A glimpse into the 55 years of the ISRM, 1962–2017, with a focus on France

Luís Lamas, ISRM Secretary General

Jubilé du Comité Français de Mécanique des Roches
Paris, 14 Septembre 2017
Preparations for the foundation

Original intention of Leopold Müller

To create the “International Society for Geomechanics”, as the transformation of the “International Study Group for Geomechanics” (the “Salzburger Kreis”), founded in 1951, which promoted the Geomechanics Colloquies—the oldest series of international conferences in rock mechanics.

Correspondence between Laurits Bjerrum (ISSMFE VP) and Leopold Müller

(Bjerrum, 28 February 1962) “I had correspondence with Professors Terzaghi, Casagrande and Skempton on the question whether Rock Mechanics shall be adopted into our Society and an attempt be made to merge the existing Rock Mechanics organizations into our International Society.

I was personally against a merging, and Professor Terzaghi agreed with me.

Professor Casagrande has now taken the decision that no attempt should be made to have Rock Mechanics organizations merged into our Society, but he leaves the question open for a possible cooperation in a joint international society of the two groups of people.”
Preparations for the foundation

Correspondence between Laurits Bjerrum (ISSMFE VP) and Leopold Müller

(Bjerrum, 10 March 1962) "With the name proposed "International Society for Geomechanics" the society covers exactly the same field as our existing international society for soil mechanics.

I am thus only able to accept your invitation under the very condition that the name of the society will be changed."

(Müller, 14 March 1962) “I propose to name Salzburg Group International Society of Rock Mechanics”.

(Bjerrum, 20 March 1962) “I am satisfied with your proposal for the change of the name of the society and the name has been approved by Terzaghi with whom I have discussed the matter.”

Müller’s letter to Charles Fairhurst about the new name and the constitutional meeting
Constitutional meeting

Radio interview of L. Müller and F. Pacher


Pacher: “The scientific discipline that studies the response of jointed rock when subject to forces.”

Reporter: “Do we know the strength of rock?”

Müller: “For rock specimens, tested in the laboratory, yes. For a rock mass, no. This is what we need to determine. This is why we need an International Society for Rock Mechanics.”
1st Congress, Lisbon, 1966

Major milestone in the establishment of the ISRM

- Attended by 814 delegates from 40 countries, with 214 papers.
- The ISRM Secretariat was set up for the Congress and remained in Lisbon, at the LNEC, until today.

Manuel Rocha
1st Congress, Lisbon, 1966
85 participants from France
1st Congress, Lisbon, 1966
85 participants from France
What have we done 1962—1974?

Organization of the Society in 1966—1967

- The Statutes and By-laws were approved
- The ISRM changed from a Society of individuals to one of National Groups.
- The constitution of the Board and the position of Secretary General were approved.
- The Commissions were created. Eight started their work.
- The ISRM started sponsoring symposia organised by the National Groups.
- Launch of the “News”.
- The original Group of Salzburg had now become a strong International Society.
What have we done 1962—1974?

1967 - Foundation of the CFMR, the ISRM National Group of France
What have we done 1962—1974?

Commissions started 1967–1970

- Definition of the most Promising Lines of Research
- Recommendations on Site Investigation Techniques
- Terