7th International Symposium on In-Situ Rock Stress to be held during 10–12 May 2016 in the beautiful city of Tampere, Finland. There have been six previous International Symposia on the rock stress topic, starting in 1976 in Sydney, Australia, and with the most recent one being held in Sendai, Japan, in 2013.

This 7th Symposium will be a natural continuation of the in-situ rock stress topic, which is of great importance to most rock engineering projects. We hope to welcome all interested rock stress practitioners, modellers, designers and contractors to this 2016 rock stress symposium in Finland. We are sure that the 7th Symposium will contain much new material and will be an excellent forum for presenting your work, keeping up to date with developments, and networking.

The Symposium encompasses all aspects of rock stresses, including: Rock stress measurements using different methods; Interpretation and analysis of results: Case studies (nuclear waste disposal, mining, civil engineering); Regional stress fields; Seismicity and rock stress; New, innovative stress measurement methods; Rock structures and rock stress; and Stress modeling

Finland is an excellent venue for the Symposium because of the large amount of rock engineering construction and the fact that rock stresses play an important role in the design of Finnish rock engineering projects—even in the shallow underground facilities. Although the high horizontal stresses can be utilized in stabilizing rock caverns, such high stresses can cause rock damage around the rock facilities, so understanding the stress field and designing accordingly is one of the keys to success.

Invitation to RS2016 in Tampere:
the 7th International Symposium on In-Situ Rock Stress—An ISRM Specialized Conference

Enquiries to: erik.johansson@rs2016.org

An ISRM Specialized Conference

Organised by:
John A. Hudson, Xia-Ting Feng, Li Ning
Earth Science & Engineering, Imperial College London, UK
Institute of Rock & Soil Mechanics, Chinese Academy of Sciences, Wuhan, China
Xi’an University of Technology, China

Enquiries to Yan Guo at yguo607@gmail.com
On behalf of the International Society for Rock Mechanics (ISRM), Turkish National Society for Rock Mechanics cordially invites the international community to attend the 2016 ISRM International Symposium "EUROCK 2016". The symposium will be held between 29 and 31 August 2016 in Cappadocia (Turkey) which is one of the seven sites included in the World Heritage List by UNESCO and also a natural and historical rock engineering laboratory.

The theme of the symposium is "Rock Mechanics & Rock Engineering: From Past to the Future". The symposium intends to cover all aspects of rock mechanics and rock engineering from theories to engineering practices, emphasizing the future direction of rock engineering technologies. This event will be an excellent opportunity to promote the exchange of knowledge and experiences in various areas of the rock mechanics and rock engineering, as well as to visit many historical sites including old and modern rock structures caved in the soft tufts of Cappadocia. The venue of the symposium, Ürgüp-Nevşehir, is located in the heart of the Cappadocia Region with convenient access to restaurants, hotels, historical sites and national museums. We believe that you will also enjoy participating to post-symposium excursions in the Cappadocia Region and Istanbul.

In the spirit of traditional Turkish hospitality, it is our pleasure to bid you welcome to Turkey, a bridge between Europe and Asia, and hope that your stay here will be intellectually and professionally stimulating and rewarding.

We look forward to meeting you in Cappadocia in August 2016.

Prof. Reşat ULUSAY
EUROCK2016, Chairman of the Organizing Committee

**IMPORTANT DATES**

- **Abstract submission deadline**: September 15, 2015
- **Notification of abstract acceptance**: October 15, 2015
- **Full paper submission deadline**: January 15, 2016
- **Notification of full paper acceptance**: March 15, 2016
- **Authors' registration deadline**: April 15, 2016
- **Early Registration Deadline**: June 1, 2016
2014 has been an eventful ISRM year with several symposia having taken place, as recorded in the pages of this Issue. Now, we have the Montréal Congress, the Salzburg EUROCK2015 Symposium and others (see list on opposite page) to look forward to in 2015. These events provide the opportunity for us to listen to the rock mechanics and rock engineering developments taking place around the world, and enable us to personally meet the other practitioners in our subject.

At the Montréal Congress, the ISRM Presidency will pass from Professor Xia-Ting Feng of China to Dr Eda Quadros of Brazil, so there is now the opportunity to consider the achievements of the 2011–2015 ISRM Board. When the ISRM Presidency passed from myself to Professor Feng in 2011, I thought that there was little left to accomplish—because I had overseen a major modernisation initiative during my tenure of 2007–2011. Little did I anticipate that the 2011–2015 Board would be so dynamic that they have certainly equalled, if not exceeded, the initiatives that my own Board had implemented. The accomplishments of the current ISRM Board are described in the page 13 article.

On a personal note, this is the eighth ISRM News Journal Issue that I have edited and formatted, i.e., the Issues during both my and Professor Feng’s Presidential tenures—through the years 2007–2015. It is time now for me to step down and pass on the Editorship to a person associated with our new President, Dr Eda Quadros, who will be in post for the period 2015–2019. Needless to say, I wish both Dr Quadros and the new ISRM News Journal Editor all my best wishes. Meanwhile, I look forward to meeting you all at future ISRM Symposia.

Finally, I should like to thank profusely the Co-Editor, Professor Xia-Ting Feng, and both the ISRM Secretary-General, Dr Luis Lamas, and Mrs Sofia Meess for their unfailing support, advice, and especially help with the gathering of the raw material for the pages of the successive News Journal issues. Their enthusiasm, knowledge and hard work has been of inestimable help in the production of these ISRM News Journal Issues over the years.

John A Hudson
Imperial College London, UK
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Invitation to EUROCK2015  Back Cover

ISRM Coming Events

25–27 February 2015, Salt Lake City, USA — GeoProc2015: International Conference on Coupled THMC Processes in Geosystems
06–08 September 2015, Wuhan, China — China Shale Gas 2015
24–25 September 2015, Isle of Ischia, Italy — Workshop on Volcanic Rocks and Soils, an ISRM Specialized Conference
7–9 October 2015, Salzburg, Austria — EUROCK 2015 - the 64th Geomechanics Colloquy: an ISRM Regional Symposium
15–18 November 2015, Buenos Aires, Argentina — VIII South American Congress on Rock Mechanics
May 2016, Cape Town, South Africa — S. African Rock Engineering Symposium, an ISRM Regional Symposium
10–12 May 2016, Tampere, Finland — 7th In-Situ Rock Stress Symposium 2016
25–27 May 2016, Xi’an, China — GEOSAFE: 1st International Symposium on Reducing Risks in Site Investigation, Modelling and Construction for Rock Engineering
29–31 August 2016, Cappadocia, Turkey — EUROCK 2016 - Rock Mechanics & Rock Engineering: From Past to the Future, an ISRM Regional Symposium
October 2016, Bali, Indonesia — ARMS 9 - 9th Asian Rock Mechanics Symposium, an ISRM Regional Symposium
16–18 October 2016, Bangalore, India — Recent Advances in Rock Engineering - RARE 2016
13–15 June 2017, Ostrava, Czech Republic — EUROCK 2017
20–27 September 2019, Foz do Iguaçu, Brazil — the 14th ISRM International Congress on Rock Mechanics
The 2011–2015 ISRM Board

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## The 2014 ISRM Year

*Prepared by Luis Lamas, Portugal, ISRM Secretary-General (secretariat.isrm@lnec.pt)*

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<th>2014</th>
<th>ISRM Sponsored Events</th>
<th>Key Events</th>
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<td>January</td>
<td>Publication of the 2013 issue of the ISRM News Journal</td>
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<td>February</td>
<td>ISRM Lecture Tour, Hanoi, Vietnam</td>
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<td>March</td>
<td>Publication of the Newsletter No. 25</td>
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| April | ISRM Regional Symposium - EUROCK 2014 | Approval of the ISRM Commission on the Evolution of Eurocode 7  
5th ISRM Online Lecture by Dr John Read “Implementing a reliable slope design”  
Signature of the Publishing Agreement with Springer International Publishing AG for the publication of the “Orange Book”  
Setting up of an ISRM LinkedIn page and of an ISRM Twitter account |
| May | ISRM Interim Board meeting during EUROCK 2014 |  
Approval of the conferences:  
- ISRM Specialised Conference “China Shale Gas 2015”, September 2015, Wuhan, China  
- ISRM Regional Symposium “VIII Southern American Congress on Rock Mechanics”, November 2015, Buenos Aires, Argentina  
- ISRM Specialised Conference “GEOSAFE 2016”, May 2016, Xi’an, China  
Publication of the Newsletter No. 26 |
| June | ISRM Sponsored Conference on Soft Rocks, Beijing, China | Approval of the ISRM Specialised Conference “GeoProc 2015”, February 2015, Salt Lake City, USA  
6th ISRM Online Lecture by Prof. Herbert Einstein “Puzzles in rock: have they been solved?” |
| July | ISRM Specialised Conference “1st International Conference on Applied Empirical Design Methods in Mining”, Lima, Peru |  |
| August | ISRM Specialised Conference “VI Brazilian Rock Mechanics” | New ISRM home page for the website  
Publication of the Newsletter No. 27  
Meeting of the Federation of International Geo-engineering Societies (FedIGS) in Turin |
<table>
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<tr>
<th>Month</th>
<th>Event</th>
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<tr>
<td>October</td>
<td>The 2014 ISRM International Symposium, ARMS 8 - “Rock Mechanics for Global Issues - Natural Disasters, Environment and Energy”&lt;br&gt;• Dr Masahiko Osada delivered the 2014 Franklin Lecture&lt;br&gt;• Dr Mandadige Samintha Anne Perera delivered the Rocha Medal Lecture 2014&lt;br&gt;ISRM Board, Council &amp; Commission meetings&lt;br&gt;• Dr Andrea Lisjak Bradley, from Italy was selected as recipient of the Rocha Medal 2015&lt;br&gt;• Prof. John A. Hudson, from the United Kingdom was selected for the 7th ISRM Müller Award&lt;br&gt;• Cappadocia, Turkey was selected as the venue of the 2016 ISRM International Symposium&lt;br&gt;• Foz do Iguacu, Brazil was selected as the venue for the 14th ISRM Congress, in 2019&lt;br&gt;Approval of the conferences:&lt;br&gt;• ISRM Specialised Conference “VietRock 2015”, March 2015, Hanoi, Vietnam&lt;br&gt;• ISRM Specialised Conference “RARE”, October 2016, Bangalore, India&lt;br&gt;Approval of Ostrava, Czech Republic as the venue for the ISRM Regional Symposium EUROCK 2017</td>
</tr>
<tr>
<td>November</td>
<td>ISRM Specialised Conference “AusRock 2014”, Sydney, Australia&lt;br&gt;ISRM Specialised Conference “3rd ISRM International Young Scholars’ Symposium on Rock Mechanics”, Xi’an, China</td>
</tr>
<tr>
<td>December</td>
<td>Acceptance of the Nepal Society for Rock Mechanics as the ISRM NG of Nepal&lt;br&gt;Approval of the Guideline on the Best Performing National Group Award&lt;br&gt;Approval of the Guideline on the Outstanding Technical Commission Award&lt;br&gt;8th ISRM Online Lecture by Prof. Resat Ulusay “Rock characterization, testing and monitoring: highlighting the ISRM Suggested Methods”&lt;br&gt;Publication of the Newsletter No. 28</td>
</tr>
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Activities of the ISRM Board in 2014

Xia-Ting Feng (ISRM President) and Luis Lamas, (ISRM Secretary-General)

The ISRM Board met twice, in Vigo, Spain, in May and in Sapporo, Japan in October, to debate the present and the future of the Society. 2014 was a very positive year for the ISRM—a year where we achieved some important goals which had been proposed for the current Board’s tenure.

As the result of contacts between the Board and several countries in the various geographical regions, a new National Group (Zimbabwe) joined the Society and the prospects of affiliation of other groups in 2015 are very high. The ISRM Individual Members now total 7,673, an all-time record.

Education was probably the field where we invested most of our efforts. A lecture tour was organised in Hanoi, Vietnam. The creation of the ISRM Education Fund was a milestone in our education programme. This Fund was created to further the ISRM’s mission, through enhancing education in Rock Mechanics and Rock Engineering, and the priority beneficiaries will be economically disadvantaged regions and ‘group-wide initiatives’.

The ISRM Online Lecture series, launched in February 2013 has proved to be a great success. In 2014, we broadcast the 5th, 6th, 7th and 8th online lectures, respectively by Dr John Read (“Implementing a reliable slope design”), Prof. Herbert Einstein (“Puzzles in rock: have they been solved?”), Prof. Shunsuke Sakurai (“Field measurements and back analysis in rock engineering”) and Prof. Resat Ulusay (“Rock characterization, testing and monitoring: highlighting the ISRM Suggested Methods”), and we have approved the Lecturers and themes for the 2015 Lectures. All ISRM Lectures remain available at the ISRM website: www.isrm.net

The book “ISRM Suggested Methods for Rock Characterization, Testing and Monitoring: 2007–2014”, familiarly known as the ‘Orange Book’, was officially launched in October, during the ISRM International Symposium: ARMS 8, that took place in Sapporo, Japan. The agreement signed with Springer, the Publisher of the book, allows ISRM members to benefit by a 75% discount on the price of the book and to download the e-book free of charge. [See page 21.]

An English-Chinese version of a multi-lingual glossary in rock mechanics was prepared and completed, and is being translated into different languages. It will be available on the ISRM website at the beginning of 2015.

Good communication with members is fundamental, so the ISRM website is in a state of constant modernisation, and this year we have introduced a new and more dynamic homepage. Our members can keep up with the Society’s latest news on the website, whether by consulting the rolling news, the annual issue of the ISRM News Journal or the quadrennial issues of the ISRM Newsletters. An innovation in communication was the setting up of an ISRM LinkedIn page and an ISRM Twitter account. The ISRM Digital Library is constantly being updated and now contains the proceedings of 35 past conferences available for download.

It is this Board’s policy to further recognise the ISRM membership. So, in addition to the already existing Müller and Rocha Awards, two new awards have been created: the Best Performing National Group Award and the Outstanding Technical Commission Award.

With the introduction of ISRM Specialised Conferences, as a new type of sponsored conference, the ISRM is now involved in a considerably larger number of events than in the past. In 2014, the ISRM sponsored seven conferences. The Board has already approved the sponsorship of 15 conferences during the period 2015 to 2019.

The 8th Asian Rock Mechanics Symposium, which this year was also the ISRM 2014 International Symposium, gathered the rock mechanics community together in Sapporo, Japan, where the ISRM Board, Council and Commission meetings took place. At this excellent Symposium, a students’ programme, including a students’ night, was organised, and it was a good example of how to attract young people to the rock mechanics community and, in particular, to the ISRM [see front cover of this Issue!].

Interaction with Sister Societies was not forgotten and again we attended the meeting of the Board of the Federation of International Geo-Engineering Societies (FedIGS), of which the ISRM is a member, in September, in Turin. Inter-Society co-operation, the improvement of the FedIGS website, and increase in the interaction between Societies were some of the themes debated.
ISRM Board 2011–2015 Accomplishments

Xia-Ting Feng (ISRM President, 2011–2015)

The 13th Congress of the ISRM will take place in May in Montréal, and, at its conclusion, the current Board’s term of office will have ended, so it is time now to look back on the past four years and consider what has been achieved.

Our term of office could not have started in a more auspicious way—with the one-year-period celebrations of the 50th Anniversary of the ISRM, which were launched during the 12th Congress in Beijing. To provide a lasting memory of the first 50 years of the ISRM, a commemorative anniversary book was published, edited by Professor John A. Hudson and Dr Luis Lamas, and an associated historical exhibition was prepared. Both the commemorative book and exhibition were launched and inaugurated during the 2012 ISRM International Symposium in Stockholm. The exhibition was displayed in several countries and several hundreds of books were sold.

When we began our term of office in 2011, we proposed to focus our efforts on the further modernisation of the ISRM. To accomplish the task, we defined five areas of action: membership and growth; improving benefits to members; improving communication; technical relevancy; and Society governance. Although the five areas are intertwined, I will give you a summary of each theme separately.

Membership and growth

Up to the present date, the Society has been steadily growing. Thanks to the efforts of the ISRM Vice-Presidents, Albania, Bosnia and Herzegovina, Hungary, Mexico, Tunisia, Vietnam and Zimbabwe have joined us and we have gone from 48 National Groups in 2011 to the current 55; from 6,514 individual members to 7,673 at the end of 2014. We expect these figures to continue increasing until the next Congress since Bulgaria, Romania and Ukraine have applied to become new ISRM National Groups and will be approved soon.

In order to stimulate the activity of the National Groups, the Board decided to create the Best Performing National Group Award—to be given for the first time in 2015 during the 13th Congress.

In 2013, the Board conferred the title of Fellow on eight ISRM prestigious members of the Society: Giovanni Barla (Italy), Herbert Einstein (USA), John A. Hudson (UK), Milton Kanji (Brazil), Chung-In Lee (Korea), Qian Qihu (China), Dick Stacey (South Africa) and Ove Stephansson (Sweden). Ten more Fellows were recently approved by the Board and will be inducted in 2015 during the 13th Congress: Nick Barton (UK), Nuno Grossmann (Portugal), Peter Kaiser (Canada), T. Ramamurthy (India), José Delgado Rodrigues (Portugal), Koishi Sassa (Japan), Wulf Schubert (Austria), Sun Jun (China), and Zhao Jian (China).

Improving benefits to members

This was possibly the area where we invested most of our efforts, in diversified aspects such as education, special members’ discounts and others.

In March 2013, we launched the very successful series of ISRM Online Lectures. Every three months, experts in different fields of rock mechanics are invited to give a lecture on a specific topic, and the attendees are allowed to ask questions to the lecturer by e-mail during the subsequent two days. All lectures remain available at the ISRM website. To date we have broadcast eight lectures on topics of general interest, and the first two lectures of 2015 are already programmed.

The ISRM Digital Library, stored on the OnePetro platform, is constantly being updated. In 2012, this online library contained the papers of 25 conferences and today the papers of 35 ISRM-sponsored conferences are available for our members’ free download. ISRM members are allowed up to 100 or 250 free downloads per year, depending on whether they are Individual or Corporate Members.

To promote education, the ISRM Board stimulated a Lecture Tour in Hanoi, Vietnam, and an English-Chinese version of the multi-lingual glossary in rock mechanics. The glossary is now being translated into different languages and will be available on the ISRM website by March 2015.

As proof of the ISRM commitment to the future, the Board proposed the creation of the ISRM Education Fund, which was approved by the Society’s Council in 2014. This Fund was created to further the ISRM’s mission, by enhancing education in Rock Mechanics and Rock Engineering. Priority beneficiaries will be economically disadvantaged regions and group-wide initiatives. The Education Fund Committee, chaired by Prof. Frédéric Pellet, has been appointed and can now start its work.

Very advantageous agreements between the ISRM and several publishers were signed, in order to benefit our members. Springer published the ISRM “Orange Book” (“ISRM Suggested Methods for Rock Characterization, Testing and Monitoring: 2007–2014”) and ISRM members benefit through a 75% discount on the price of the book, or can download the e-book at no cost, see page 21.

CRC Press/Balkema, publisher of the ISRM Book Series offers ISRM members a 40% discount on books published in the ISRM Book Series and 30% discount on books published by CRC Press/Balkema and other Taylor & Francis imprints.

Special attention was paid to young members with the creation of the Young Members Presidential Group. The 1st Young Members’ meeting of the Society was held during Eurock 2012 in Sweden, followed by meetings during ARMS 7 in Seoul also in 2012, the Sinorock 2013 in Shanghai, Eurock 2013 in Wroclaw, and the ARMS 8 symposium in Sapporo [see front cover of this Issue]. Particularly successful were the students’ nights organised in Seoul and Sapporo, with enthusiastic participation of many students and young practitioners.

As part of the Board’s initiatives to increase the participation of Young Members in ISRM activities, a Question and Answer type of competition among student teams, Rock-Bowl, will be organised during the ISRM Congress in Montréal in May 2015, under the leadership of Prof. Sérgio A.B. da Fontoura, President of the ISRM NG of Brazil. National Groups will be invited to form a team of university students to participate in this competition.

Improving communication

Maintaining good communication with members has been a priority of this Board. On the ISRM website all the relevant
information about the Society, such as activities, publications, awards, conferences, history or institutional information can be found. We have continuously updated the website and, in 2014, we introduced a new and more dynamic homepage.

Four annual issues of the ISRM News Journal were published, with the invaluable collaboration of Prof. John A. Hudson as Editor-in-Chief. Paper copies ceased being distributed to all ISRM members, but they are still available for select distribution and at the ISRM desk during the main ISRM conferences. The News Journal is now distributed in electronic format to all members and is also available on the website, where it can be read online.

The ISRM News Letters continued to be issued regularly and they convey useful information on the life of the Society to all the ISRM members and to all those who subscribe to it on the website.

Innovations in communication were the setting up of an ISRM LinkedIn page and an ISRM Twitter account.

Technical relevancy

As a result of the activity of the Commission on Testing Methods, during the four years, we approved several ISRM Suggested Methods. The book “ISRM Suggested Methods for Rock Characterization, Testing and Monitoring: 2007–2014”, known as the “Orange Book”, edited by Resat Ulusay, was officially launched in October 2014, during the ISRM International Symposium ARMS 8, in Sapporo, Japan, see page 21.

Technical growth of the ISRM has also occurred, as the number of Commissions increased from 12 in 2011 to the current 18, and their scope was considerably broadened. In order to recognise the work of the Commissions, the Board created the Outstanding Technical Commission Award, which will be given for the first time during the 13th Congress.

The ISRM Book Series has been created and the first book of the series will be launched in 2015: “Rock Engineering Risk” by J.A. Hudson and Xia-Ting Feng. The aim of the Series is mainly to promote the scientific output of ISRM Technical Commissions, but can also cover other issues. The Series plan that has been prepared includes 20 books to be published in the forthcoming years.

With the introduction of ISRM Specialised Conferences as a new type of sponsored conference, the ISRM is now involved in a considerably larger number of events than in the past. Between 2011 and 2014, 16 ISRM sponsored conferences took place and the Board has already approved the sponsorship of 15 conferences from 2015 to 2019.

During this period, the ISRM has conferred the prestigious Manuel Rocha Medal Award to Maria Teresa Zanda-rin from Argentina in 2012, Matthew Pierce from Canada in 2013 and Mandadigie Samintha Anne Perera from Australia in 2014, who delivered their Rocha Lectures at the ISRM International Symposia during those years. Andrea Lisjak Bradley from Italy was selected as the 2015 Rocha Medal winner.

The ISRM Council has selected Prof. John A. Hudson as the 2015 Müller Award recipient, the highest distinction given by the ISRM in recognition of distinguished contributions to the profession of rock mechanics and rock engineering. Prof. Hudson will deliver the Müller Lecture at the 13th Congress of the ISRM.

In July 2011, the Board decided to institute the ISRM Lecture to recognise a mid-career ISRM member who has made a significant contribution to a specific area of rock mechanics and/or rock engineering. In 2012, it was renamed ISRM Franklin Lecture, in order to honour the memory of Past-President Professor John Franklin. The lectures were given by José Muralha, Andreas Gorički and Masahiko Osada.

Governance of the Society

In 2012, the Board approved two Guidelines—for the ISRM Franklin Lecture and for the Video Presentation by Candidates for ISRM President and Vice President. In 2014, proposed by the Board, the Council of the Society approved ISRM By-law No. 11 on the regulation of the ISRM Education Fund.

The Council, at the 2013 meeting in Wrocław, Poland, elected Dr Eda Quadros, from Brazil, as the ISRM President 2015–2019. Dr Quadros now sits on the Board as the ISRM President-Elect.

The large number of Commissions called for the creation, in 2013, of a Technical Oversight Committee, chaired by Prof. Yuzo Onishi, whose task is to interact with the Commissions, summarise their activities and report to the Board and Council, see pages 22–23.

The Advisory Forum of the ISRM, created in 2011 with the intention of creating a group of experts in rock mechanics and engineering, as well as in the purposes and operation of the Society, met for the second time in Wroclaw, Poland, and the third meeting is scheduled for 2015 in Montréal.

The Board of the Federation of International Geo-Engineering Societies (FedIGS), of which the ISRM is a member, holds an annual meeting, where inter-Society cooperation is debated. The most recent meeting, in 2014, was held in Turin. The next meeting will be organised by the ISRM in July 2015, in Shenyang, China.

* * * * *

Along this four-year period we have also and sadly witnessed the departure of dear friends, to whom we have paid their deserved homage. Because of their deep involvement in the ISRM, the departure of Professors John Franklin and Marek Kwasniewski was particularly heartfelt.

* * * * *

It is my belief that the targets attained during our term of office have been important and have enabled the ISRM to prosper. I was lucky to have an exceptional Board. Without the passion for the ISRM and the collaboration of all the Board members, the successes achieved would not have been possible.

Finally, it has been a great honour serving the ISRM and I thank all of you who, in one way or another, have contributed to our activities, especially for your enthusiasm and support.

Xia-Ting Feng,
President of the ISRM 2011–2015, December 2014
1. National Groups and membership

The current number of ISRM National Groups is 55 with the recent approval of Zimbabwe. The table on page 19 presents the situation regarding ISRM membership, per country and per region, in October 2014. The present number of individual members (ordinary and corresponding) and of corporate members is:

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<tr>
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</table>

When compared with the figures presented at the previous Council meeting, in September 2013, this corresponds to an increase of 450 individual members (6.2%). Major changes observed are the significant increase in number of individual members in Brazil, from 194 to 371, and in China, from 872 to 1060.

The graphics below present the evolution of the number of ISRM members and National Groups since 1996.

The distributions of individual and corporate members in each geographic region are shown below.

The following graphic shows the evolution of the number of individual members in each geographic region since 2003.
2. Payment of fees
The situation of the National Groups as regards payments of fees (until October 2014) is as follows:

**Unpaid 2013 fees:** Denmark and Nepal

**Paid 2014 fees:** Albania, Argentina, Australia, Austria, Belgium, Bosnia and Herzegovina, Brazil, China, Colombia, Costa Rica, Croatia, Czech Republic, Finland, France, Germany, Greece, Hungary, India, Indonesia, Israel, Italy, Korea, Mexico, ME Asia, New Zealand, Norway, Peru, Poland, Russia, Singapore, Slovenia, Spain, Sweden, Switzerland, UK, Vietnam and Zimbabwe.

**Paid 2015 fees:** Argentina and China

3. ISRM sponsored meetings
Since the last ISRM Council meeting in Wrocław, in September 2013, the following conferences were approved:

- **ISRM Specialised Conference - 3rd ISRM International Young Scholars’ Symposium on Rock Mechanics, 8–10 November 2014, Xi’an, China.**
- **ISRM Specialised Conference - GeoProc2015: International Conference on Coupled THMC Processes in Geosystems, 25–27 February 2015, Salt Lake City, USA.**
- **ISRM Specialised Conference - China Shale Gas 2015, 6–8 September 2015, Wuhan, China.**
- **ISRM Regional Symposium - VIII South American Congress on Rock Mechanics, 15–18 November 2015, Buenos Aires, Argentina.**
- **ISRM Specialised Conference - GEOSAFE: 1st International Symposium on Reducing Risks in Site Investigation, Modelling and Construction for Rock Engineering, 25–27 May 2016, Xi’an, China.**
- **ISRM Specialised Conference - RARE 2016: Recent Advances in Rock Engineering, 16–18 October 2016, Bangalore, India.**
- **ISRM Regional Symposium - 13–15 June 2017, Ostrava, Czech Republic, approved as EUROCK 2017.**

4. Rocha Medal
During EUROCK 2013, the Rocha Medal Award Committee selected as the winner of the 33rd prize (Rocha Medal 2014) the thesis submitted by Dr Mandadige Samintha Anne Perera, from Australia. Two runner-up certificates were also awarded to Dr Jose Ricardo Resende from Portugal, and Dr Sevda Dehkoda, from Iran. The awards were conferred in Octo-
ber 2014, during the ISRM International Symposium in Sapporo, Japan, where Dr Perera will deliver the Rocha Lecture.

During the 2014 International Symposium, the Rocha Medal Award Committee will select and announce the winner and runners-up of the Rocha Medal 2015. The award will be conferred during the 2015 ISRM International Congress in Montréal, Canada.

Submission of applications for the Rocha Medal 2016 is open until 31 December 2014, and for 2017 see page 27.

5. ISRM News Journal
The electronic version of the ISRM News Journal, Vol. 16, December 2013, edited by Prof. John A. Hudson and Prof. Xia-Ting Feng, was included on the ISRM website, where it can be downloaded, and the Secretariat sent info-mails to all members, advertising it; 400 hard copies were printed for select distribution. That 56-page issue of the News Journal contains the annual review of the Society’s activity in 2013.

6. ISRM Newsletter
Since the previous Council meeting, five issues of the electronic Newsletter, prepared by the Secretary-General, were published: two in 2013 (September and December), and three in 2014 (March, June and September). As usual, all ISRM members and all those who subscribed to the Newsletter on the website received them by email. The Newsletters are also available on the website. ISRM National Groups and individual members are welcome to submit to the Secretariat contributions on Rock Mechanics topics of interest to our technical community.

7. ISRM Website
The website of the ISRM (http://www.isrm.net), launched on 1 April 2005, is the main source of information of the ISRM and the main channel for communication with the members. Most benefits being offered to the members are available in the password protected members’ area.

Statistics for the daily number of visits and downloads since the website started are summarised in the graphics in this sub-section. A 29% increase in downloads and a 19% increase in the number of visits in 2013 are clear indicators of the importance of the website.

8. Digital Library
The ISRM Digital Library started in October 2010 and is part of OnePetro.org, a large online library managed by the Society of Petroleum Engineers. ISRM individual members are allowed to download, at no cost, up to 100 papers per year from the ISRM conferences. ISRM corporate members can download 250 papers.

To register on the OnePetro website (www.onepetro.org) as an ISRM member, a new system was implemented in early 2014. To download papers for free, every ISRM member was given a token, which is a unique numerical string. Detailed instructions on how to download the papers can be obtained from the ISRM website.

Papers from the ISRM Congresses and sponsored Symposia have been gradually introduced in the Library. Currently, the papers from 35 ISRM sponsored events are available, totalling around 6,850 papers and 48,600 pages.

Several other ISRM sponsored conferences, for which the ISRM has the copyright or the right for distribution, are ready for inclusion in the database and will be online soon. The ISRM is still dealing with copyright issues regarding a few sponsored conferences.

9. Educational and promotional items
As in previous years, the ISRM educational material has been in demand, and most of it is nowadays available from the ISRM website, for free download by the ISRM members. The “Blue Book” The Complete
ISRM Suggested Methods for Rock Characterization, Testing and Monitoring: 1974–2006, continues to represent, by far, the main item during this period.


10. Support provided
As usual, the Secretariat made ample use, at no charge, of a number of facilities available at the Portuguese National Laboratory for Civil Engineering, LNEC. This included use of office rooms and other facilities offered to the Secretariat, telephone and fax, as well as use LNEC’s computer network, namely for internet access. This support has long been instrumental to the well-being of the Society and is very much appreciated.

11. Final remarks
The life of the Society and the activity of the Secretariat during the period corresponding to this report were marked by:

- continuation of the increase in the number of members of the Society;
- continuation of the increase in the downloads and visits to the website;
- implementation of a new system for registration on the OnePetro website; and
- increase in the number of requests for ISRM sponsorship of conferences.

Lisbon, September 2014

Luís M. N. Lamas
Secretary-General, ISRM
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**totals:**

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<td>143</td>
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</table>
ISRM Council Meeting Report, Sapporo, Japan, October 2014

Luis Lamas, Portugal, ISRM Secretary-General (secretariat.isrm@lnec.pt)

The ISRM held its Council meeting in conjunction with the 2014 ISRM International Symposium ARMS 8 “Rock Mechanics for Global Issues–Natural Disasters, Environment and Energy” in Sapporo, Japan, on 13th October 2014; 48 of the 55 National Groups were represented and two Past-Presidents were present. Representatives from IAEG, ISSMGE and ICOLD were also present, and most of the ISRM Commission Chairman attended the meeting.

Report of the President
The President reported on the activities of the Society during the previous year in line with the focus of the current Board, the continuing modernisation initiative, and growth of the Society.

He informed the meeting that the English-Chinese version of the multi-lingual glossary in rock mechanics is now complete and will be translated into different languages, so that it can be online on the ISRM website by March 2015.

He also explained the purpose of the ISRM Education Fund to be approved by the Council and noted the creation of new ISRM Awards: the Outstanding Technical Commission Award and the Best Performing National Group Award, as decided by the Board.

The President also informed the meeting about the launching of the ISRM Orange Book, a compilation of ISRM Suggested Methods for Rock Characterization, Testing and Monitoring: 2007–2014, to take place during the Symposium.

Reports of the Vice-Presidents
Each Vice-President presented a report on the activities carried out in the past year. These reports are included in this Issue of the News Journal, see pages 37–47.

Report of the Secretary-General
The Secretary-General presented his report, informing, in addition to other issues, on the evolution of membership, on National Groups’ growth, on the Rocha Medal winner, on the News Journal, Newsletter and ISRM website, and on the Digital Library. The report of the Secretary–General is included in this Issue of the News Journal, see pages 15–18.

Accounts for 2013 and the Budget for 2015
The ISRM accounts for 2013 and the Budget for 2015 were approved.

Co-operation with other Societies
The Secretary-General informed the meeting that the last meeting of the Board of the Federation of International Geo-engineering Societies (FedIGS) took place in September 2014, in Turin, Italy. The most important topics debated were the improvement of the FedIGS website, the increase in the interaction between Societies by inviting Lecturers to each Society’s International Conference and through the activity of the Joint Technical Committees (JTCs).

ISRM Commissions
A report on the activities of the 18 Commissions was presented by Prof. Yuzo Ohnishi, Chairman of the Technical Oversight Committee. This report is included in this Issue of the News Journal, see page 22.

Announcement of the Rocha Medal 2015 winner
The Council was informed that the Board awarded the Rocha Medal 2015 to Dr Andrea Lisjak Bradley, from Italy, whose thesis is entitled “Investigating the Influence of Mechanical Anisotropy on the Fracturing Behaviour of Brittle Clay Shales with Application to Deep Geological Repositories”. The 2015 Rocha Medal will be awarded at the 13th ISRM International Congress, in May 2015, in Montréal, Canada.

The Committee also awarded a runner-up Proxime Accessit certificate to Dr Ahmadreza Hedayat, from Iran, for the thesis “Mechanical and Geophysical Characterization of Damage in Rock”. 7th Müller Award: Selection of the winner
Prof. John A. Hudson was selected by Council as the 2015 Müller Award recipient and he will deliver the Müller Lecture at the 13th ISRM Congress, in 2015, in Montréal.

ISRM By-Law No. 11 on the ISRM Education Fund
The Council approved the Board’s proposal to create the ISRM Education Fund, which is now By-Law No. 11. This Fund was created to further the ISRM’s mission, by enhancing education in Rock Mechanics and Rock Engineering, and the priority beneficiaries will be economically disadvantaged regions and group-wide initiatives.

Selection of the venue for the 2016 ISRM International Symposium
Cappadocia, Turkey was voted as the venue for the 2016 ISRM International Symposium, from 29 to 31 August, where the Board, Council and Commission meetings will take place. The other two competitors were the Regional Symposium ARMS9 in Bali, Indonesia, and AfriRock in Cape Town, South Africa.

Selection of the venue of the 14th International Congress of the ISRM
After a competition between two excellent proposals presented by Brazil and India to host the 14th International Congress of the ISRM, the Council selected the Brazilian proposal, which has the co-operation of the National Groups from Argentina and Paraguay. The 14th Congress will take place in Foz de Iguazu in 2019.

ISRM sponsored meetings
The organisers of the ISRM sponsored events that will take place in the near future presented the progress of their arrangements.
This book is a collection of ISRM Suggested Methods for testing or measuring properties of rocks and rock masses, both in the laboratory and in situ, as well as for monitoring the performance of rock engineering structures. The first collection (Yellow Book) was published in 1981. In order to provide access to all the Suggested Methods in one volume, the ISRM Blue Book was published in 2007 (by the ISRM via the Turkish National Group) and contains the complete set of Suggested Methods from 1974 to 2006 inclusive.

The papers in this most recent volume have been published during the last seven years (2007–2014) in international journals, mainly in Rock Mechanics and Rock Engineering. They offer guidance for rock characterization procedures and laboratory and field testing and monitoring in rock engineering. These methods provide a definitive procedure for the identification, measurement and evaluation of one or more qualities, characteristics, or properties of rocks or rock systems that produces a test result.

Part I Laboratory Testing
Part II Field Testing
Part III Monitoring
Part IV Failure Criteria
Part V Additional Article on Rock Characterization
1. Introduction
The TOC (Technical Oversight Committee) of the ISRM Commissions was created in 2012 in order to enable the oversight and co-ordination of the Commissions’ work and production of a yearly report on the ISRM Commissions’ activities.

The purpose of ISRM commissions is to study scientific and technical matters of interest to the Society. ISRM Commissions can only be approved if it is clear that the Commission is well organized and that there will be a significant product—which is both useful to the ISRM and produced on time. It is expected that Commission meetings will be held in association with the ISRM International Symposia: i.e., the ARMS-8 in Sapporo, Japan, Oct. 2014, and of course the 2015 ISRM Congress in Montreal. Additional conferences such as regional and specialized ones may be included.

A Commission’s full report, reporting on the 2011–2015 work, should be prepared in the year before the 2015 Montreal Congress.

The current list of ISRM Commissions is as follows:
- Commission on Application of Geophysics to Rock Engineering
- Commission on Coupled THMC processes in Geological Materials and Systems
- Commission on Crustal Stress and Earthquake
- Commission on Design Methodology
- Commission on Discontinuous Deformation Analysis - DDA
- Commission on Education
- Commission on Evolution of Eurocode 7
- Commission on Grouting
- Commission on Hard Rock Excavation
- Commission on Petroleum Geomechanics
- Commission on Preservation of Ancient Sites
- Commission on Radioactive Waste Disposal
- Commission on Rock Dynamics
- Commission on Spall Prediction
- Commission on Soft Rocks
- Commission on Testing Methods
- Commission on Underground Nuclear Power Plant
- Commission on Underground Research Laboratory (URL) Networking

A total of 12 ISRM Commissions reported their activities.
This note is a simple summary of the full reports of the Commissions, and draws directly on their content. Participation in various activities by each of the Commissions in this term is summarised in the Table on the previous page.

2. Standard Template to summarise a Commission’s activities
The TOC proposed a standard template form to describe a Commission’s annual activities. The Commission’s Chairperson(s) are requested to summarize their activities by filling in the template sheet.

Standard form for an ISRM Commission’s report to the Technical Oversight Committee
1. Commission Name:
2. Chairperson(s):
3. Number of members:
4. Goal of the Commission:
5. What are the methods of communication for Commission members? What is the frequency of communication?
6. What is the proposed method for achieving the goals of the Commission?
7. What meeting, International symposia, Workshops or training have been planned?
8. What meetings, International Symposia, Workshops or training have been held in the past 12 months?
9. Has the Commission published, or will it publish a book, papers or other documents during its term? What is the planned publication date?
10. Are any other activities or events planned?
11. Describe the Commission’s achievements over the past 12 months, and since inception?
12. Do you need any help from the ISRM Board and Secretariat to improve and stimulate your Commission’s activity?
13 [Optional] How do you evaluate the performance of your Commission in the last 12 months? Use one of the following words: Excellent, Good, Fair, Poor. Describe the reason why:…

In future, and when appropriate to the situation, the Board will especially favour applications for Special Commissions that specifically target the involvement and development of early- and mid-career practitioners.

- The TOC especially recommends that the Board should congratulate the Suggested Methods, Eurocode 7, DDA and Design Methodology Commissions for their continued strong efforts.
- The TOC also recommends that the ISRM Secretariat supports the maintenance of ISRM web pages for Commissions and for solving any problems which the Commissions may have.

4. TOC Recommendations at Sapporo
The TOC recommended the following items.
- Commissions are requested to follow the standard template (goal, activities, outcome, etc.) which is provided by the TOC (see opposite column text).
- Some Commissions failed to send us their reports this time.
- Inactive Commissions. Commissions that do not report, or which do not follow the recommended improved methods will be asked to justify the continuation of their Commissions.
- Non-complying Commissions may be terminated by the Board, subject to the recommendations of the TOC.
- The Board has decided to reward “Outstanding ISRM Commissions” for their remarkable performance. The Board will set the criteria for evaluation soon.

Prepared by ISRM VP: Yuzo Ohnishi, 2014
Professor Marek Kwaśniewski passed away on 22 September 2014, at the age of 67. He was a Professor of Rock Mechanics and Mining Geomechanics, and Head of the Rock Mechanics Laboratory at the Silesian University of Technology in Gliwice, Poland.

He obtained a M. Eng. degree in Mining Engineering and a Dr. techn.Sc. degree from the University of Science and Technology in Cracow, Poland, and a Dr. hab. techn.Sc. degree from the Silesian University of Technology. His primary research interests were the behaviour of rocks under general triaxial stress conditions and the brittle failure of rocks. He had a long record of co-operative scientific research with Japanese and Chinese scientists.

Professor Kwaśniewski’s industry related activities included leadership positions in numerous R&D projects on various aspects of strata control in underground mines, including the stability of mine workings, rockburst hazard and ground subsidence problems.

He was the Editor-in-Chief of the Geomechanics Research Series since 1987, and a member of the Editorial Board of the Archives of Mining Sciences quarterly since 1999. He was also an active member of several scientific and professional societies. From 1973 to 1988, as Secretary-General of the International Bureau of Strata Mechanics (IBSM), an association mainly of scientists from Eastern Europe, he was the liaison member with the International Society for Rock Mechanics (ISRM), having fostered the cooperation between these two associations. He was very involved in the activities of the ISRM and, from 1993 to 2002, he presided over the ISRM Commission on Education. In 1993, he co-founded the Polish Society of Rock Mechanics, the Polish ISRM National Group, and was its President since 2007.

In September 2013, Professor Kwaśniewski received the rock mechanics community in Wroclaw for the very successful 2013 ISRM International Symposium.

Research and teaching related to rock mechanics were his life, and he continued to share his lifelong experience with his colleagues until his last days. The ISRM community and many people involved in rock mechanics in Poland and abroad were among his best friends. Among the many qualities of Marek Kwaśniewski, his personal kindness shall not be forgotten by those who, for any reason, interacted with him.

The letter that follows is from the ISRM President to the members of Polish Society for Rock Mechanics and the dear relatives of Professor Marek Kwaśniewski

It was with great sorrow that the ISRM learned, last September, about Professor Marek Kwaśniewski’s passing away.

Along the years, Marek was a very active member of the ISRM in many roles, namely as chairman of the Commission of Education during 10 years. He was a founding member of the Polish Society of Rock Mechanics (the ISRM National Group of Poland), presided over by him since 2007. More recently, in September 2013, he received the rock mechanics community in Wroclaw for the very successful 2013 ISRM International Symposium.

Research and teaching related to rock mechanics were all his life, and he continued to share his lifelong experience with his colleagues until his last days. His disappearance is a great loss for rock mechanics in Poland, in the ISRM community and worldwide.

Many of Marek’s best friends were people involved in rock mechanics in Poland and abroad. Among his many qualities were his personal kindness and his high core values, which will not be forgotten by those who, for any reason, interacted with him.

At both ISRM Board and Council meetings held in October 2014 in Sapporo, Japan, Marek was remembered with deference and his absence was deeply felt by all those who respected and admired him profoundly.

In the Council meeting Dr Pawel Nawrocki remembered Marek, his dedication to the ISRM, his high values and the high worth of his scientific skill. The ISRM Council approved unanimously a motion for the ISRM to send a formal condolences letter to the Polish Society for Rock Mechanics and to Professor Marek Kwaśniewski’s family.

On behalf of the ISRM fraternity, please accept our condolences for a loss that is yours and ours.

28 November 2014

[Signature]
As a memorial to Dr John Franklin, Past-President of the ISRM, who passed away in 2012, a 1.5 tonne boulder of black anorthosite was donated by Mr Tom Palangio of WipWare in North Bay, Ontario.

At the memorial ceremony, Dr Franklin’s wife Kersty (above right) was in attendance, as well as various friends from Canada (see below). Kersty spread John’s ashes on and around the rock, and there wasn't a dry eye in the crowd. It was an emotional but happy ceremony as John's dedication to science and rock mechanics was remembered. John was very demanding of high quality work, and his contributions and unceasing energy to the very end of his capabilities as he battled Parkinson's Disease for well over a decade were well remembered.

The rock is in the University of Waterloo Peter Russell Rock Garden, an award-winning display of large rocks from around Canada.
How to become an ISRM Member

Membership of the Society consists of Individual Members within the approved National Groups, Corresponding Members & Corporate Members:

For Individual Membership apply for membership of the ISRM through your National Group, this being the recommended type of membership for the development of the Society. However, because some countries do not have a National Group, or due to the preference shown by a candidate for membership directly to the Society through its Secretariat, the category of Corresponding Member was created. The amount of the annual membership fee to be paid, depending on the existence of an approved National Group in the respective country, is as stated in the Membership list of fees in the next column.

For Corporate Membership (Companies or Organisations) apply directly to the Secretariat or through your National Group.

For a national organisation to be recognised as an ISRM National Group, it is necessary to formally apply to the President through the Secretary-General for recognition according to the ISRM statutes. This should be an organisation, such as a Society or a Committee that represents Rock Mechanics in that country, either solely concerned with Rock Mechanics, or as part of a broader field of scientific or engineering interest. Each country should have no more than one National Group.

Benefits for ISRM Members

The current benefits for ISRM members (Individual and Corresponding Members) are:

- Personal subscription to Rock Mechanics and Rock Engineering at a discounted price,
- 75% discount on the price of the “Orange Book” published by Springer and ability to download the e-book free of charge.
- 40% discount on books published by CRC Press/Balkema in the ISRM Book Series and 30% discount on books published by CRC Press/Balkema and other Taylor & Francis imprints.

The current benefits for Corporate Members are:

- Listing in the ISRM website, with a link to the Company’s website,
- Listing in the ISRM News Journal,
- Access to the ISRM website Members’ area,
- ISRM Newsletters,
- Copy of the ISRM News Journal,
- One registration at an advantageous rate as an ISRM member at the ISRM Congress and International and Regional Symposia, and
- Free download of up to 250 papers/year from the ISRM digital library at www.OnePetro.org

Annual Fees

1. National Groups

National Groups shall pay to the Society a basic fee, this amount depending on the number of Members, plus a fixed amount for each Individual and Corporate Member, according to the scale below (in Euros, €).

National Group Fee:
- with 10 individual members or less: €33.00;
- with more than 10 and less than 40 individual members: €3 x no. of members + € 3;
- with 40+ individual members: €120.00.

Individual Member Fee: €8.00
Corporate Member Fee: €160.00

2. Corresponding Members

Corresponding Members shall pay to the Society an annual fee. In order to encourage membership of individuals through the ISRM National Groups, this annual fee is different for Corresponding Members from countries with or without a National Group:

- Fee for Corresponding Members from countries without a National Group: €20;
- Fee for Corresponding Members from countries with a National Group: €20 in the first year; €40 in the subsequent years.

Organisation of ISRM-sponsored meetings

The Society sponsors a co-ordinated programme of National, Regional and International Symposia, and Specialised Conferences.
ROCHA MEDAL 2017

Since 1982 a bronze medal and a cash prize have been awarded annually by the ISRM for an outstanding doctoral thesis in rock mechanics or rock engineering, to honour the memory of Past President Manuel Rocha while stimulating young researchers.

In addition to the Rocha Medal award to the winning submission, one or two runner-up certificates may also be awarded.

An invitation is now extended to the rock mechanics community for nominations for the Rocha Medal 2017.

Full details on the Rocha Medal are provided in ISRM By-law No. 7.

Application

To be considered for an award the candidate must be nominated within two years of the date of the official doctorate degree certification.

Nominations shall be by the nominee, or by the nominee’s National Group, or by some other person or organization acquainted with the nominee’s work.

Nominations shall be sent electronically, addressed to the Secretary General, and shall contain:

- a one page curriculum vitae;
- a written confirmation by the candidate’s National Group that he/she is a member of the ISRM;
- a thesis summary, written in English, with between 5,000 and 10,000 words, detailed enough to convey the full impact of the thesis and accompanied by selected tables and figures;
- one copy of the complete thesis;
- one copy of the doctorate degree certificate;
- a letter of copyright release, allowing the ISRM to copy the thesis for purposes of review and selection only;
- an undertaking by the nominee to submit an article describing the work, for publication in the ISRM News Journal.

Application Deadline

The nomination must reach the ISRM Secretary General by 31 December 2015.

Past Recipients

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Country</th>
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<tbody>
<tr>
<td>1982</td>
<td>A.P. Cunha</td>
<td>PORTUGAL</td>
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<td>1983</td>
<td>S. Bandis</td>
<td>GREECE</td>
</tr>
<tr>
<td>1984</td>
<td>B. Amadei</td>
<td>FRANCE</td>
</tr>
<tr>
<td>1985</td>
<td>P.M. Dight</td>
<td>AUSTRALIA</td>
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<tr>
<td>1986</td>
<td>W. Purser</td>
<td>AUSTRIA</td>
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<tr>
<td>1987</td>
<td>D. Edisworth</td>
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<td>1988</td>
<td>S. Genser</td>
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<td>1989</td>
<td>B. Frolich</td>
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<td>1990</td>
<td>R.K. Brummer</td>
<td>SOUTH AFRICA</td>
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<tr>
<td>1991</td>
<td>T.H. Kleine</td>
<td>AUSTRALIA</td>
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<td>1992</td>
<td>A. Ghosh</td>
<td>INDIA</td>
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<td>1993</td>
<td>O. Reyes W.</td>
<td>PHILIPPINES</td>
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<tr>
<td>1994</td>
<td>S. Akanagawa</td>
<td>JAPAN</td>
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<tr>
<td>1995</td>
<td>C. Derek Martin</td>
<td>CANADA</td>
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<td>1996</td>
<td>M.P. Board</td>
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<td>1997</td>
<td>M. Brudy</td>
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<td>1998</td>
<td>F. Mac Gregor</td>
<td>AUSTRALIA</td>
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<td>1999</td>
<td>A. Daeihake</td>
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<td>2000</td>
<td>P. Cosenza</td>
<td>FRANCE</td>
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<td>2001</td>
<td>D.F. Malan</td>
<td>SOUTH AFRICA</td>
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<td>2002</td>
<td>M.S. Diederich</td>
<td>CANADA</td>
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<tr>
<td>2003</td>
<td>L.M. Andersen</td>
<td>SOUTH AFRICA</td>
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<td>2004</td>
<td>G. Grasselli</td>
<td>ITALY</td>
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<td>2005</td>
<td>M. Hildyard</td>
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<td>D. Ask</td>
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<td>2007</td>
<td>H. Yasuhara</td>
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<td>2008</td>
<td>Z.Z. Liang</td>
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<tr>
<td>2009</td>
<td>G. Li</td>
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<td>J.C. Andersson</td>
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<td>2011</td>
<td>D. Park</td>
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<td>2012</td>
<td>M.T. Zandarin</td>
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<td>2013</td>
<td>M. Pierce</td>
<td>CANADA</td>
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<tr>
<td>2014</td>
<td>M.S.A. Perera</td>
<td>AUSTRALIA</td>
</tr>
<tr>
<td>2015</td>
<td>A.L. Bradley</td>
<td>ITALY</td>
</tr>
</tbody>
</table>

All relevant information can be obtained from the ISRM website, at http://isrm.net.
place the day before the meeting, chaired by John Harrison (see photograph below), and it had an unexpectedly high participation of 50 people.

Three one-day technical visits were available the day after closing the Symposium, which were 1) Underground Slate Mine & Las Médulas, 2) Venda Nova III Underground Cavern in Northern Portugal and 3) Railway Tunnel Underground Works. A total of 50 people visited these interesting rock engineering projects.

The proceedings of the Symposium have been published by Taylor & Francis, in a book containing the full version of the Keynote Lectures and the extended abstracts of the accepted papers and a USB card including the full version of all articles. Six keynotes and 249 papers from 39 countries were accepted. These included contributions from Asia (43), Australia (11), Europe (171), North and South America (22) and Africa (2). The proceedings are now included in the SCOPUS database.

Concerning social activities, a Welcome Reception was offered by the City Council, including traditional Galician bagpipers and dancing. The symposium Banquet was held on Wednesday 28th May in the town centre Bahía hotel, including a wine tasting session and closing with a traditional Galician ‘queimada’, where liquor was burned in front of the attendees by a local witch, who called for the spirit of our forerunners to wish the participants a happy life. Various guided tours for accompanying persons and delegates were also available to the nearby region Baixo-Minho, to the town of Vigo, and a visit to Santiago.

Leandro Alejano
Symposium Chairman
Some of the participants at EUROCK2014

The wine tasting prelude to the EUROCK2014 banquet
The wine tasting prelude to the EUROCK2014 banquet (cont.)

The EUROCK2014 band further enlightens the wine tasting session
The 8th Asian Rock Mechanics Symposium (ARMS8): “Rock Mechanics for Global Issues—Natural Disasters, Environment and Energy”, was held at the Royton Sapporo Hotel and Convention Center in Sapporo, Japan, on 14–16 October as the 2014 ISRM International Symposium, organized by the Japanese Committee for Rock Mechanics. The total number of participants was 620. They came from 35 countries and regions. The participants included more than 130 students from 17 countries and regions.

The ISRM Board and Council Meetings were held on 12th and 13th October, respectively, in advance of the Symposium. Additionally, seven Workshops and a Short Course were organized before the Symposium to update everyone on the activities of the ISRM commissions on DDA, Rock Dynamics, the Preservation of Ancient Sites, Design Methodology, Underground Nuclear Power Plants and the Application of Geophysics to Rock Engineering, and to discuss recent progress in related fields.

The symposium started on 14 October. Seven excellent Keynote Lectures were delivered on matters associated with the main themes of the symposium “Rock Mechanics for Global Issues—Natural Disasters, Environment and Energy”, namely,

- “Tunnelling and underground construction in China—Challenges and progress” by Prof. Xia-Ting Feng,
- “Contributions of rock physics to carbon dioxide capture and sequestration” by Prof. Toshifumi Matsuoka,
- “Key coupled processes related to gas-fracturing in unconventional reservoirs” by Prof. Derek Elsworth,
- “Geohazards risk management in India” by Prof. Surya Parkash,
- “Environmental impact of nuclear waste management—Concerns from intermediate storage to final disposal” by Mr. Rolf Christiansson,
- “Performance assessment of a rock cutting tool” by Prof. Seokwon Jeon, and
- “A reinforcement design methodology for highly stressed rock masses” by Prof. Ernesto Villaescusa.

The 2014 ISRM Franklin Lecture
- “Drying-induced deformation characteristics of rocks” by Prof. Masahiko Osada
- and the 2014 ISRM Rocha Medal Lecture
- “Effects of carbon dioxide sequestration on coal’s hydro-mechanical behaviour” by Dr. Mandadige Samintha Anne Perera

were also presented.

A total of 329 excellent papers were presented on 14 topics in 39 oral sessions, on three topics in three other organized sessions, and in two days of poster sessions. The topics of the sessions covered in the main theme of the symposium and the related fields were as follows:

1) Rock Properties,  
2) Earthquakes and Rock Dynamics,  
3) Tunnels and Underground Spaces,  
4) Mining Engineering,  
5) Petroleum Engineering,  
6) Slope Stability,  
7) Radioactive Wastes,  
8) Site Characterization and Design,  
9) Field Measurements and Tests,  
10) Rock Mechanics at Great Depth,  
11) Risk Management and Disaster Mitigation,  
12) Environmental Aspects of Mining and Construction Engineering,  
13) Reservoir Engineering,  
14) Carbon Dioxide Capture and Storage,  
15) Organized Session: Rock Engineering Risk,  
16) Organized Session: Underground Nuclear Power Plant/Underground Research Laboratory,  
17) Organized Session: DDA/MM.

Well-prepared and interesting presentations were made and active discussions were exchanged in order to understand and share recent progress and experiences on each of the topics.

The ISRM Board decided that the Awards to be given at ISRM-sponsored international Symposia would be named the “ISRM Awards” starting at this Symposium.

The 2014 ISRM Outstanding Paper Award and the Outstanding Paper Award for Young Scientists and Engineers were presented respectively to the authors (Sakaguchi, K., et al.) and a young author (Phueakphum, D.), i.e., from the orally presented best papers. In addition, the 2014 ISRM Outstanding Poster Award and the Outstanding Poster Award for Young Scientists and Engineers were presented to, respectively, authors (Lo, C., et al.) and a young author (Furuyama, Y.). The winners were commended at the Closing Ceremony.

A Technical Exhibition was held in the spaces just outside the conference rooms by 25 Companies and Groups. Coffee breaks were also held in the same spaces as the Technical Exhibition, and participants and exhibitors had a chance to get together and exchange information and opinions on the recent technologies in Rock Mechanics and Rock Engineering.
The ARMS8 Exhibition Awards were given to the following exhibitors: On Site Visualization, OYO Corporation, a group of RaaX Co., Ltd., Earth Scanning Association and MALÅ GeoScience AB, and A-TiC Co., Ltd.

Encouraging the young generation to take a more active role in the field of Rock Mechanics is an important issue for ISRM. ARMS8 provided two activities for this purpose. One was the scholarships and the other was “Students’ Night”. The scholarships provided young members with the financial support to attend ARMS8. The 11 winners were selected from Australia, China, India, Indonesia, Malaysia, Portugal, Singapore and Taiwan from among the young participants who applied to the programme, and they were commended at the Symposium Banquet by representatives of the donor companies.

The “Students’ Night” programme provided a meeting to encourage the establishment of networks among young members supported by the ISRM Young Members Presidential Group. More than 150 young members applied to attend this event. Due to space limitations, only about 50 students could be selected from all the applicants—by a random selection process. They all enjoyed this programme, together with the ISRM Board members, Prof. Feng, Mr. Lucas, Dr. Zhou and Dr. Lamas [see the cover of this Issue!].

As social activities, the Welcome Reception and the Symposium Banquet were held at the venue on the 13th and 15th October, respectively. The Banquet started with “Kagamiwari”, the breaking open of a ceremonial barrel of sake by a wooden hammer. Three hundred delegates got together and enjoyed modern dancing performed by children and with the music provided by an ensemble of flutes, piano and percussion, played by ladies wearing beautiful “Kimono”. A one-day tour of Otaru Bay City, a one-hour drive northwest of Sapporo, was given as part of the Accompanying Persons’ Programme on 15th October; twelve persons attended it.

Two technical excursions were conducted after the Symposium. Tour A was a visit to the Horonobe Underground Research Laboratory (URL) of the Japan Atomic Energy Agency (JAEA). JAEA has been carrying out research and development there on the geological disposal of high-level radioactive waste. This tour included a visit to a road tunnel disposal site and observation of the facilities for heavy metal-rich waste. Thirty delegates participated in Tour A. Tour B was a visit to the Kyogoku Pure Pumped-storage Hydro-electric Power Plant, including two rockfill dams for the upper and lower reservoirs, the 3 km tailrace tunnel and the underground power station constructed 430 m from the ground surface. Thirty nine delegates took part in this Tour B.

The booklet of the ARMS8 Program and Abstracts, and the Proceedings on USB flash memory were distributed to the participants. The digital version of the Proceedings, which is about 3000 pages in length, was published in December, 2014. Participants can download it from the web. All papers included in the Proceedings will be introduced into the ISRM Digital Library.

On behalf of the Organizing Committee, we extend our appreciation to all the participants and contributors who supported us and helped to bring success and joy to the Symposium.
ARMS8 Symposium, Sapporo, Japan, 14–16 Oct. 2014 (cont.)

ISRM Board at the ISRM Council Meeting

Delegates at the ISRM Council Meeting

Opening ceremony
Norikazu Shimizu gives an opening talk

Luis Lamas overviews the ISRM

Resat Ulusay describes the new Orange Book of ISRM Suggested Methods
The Banquet started with ‘Kagamiwari’, the breaking open of a ceremonial barrel of saké by wooden hammers

The ARMS8 Symposium fully underway
Introduction
The report below summarises the ISRM activities for the Africa region for the year preceding the ARMS 8 Symposium. Some strides have been made to increase the participation and formation of other national groups and during the last year the National Groups of Tunisia and Zimbabwe have joined.

Activities of the South African National Group (SANIRE)
Membership in the SANIRE National Group has steadily increased over the last few years mainly due to the influx of new practitioners into the Southern African mining industry and a huge focus on safety in the mining environment.

The South African National group is currently the 3rd largest National Group in the ISRM, with only China and the USA having larger membership numbers, and recently passed the 500 mark of total members. SANIRE also provides up-to-date website (www.sanire.co.za), membership email interaction and a quarterly newsletter, the Rock Talk, to its members.

SANIRE also had an awards function during the Annual General Meeting AGM) in November 2013 and various Rock Engineering related awards were issued during the event. Below is Dr. Matthew Handley receiving the Salamon Award for the best published paper for the year 2013.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>2013-14</th>
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<td>Associate Members</td>
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<tr>
<td>Members</td>
<td>176</td>
</tr>
<tr>
<td>Fellow Members</td>
<td>17</td>
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<tr>
<td>Correspond Members</td>
<td>5</td>
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<tr>
<td>Retired Members</td>
<td>9</td>
</tr>
<tr>
<td>Honorary Life Fellows</td>
<td>21</td>
</tr>
<tr>
<td>Student Members</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>517</strong></td>
</tr>
</tbody>
</table>

The Tunisian NG is led by Dr. Essaieb Hamdi as President. The activities in Tunisia, which joined the ISRM late in 2013, included a Blasting Workshop with many delegates attending. The National Group also created a website, www.atmr.tn

Delegates at the Blasting Workshop in Tunisia
Tunisian membership has also doubled to 20 in the last year. The rock engineering related activities in Northern Africa are of utmost importance for the growth of the ISRM and its members in Africa. Several new activities are planned in 2015, which include an international conference on “Modelling in Concrete, Rock and Geomaterials” in collaboration with research laboratories in Civil and Mech. Engg. from Tunisia.

Activities of the Zimbabwean National Group (ZINIRE)
The Zimbabwe Society for Rock Mechanics is led by Mr. Omberai Mandingaisa as President. This newly formed NG is very active and the launch coincided with a large Workshop.

Delegates at the Workshop held in July 2014
The ISRM membership has immediately grown to some 20 affiliated members with the joining of ZINIRE who are positive that they can make a huge contribution to South African rock mechanics. The website www.zinire.co.zw is the main communication form with members but with mining and infrastructure growing exponentially in Zimbabwe, it is envisaged that this newly formed National Group will also grow and initiate further growth in Southern Africa.
2014 Activity Report by ISRM Vice-President for Asia

Yingxin Zhou, Singapore (zyingxin@dsta.gov.sg)

Highlights
Membership in Asia grew about 10%, from 2013 to 2014 based on membership reports from the Asian National Groups (see Table below). China NG became the first NG to have more than 1,000 ISRM Members. Asia has a total of 55 Corporate Members, mainly from Japan and China, representing about 40% of the total corporate membership in the ISRM. The new Vietnam NG organised the first ISRM Training Course with more than 200 participants. Nepal set up a new Nepal Society for Rock Mechanics to replace the non-active Nepalese Geotechnical Society. ARMS8 is set to be the largest in the ARMS series of symposia. The India NG submitted a proposal to host the ISRM 2019 Congress. Indonesia NG submitted a proposal to host the ISRM 2016 international symposium. Singapore NG organised the first seminar on Eurocode 7 outside the EU.

The 9th Asian Rock Mechanics Symposium (ARMS9) will be held on 16–20 October 2016, at the Sheraton Bali Kuta Resort, in Bali, Indonesia.

China
The main activities were: the 4th Int’l Symposium on Underground Space in May 2014 in Nanjing; the Geoshanghai 2014 Int’l Conference in May 2014 in Shanghai; the Int’il Sym. on Soft Rock in June 2014 in Beijing; the 13th National Conf. on Rock Dynamics; the 12th National Youth Conference on Rock Mechanics and Engineering; the 12th National Conference on Soft Rock Engineering & Deep Disaster Control; publication of the International Journal of Rock Mechanics and Geotechnical Engineering in its 6th year.

India

Indonesia
The main activities were: preparation for the 9th Asian Rock Mechanics Symposium (ARMS9) to be held 16–20 October 2014, in Bali; and preparation for the 3rd National Seminar and Workshop on Geomechanics to be held in February 2015 in Jakarta, which will be co-hosted by the Indonesian NG and a number of universities in Indonesia.

Iran
The main activities were: the 5th Iranian Rock Mechanics Conference (IRMCS5) held in May 2014 at Tarbiat Modares University in Tehran, with about 300 participants. The Iran NG also established the Kerman City Branch of IRSRM in conjunction with Kerman University.

Israel
The Israel NG facilitated the development of a new academic programme for a double-track degree in structural engineering and geology. This programme was developed in support of the increasing need for engineers in infrastructure development, with a special emphasis on tunnelling.

Japan
The main activities were: preparation of the 8th Asian Rock Mechanics Symposium; the 6th International Symposium on In Situ Rock Stress, which was an ISRM Specialised Conference, and held in Sendai International Center, Sendai; the 50th anniversary ceremony, forum and party of JCRM in June 2014; Newsletters (Nos. 108–110) has been published and distributed to the Japanese members. Rock Net mail (Nos. 417–467) has been distributed to Japanese members and other recipients. “Rock Mechanics ’12 (CD-ROM)”, which includes all publications on Rock Mechanics in Japan in 2012, was published and distributed to the Japanese members. The International Journal of JCRM Vol.9 No.1 and Vol.10 No.1 have been published on the website: https://www.jstage.jst.go.jp/browse/ijjcrm

Korea
The main activities were: the International Workshop on Fracturing Geomechanics in June 2014 in Seoul; two national symposia, the Fall meeting 2013 held in Inha University, Incheon, in October 2013, and the Spring meeting 2014 in Seoul National University, Seoul, in March 2014; publication of the bi-monthly ‘Journal of the Korean Society for Rock Mechanics (Tunnel and Underground Space)’ and bi-monthly electronic newsletter, ‘U-Space’.

Middle East
No report of activities.

Nepal
A new society, the Nepal Society for Rock Mechanics, was set up to replace the existing Nepalese Geotechnical Society which has been inactive for several years.

Singapore

Southeast Asia
No report was submitted from Southeast Asia.

Vietnam
The main activities were: ISRM training course “Fundamentals of Rock Mechanics and Design of Rock Engineering”, Feb. 2014, in Hanoi, with more than 200 attendees; and planning for the Int. Workshop on Rock Mechanics for Sustainable Development, March 2015, Hanoi.
This report describes ISRM related activities in Australia and New Zealand for the period to September 2014.

ISRM Membership

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<table>
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<tr>
<td>Australia</td>
<td>303</td>
</tr>
<tr>
<td>Corresponding Members</td>
<td>19</td>
</tr>
<tr>
<td>New Zealand</td>
<td>159</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>481</strong></td>
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**General outlook**

Rock mechanics in Australasia is strong, but our members faced challenges during the year. While employment and support for research has remained relatively steady in civil engineering and teaching institutions, the contraction of the mining boom has seen a number of our members become unemployed. Many have found new work in related fields and there are indications that mining employment is rebounding, as mining companies re-focus their efforts on enhanced production from existing operations.

**AGS**

In Australia, AGS remains a strong group, with record membership. It is the most active technical Society in Engineers Australia. During the year, AGS held a number of successful conferences and courses and will do so again in 2015.

In 2015, AGS will investigate the potential for partnering with the East Australian Ground Control Group as the National Group for ISRM in Australia. The East Australian Ground Control Group (EAGCG) comprises over 300 underground and surface mining focussed rock mechanics engineers. Overwhelmingly, EAGCG members support ISRM but, for geographical and other reasons, have not traditionally joined AGS, which is the current National Group of ISRM in Australia. EAGCG is already supported by the parent Engineering Societies, through which AGS is also constituted. If the partnership proceeds, it will give many Rock Mechanics practitioners a direct path to ISRM membership.

**NZGS**

The NZGS is leading the updating of the NZGS seismic design guidelines, which follows the September 2010 Christchurch earthquake. Substantive progress has been made and it is intended to be finalised and available through the website by the end of the year.

NZ practitioners have been less affected by the downturn in the mining industry and many are still engaged heavily in work arising from the earthquake, so employment in NZ is strong.

**Courses and events**

In 2014, a number of major events and conferences were held across Australia and New Zealand. These included:

- AGS Soil and Rock Logging Course
- AGS Engineering Geology Course
- AGS Geology for Engineers Course
- AGS Field Techniques for Landslide Assessment Course
- 7th International Congress on Environmental Geotechnics, November 10–14, 2014, Melbourne, Australia
- 6th International Conference on Earthquake Geotechnical Engineering, Christchurch, 2–4 November 2015
- AusRock 2014: 3rd Australasian Ground Control in Mining Conference

In 2015, major events will include:


**New ISRM Vice President, Australasia**

In 2015, Stuart Read will become the new VP Australasia. During the last 4 years I have been honoured to serve ISRM and its members in New Zealand and Australia and thank our members for the opportunity. Stuart will bring experience and dedication to the role and I congratulate him and wish him all the best for his term.

David Beck
ISRM VP Australasia
From September 2013 to October 2014, I attended four international conferences held in Europe. They were:

- The Eurock Symposium 2013, September 2013 (Wrocław, Poland),
- Symposium on Rock Mechanics and Rock Engineering of Geological Repositories in Opalinus Clay and Similar Claystones, February 2014, Zürich, Switzerland
- The Eurock Symposium 2014, May 2014 (Vigo, Spain),
- 5th International Colloquium on Geomechanics and Geophysics, June 2014, Ostrava, Czech Republic.

Each of these meetings provided me with the opportunity to have fruitful exchanges with the European ISRM Community.

Additionally, I was invited by the ISRM Vietnamese National Group to participate in an ISRM training course. This course was held in the Water Resources University in February 2014 in Hanoi. The latter was a good opportunity to strengthen the bond between the Asian and the European communities.

EUROCK Symposia

The life of the European ISRM Community is punctuated by the Eurock Symposia. These meetings provide a great opportunity to meet people and exchange ideas.

During the last 12 months, two EUROCK symposia were organized. One was held in Wrocław (Poland) in September 2013, and the other one held in Vigo (Spain) in May 2014. Both were a great success with more than 300 attendees. The scientific quality of both symposia was assessed at a high level.

The future EUROCK Symposia will be held in Salzburg, Austria (2015) and in Cappadocia, Turkey (2016).

ISRM Sponsored Conferences

Within the next few years, the ISRM will sponsor several specialized meetings in Europe. Among them are the 4th Workshop on Volcanic Rocks and Soils which will be held on the Island of Ischia, Italy, in 2015 and the 7th In Situ Rock Stress Symposium which will be held in Tampere, Finland in 2016.

Despite our efforts, there is still a lot to do in order to increase the ISRM visibility. Sponsoring meetings is found to be an efficient way to achieve this endeavour. Rock physics and other meetings related to geophysics should be targeted as a priority.

Growth of the ISRM

For the time being, there are 26 National Groups in the European Region. Iceland is in the process of joining the ISRM.

Awards

In 2013, the Franklin Lecture was awarded to Dr Andreas Goricki from Austria. Dr Goricki received his PhD from Graz University of Technology in 2003. During the EUROCK Symposium, held in Wrocław Poland, he presented a lecture entitled “Engineering Aspects of Geotechnical Design”.

The EUROCK 2013 Outstanding Paper Award for Young Scientists and Engineers was given to Dr Martin Entacher from Montanuniversität Leoben in Austria. His paper was entitled “A New Small Scale Rock Cutting Test”.

The 2014 Award was given to Dr Badrul Alam, from Sapporo University. The title of his paper was: “Temperature–Confining Pressure Coupling Effects on the Permeability of Three Rock Types under Triaxial Compression”.

Obituary (also see page 24)

Last September, the ISRM European Community lost one of its outstanding members, Professor Marek Kwasniewski from Silesia University of Technology in Gliwice, Poland. Professor Kwasniewski had been committed for a long period of time with the ISRM. His role was highly appreciated especially in the Commission for Education. He was well known and respected for his kindness, his high core values and the high worth of his scientific skill.

Evolution of Eurocode 7

Since the last ISRM Council meeting, a Commission on the Evolution of Eurocode 7 has been launched. This Commission, which is chaired by Professor John Harrison, held its first meeting in Vigo (Spain). During this conference, a dedicated Workshop was also organized, see page 28.

Prof. Frederic L. Pellet
Vice President for Europe
frederic.pellet@cfmr-roches.org
Membership and Conferences
The total ISRM membership in North America is 570 members. The US National Group, ARMA, has 363 members, which is reduced from last year due to elimination of duplicate international ISRM members. The Canadian National Group, CARMA, has 207 members, which is also a decrease from last year.

The decrease in membership is thought to be due to tight industry budgets and decreased conference attendance (which includes annual membership registration). Leadership of the two National Groups is strong and active. The President of the ARMA is Professor Antonio Bobet and there are nine other VPs, and Peter Smeallie continues as Executive Director. Professor James Hazzard is President of CARMA and there are nine other VPs. We are in the process of nominating the next ISRM VP NA and he/she will come from the Canadian National Group.

Conferences in the last year included three major events. The 48th US Rock Mechanics/Geomechanics Symposium took place in Minneapolis during June, 2014. There were two Canadian conferences where CARMA organized sessions: the Canadian Geotechnical Society Conferences in 2013 (Montréal) and 2014 (Regina). Important future conferences include the ISRM Congress, Montréal, May 2015, which will be in conjunction with CIM 2015, and the 1st International Discrete Fracture Network conference, Vancouver, October, 2014.

CARMA started an initiative to digitize proceedings from past conferences and put these on the webpage (www.carma-rocks.ca). The proceedings from the 6th Canadian Rock Mechanics Symposium (1970) have been uploaded as a test case. CARMA sponsored a student of rock mechanics to attend the Canadian Young Geotechnical Engineering and Geoscientists Conference (Mt. Tremblant, October, 2013). They provided seed money to the 1st International Discrete Fracture Network conference (October, 2014) and offered seed money to the ISRM Congress (Montréal, May, 2015).

CARMA continues to promote rock mechanics participation at the Canadian Geotechnical Society and Canadian Institute of Mining Conferences through paper submissions, paper reviews, chairing sessions and encouraging members to attend. The John Franklin award for accomplishments in rock mechanics in Canada was awarded by the Canadian Geotechnical Society to Erik Eberhardt, Oct 2013. Future CARMA goals include:

- continue to add content to the website including past conference proceedings, seminars, papers and presentations;
- promote rock mechanics by providing support for students attending conferences with rock mechanics content;
- increase rock mechanics content at Canadian Geotechnical Society and Canadian Institute of Mining speaker series and colloquia, and
- sponsor Short Courses and Seminars with rock mechanics content in Canada.

ARMA held the 48th U.S. Rock Mechanics/Geomechanics Symposium at the University of Minnesota, Minneapolis, 1–4 June, 2014. The theme was “Rock Mechanics across Length and Time Scales”, in order to focus on the role of scaling in a variety of natural and engineered processes. The symposium drew 492 registrants, with 40% of the attendees being international—from 32 countries.

Dr. Kate Hadley Baker was inducted into the ARMA Fellows at the recent U.S. Rock Mechanics/Geomechanics Symposium. Dr. Baker made early and original contributions to the role of cracks on the properties of rocks. She spent her career in industry making contributions to rock mechanics as applied to petroleum engineering, particularly related to geology, geophysics and rock mechanics. She has published, accepted many invitations for speaking, and has received much recognition for her accomplishments. Dr. Baker served as President of the Society of Petroleum Engineers and currently serves on the ARMA Board of Directors as Secretary.

Eight new Future Leaders have been selected. Future Leaders demonstrate commitment to the Society through various ARMA activities. The Future Leaders were announced at the recent U.S. Rock Mechanics/Geomechanics Symposium. The ARMA Awards Committee announced the ARMA Awards at the recent U.S. Rock Mechanics Symposium that included the N.G.W. Cook Ph.D. Dissertation Award, the MS Thesis Award and the Rock Mechanics Research Award.

Future ARMA goals include the US Rock Mechanics Symposium 2018 planning, co-sponsored meetings, member communications, sustaining the ARMA Foundation, and OnePetro as a paper downloadable and revenue source.

Presentation of John Franklin award to Erik Eberhardt (centre) accompanied by CGS president Richard Bathurst (left) and CARMA chair Jim Hazzard (right).
The present report summarizes the activities of the South American Region during 2014.

1- ISRM NATIONAL GROUPS AND MEMBERS
There are actually ten National Groups that belong to the South America region. During 2014, Mexico was incorporated into the ISRM with 20 members. Ecuador is in the process of joining by forming a new organization that accommodates Mining and Civil Engineers. Cuba was recently contacted and there is a good possibility that Cuba will become a new ISRM National Group in the near future.

The main activity of our region was to encourage our National Groups to be active in recruiting more members: that is why the total number has increased, specially in Brazil (372), Peru (50) and Colombia. Also an effort continues to confirm their e-mail addresses in order to receive all benefits that our members are entitled to, such as receiving the ISRM bulletins and have the connection to the OnePetro website.

A South America Regional meeting was celebrated in Goiania on 11 September. All NGs were represented and the main subjects discussed were related to the future activities of the region and the support for hosting the 2019 ISRM Congress in Foz de Iguassu. An important topic was the candidature for the Regional VP for the 2015–2019 period, where Prof. Sergio Fontoura was elected unanimously.

Finally, our region is delighted with the election, in 2013, of Dr. Eda Quadros as ISRM President for the period 2015–2019, and, in 2014, with the selection of Foz de Iguassu (Brazil, Argentina and Paraguay) as the venue for the 2019 ISRM Congress. These two events will, for the first time, strongly highlight our region, and all National Groups are very enthusiastic and ready to actively participate in all the ISRM activities.

2- REGIONAL ACTIVITIES
The following countries reported activities for 2014 as follows:

**Argentina**
The Argentinian Society of Geotechnical Engineering (SAIG), the ISRM NG group, is organizing the VIII South American Rock Mechanics Congress that is going to be held in Buenos Aires next November 2015. Also the SAIG was very active with the Brazilian and Paraguayan Societies in proposing to be the host of the 2019 ISRM Congress.

**Brazil**
In Brazil, several geotechnical events are organized by ABMS (NG-Brazil). In this period, two events took place: in September 9–13, 2014, the VI Brazilian Rock Mechanics Symposium was celebrated in Goiania, Brazil. Also, at the same time, a Soft Rock Commission Workshop was held. The Brazil NG, directed by Prof. Sergio Fontoura, and he was an excellent leader in obtaining the organization of the ISRM Congress in 2019.

**Mexico**
The Mexican NG, Sociedad Mexicana de Geotecnia, SMG, organized during 28–30 April, 2014, a Short Course on Design in Anisotropic Fractured Rock Masses presented by Dr. Walter Wittke. Also, during November 19–21, 2014, the SMG organized an ISRM Specialized Conference on Geotechnics as applied to civil and mining engineering which took place in Puerto Vallarta, Mexico.

**Paraguay**
The Paraguayan NG (Sociedad Paraguaya de Geotecnia-SPG), has been very active participating in presenting the Foz de Iguassu site as the venue for the 2019 ISRM Congress.

**Peru**
The Peruvian NG (Sociedad Peruana de Geoingeniería-SPEG), in June 9–11, 2014, organized a Specialized Conference on Applied Empirical Design Methods for Underground Mines that was celebrated in Lima, Peru, as part of the Sub-Commission of the ISRM Design Methodology Commission.
VI Brazilian Rock Mechanics Symposium in Goiania, Brazil, September 9–13, 2014

Support for ARMS-8 Public Relations Activities
The Japanese National Group held ARMS-8 at Sapporo, Japan. To obtain strong support from Japanese industries, I met key business persons to explain how ARMS-8 can contribute worldwide and what we benefit from the symposium. I encouraged industry participation and donation as much as possible.

Internationally, during the last year, I visited Thailand (Bangkok) and Malaysia (Kuala Lumpur) to deliver some talks about ARMS-8 and asked them to join the ISRM symposium in Sapporo and to talk about ISRM activities.

Collaboration with National Groups of Japan and other Asian countries
Some ISRM committees are organized in the Asian region and in Japan. A few more committees to handle interesting topics could be formed by the guidance of the Japanese National Group. Discussion is still going on.

There are many international co-operative works in the Asian region. The Korean and Japanese National Groups have an annual rock mechanics meeting. I am looking for the potential to open a new door between any other countries and Japan through Commission activity.

In the Asian Council meeting, I proposed to set up a geo-hazard database in Asia. In order to start working on this subject, a primitive template was shown to Asian members and the Council meeting decided to construct the database step-by-step (See Photo 1 on the next page).

Technical Oversight Committee: reviewing ISRM Commission activities
The TOC (Technical Oversight Committee) for the ISRM Commissions was created in 2012. The creation of the Committee is to enable the oversight and coordination of the Commissions’ work and production of a yearly report on the ISRM Commissions’ activities.

This year is the second term to review the Commissions’ activity. Before the ARMS-8 meeting, the TOC proposed a standard template form to describe annually the ISRM Commission’s activities. The form was approved by the ISRM board and was sent to the Chairperson of each Commission.

We have been working to review the reports prepared by each Commission and the result of this oversight assessment was reported at the Board and Council meetings in Sapporo, Japan, [see pages 22–23].

Encourage ISRM Commission activity
As a member of the ISRM DDA Commission, which started 2011, a Workshop takes place every year at a related Symposium. Last year we held the ICADD-11 meeting at Fukuoka, Japan, and next we plan to hold the ICADD-12 meeting in 2015 in Wuhan, China.

Support of the Japanese National Group activities (in addition to ARMS-8)
The Japanese National Group has been continuously discussing the present and future of our Group, also of rock mechanics and engineering in Japan. We now strongly think that rock mechanics people have to innovate new technologies with the co-operation of other fields and researchers in neighbouring countries (Photo 1). The proposal for creating a Geo-hazard database in Asia is an example.

After the 3/11, 2011, East Japan Great earthquake, the Japanese government proposed to strengthen aged infrastructures with the help of Civil and Rock Mechanics engineers and to accelerate renovation via rock mechanics. The government then set up several interesting projects. Disaster happened often this year due to heavy rain and typhoons. Photo 2 shows rock (weathered granite) slope failures and debris flow due to heavy rain in Hiroshima, Japan.

I will try to organize strong rock mechanics groups to be involved in these projects, which are
- ILC (International Linear Corridor) project,
- Fukushima nuclear power plant contaminated groundwater problems in soft layered rocks,
- Maintenance and rehabilitation of aged infrastructures from the viewpoint of rock engineering all over Japan.

All these projects are challenging and require innovative works in rock engineering.

* * * * *

Advanced technologies are now available for observing rock mass behaviour with a range of length and timescales and resolutions: Information and Communication Technology, Robotics, Unmanned Aerial Vehicle (UAV), drone, Computer Vision, 3D printer MEMS, NEMS, Informatics.

Unmanned Aerial Vehicle (UAV)
Photo 1. Create “Geo-Hazard database” in Asia and display in Google Earth

Photo 2. Many slope failures and debris flow due to heavy rain in Hiroshima, Japan, August 2014
Manoj Verman, India
(m_verman@yahoo.com)

While the focus continued to be on education, linkages with the industry and new member countries from Asian region, a new realisation has dawned now. Since the last meeting, we have been looking at industry interaction and education separately, but there was no great progress made due to lack of interest by industry and the resources for education. Earlier this year, the infrastructure scene in India started improving and opportunities in Rock Engineering began to appear. The industry started to show concern about the grave lack of resources to respond to these opportunities. Introspection led to realization that all these were closely related—opportunities, industry and education—and, of course, modernization!

The ‘Roorkee’ group in India, known for its visionary ideas in Rock Mechanics, started working on a Vision document. Finally, the editors of an Indian journal from Roorkee (Journal of Rock Mechanics & Tunnelling Technology) came up with a “Vision-2040” document. Vision-2040 looks at the total picture and combines, not just industry and education, but many related things. In parallel, we made a start with the industry to bring modernization in rock engineering projects.

Vision-2040 combines the ancient wisdom embodied in great Indian scriptures, written thousands of years ago, with the modern scientific approach. Vision-2040 looks realistically at what the future needs of Rock Mechanics are and points in the direction to be taken to fulfill those needs. It lays strong emphasis on the industry and education. It is envisaged that the major areas of growth where industry will be interested are as follows:

- Tunnelling in general
- Use of TBM
- Underground storage of petroleum products and food grains
- Underground metros in mega cities
- Large dams and foundations on rock
- Satellite-based studies of landslides and other natural disasters

On the Education front, the Vision document foresees:

- Driven by market need, education in Rock Mechanics will be very popular, e.g., high quality and affordable distance learning for project engineers
- Field-oriented courses will be in high demand in Rock Mechanics
- Himalaya is the best laboratory in the world to learn rock mechanics/engineering geology/seismology.

It also dwells upon the research areas that need attention and suggests the following focus areas:

- Heterogeneity, weatherability and erodibility of the rock mass will attract attention. Research should be carried out on heterogeneous/erodible rock masses;
- Software will become more powerful due to fundamental research in rock mechanics and will be used extensively in design offices;
- Laboratory and in situ facilities are likely to be developed for polyaxial tests to obtain stress-strain relations;
- Damage mechanics is likely to become popular in the near future;
- Planetary rock mechanics is likely to evolve for mining and colonization of planets.

To realise this vision and to start putting more efforts into Rock Mechanics education & research, and to increase interaction with the industry, an empowered Task Force is being constituted in India with some of the top academicians and researchers as its members. They will identify the areas where education and research in Rock Mechanics are to be strengthened and will work towards putting in place the required measures. They will also develop stronger linkages between academia and industry.

Efforts are already in place to work closely with the industry towards modernization. Some recent examples of helping industry in employing state-of-art technology in rock engineering projects are as follows:

- Use of shotcrete simulator for training of shotcrete nozzlemen, resulting in improvement in shotcrete quality and reduction in shotcrete rebound, which is a huge saving for the EPC contractors;
- RF based alignment of drilling rigs—a large plus in ‘GPS-starved’ environments in underground situations with substantial time and cost savings in aligning rigs. This is useful for operations such as pre-grouting that require high precision in drilling;
- Automatic grouting operations (already being done in advanced countries); and
- Measurement and assessment of rock surface at the tunnel face using 3-D images for faster and more accurate face mapping. This helps in decision making regarding support selection and has significant quality and cost implications for the industry.

There are a few suggestions for the future of ISRM. If ISRM seriously thinks that it needs to support the industry, it has to facilitate application of its strong research and academic background for industry’s benefit. The approach should include identification of areas where ISRM can help the industry straightaway, identification of future areas of research keeping industry’s needs in mind, help in educating project engineers and organising events for the industry. There has to be a concentrated effort in this direction within ISRM—similar to the recent “Education Fund” initiative.

Finally, here is the parting thought. We should work towards creating a vision for ISRM—the direction we want ISRM to take and the goals we want to see it achieve in next few years. Our present and future efforts should be focussed on achieving the vision. The present Board will do well to leave a roadmap, showing a path for the next Board to tread in order to move closer to the vision.
Attendance at international conferences
From September 2013 to October 2014, I attended international conferences held in Europe. They were:

- 5th Conference of geotechnics in civil engineering, Association of Civil Engineers of Serbia (ACES) and Serbian Society for Soil Mechanics and Geotechnical Engineering, Sokobanja 29–31 October 2013, Serbia.
- XXth Károly Széchy Memorial Session and XIIIth Geotechnical Evening Forum Budapest, 14 February 2014, Budapest, Hungary.

Each of these meetings provided me with the opportunity to introduce ISRM activities.

ISRM growth
Through my mandate as VP at large, Albania, Bosnia and Herzegovina, and Hungary joined the ISRM. I am in contact with Prof. Petru Ciobanu and I hope that in November or December, 2014, Romania will join the ISRM. I also expect that Bulgaria in the very near future will also join the ISRM.

50th ISRM Anniversary celebration—historical exhibition
I organized two historical exhibitions: in Serbia during the conference in Sokobanja (29–31 October 2013); and in Budapest at the Budapest University of Technology and Economics, Department of Construction Materials and Engineering Geology, Engineering Geological Division (13–16 February 2014).

Lectures
At the invitation of Professor Ákos Török I gave two lectures at the Budapest University of Technology and Economics, Department of Construction Materials and Engineering Geology, Engineering Geological Division:

- “Rock Mechanics: 50 years since the ISRM was Founded”, for members of the Hungarian Geological Society, Engineering Geological and Environmental Geological Section, and members of the Hungarian National Group of ISRM. Budapest, 13 February 2014.
- “Case history of tunnelling in Croatian karst region”, for young engineers, Budapest, 14 February 2014.

Then I ceremoniously handed the membership certificate to Hungarian ISRM members.
A - SUPPLIERS OF ROCK MECHANICS EQUIPMENT AND MATERIALS
Cerro Vanguardia, Salta, Argentina
Ergotech Ltd., Conwy, United Kingdom
Fondasol, Avignon, France
GCTS Testing Systems, Tempe AZ, USA
Geobrugg, Romanshorn, Switzerland
GEOS Ingénieurs Conseils, Courbevoie, France
Glötzl, Rheininstetten, Germany
Golder Associates, Montreal, Canada
Guangdong Hongda Blasting Engineering Co. Ltd., China
IPKON - Institute for the Study of Complex Material Development, Karaganda City, Rep. of Kazakhstan
Lehrstuhl für Ingenieurgeologie und Hydrogeologie, Aachen, Germany
LNEC - Laboratório Nacional de Engenharia Civil, Lisbon, Portugal
Oyo Corporation, Tokyo, Japan
Solexperts Ag., Mönchaltorf, Switzerland
Storengy, Bois Colombes, France

B - SUPPLIERS OF ROCK MECHANICS SERVICES
ÅF, Stockholm, Sweden
AF Grupen Norge AS, Oslo, Norway
Arcadis ESG, L Plessis Robinson, France
Beck Engineering Pty Ltd, Chatswood, Australia
Bergab AB, Göteborg, Sweden
Betongsprutnings AB Besab, Hisings Backa, Sweden
Bleikvassli Gruber AS, Bleikvasslia, Norway
Boliden Mineral, Boliden, Sweden
BRGM, Orleans, France
Cerro Vanguardia, Salta, Argentina
Chalmers University of Technology, Göteborg, Sweden
Changsha Engineering & Research Institute of Nonferrous Metallurgy Ltd, Kun'ming City, China
China Coal Research Institute, Beijing, China
China Railway 16th Group Co., Ltd. Beijing, China
China Railway Eryuan Engineering Group Co. Ltd., Chengdu City, China
China Three Gorges University, Yichang, China
Eiffage Construction G.D., Velizy-Villacoublay, France
Elletipi S.R.L., Ferrara, Italy
Entreprenørservice AS, Rud, Norway
Fondasol, Avignon, France
Geobrugg, Romanshorn, Switzerland
Geomecon GmbH, Potsdam, Germany
GEOS Ingénieurs Conseils, Courbevoie, France
Geoscience Ltd., Falmouth, United Kingdom
Geosigma AB, Stockholm, Sweden
Golder Associates, Montreal, Canada
Huainan Coal Mining Group Co. Ltd., Huainan City, China
Hydrochina Kunming Engineering Corporation, Kun'ming, China
Ineris, Verneuil en Halatte, France
Ingenieurszietät Prof. Dr.-Ing. Katzenbach GmbH, Frankfurt am Main, Germany
Institute of Rock and Soil Mechanics, The Chinese Academy of Science, Wuhan City, China
Itasca S.A., Santiago, Chile
LECM - Civil Engineering Laboratory of Macau, Macau, China
Lehrstuhl für Ingenieurgeologie und Hydrogeologie, Aachen, Germany
LKAB AB, Luleå, Sweden
LNEC - Laboratório Nacional de Engenharia Civil, Lisbon, Portugal
Luleå University of Technology - LTU, Luleå, Sweden
Mesy (I) Pvt. Ltd., Chihat, Lucknow, India
Multiconsult SA., Oslo, Norway
Nick Barton and Associates, Høvik, Norway
Nitro Consult AB., Stockholm, Sweden
Nitro Consult AS., Lierstranda, Norway
Norconsult AS, Sandvika, Norway
Norges Geologiske Undersøkelse, Trondheim, Norway
Norges Geotekniske Institut, Oslo, Norway
Norsk Forening for Fjellprengn Teknikk, Oslo, Norway
Norsk Geoteknisk Forening, Oslo, Norway
Oyo Corporation, Tokyo, Japan
Pöyry SwedPower, Lulea, Sweden
Rock Engineering Research Foundation - BeFo, Stockholm, Sweden
Royal Institute of Technology - KTH, Stockholm, Sweden
Sibelco Nordic AS Avd Stjernøy, Alta, Norway
SINTEF Teknologi og Samfunn avd Trondheim, Trondheim, Norway
Skanska AB, Solna, Sweden
Skanska Norge AS, Oslo, Norway
SNCF/Direction de L'Ingénierie, La Plaine St. Denis, France
Solexperts Ag., Mönchaltorf, Switzerland
SP Technical Research Institute of Sweden, Boras, Sweden
Stable Strata Consulting (Pty) Ltd., Mondeor, South Africa
Storengy, Bois Colombes, France
Sweco Norge AS, Lysaker, Norway
Sweco VBB AB, Stockholm, Sweden
Swedish Nuclear Fuel and Waste Management Co. – SKB, Stockholm, Sweden
Systra, Paris, France
Terrasol, Montreuil, France
Tractebel Engineering, Gennevilliers, France
Trilab Pty Ltd, Geebung, Australia
Tyréns AB, Stockholm, Sweden
Vattenfall Research and Development AB, Göteborg, Sweden
Vik Ørsta AB, Ørsta, Norway
WSP Finland Oy., Helsinki, Finland
WSP Sverige AB, Stockholm-Globen, Sweden
C - CONSULTANTS
3D Geoscience, Inc., Tokyo, Japan
ÅF, Stockholm, Sweden
AF Gruppen Norge AS, Oslo, Norway
AGL Consulting, Dublin, Ireland
Applied Seismology Consultants LTD., Shrewsbury, United Kingdom
Arcadis ESG, L Pleissis Robinson, France
Beck Engineering Pty Ltd, Chatswood, Australia
Bergab AB, Göteborg, Sweden
Betongsprutnings AB Besab, Hisings Backa, Sweden
Bleikvassli Gruber AS, Bleikvasslia, Norway
Boliden Mineral, Boliden, Sweden
BRGM, Orleans, France
Cerro Vanguardia, Salta, Argentina
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Orica Mining Services Portugal, SA., Lisboa, Portugal
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Rock Engineering Research - BeFo, Stockholm, Sweden
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LECM - Civil Engineering Laboratory of Macau, Macau, China
LNEC - Laboratório Nacional de Engenharia Civil, Lisbon, Portugal
Norwegian Public Roads Administration, Oslo, Norway
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Kumagai Gumi Co., Ltd., Tokyo, Japan
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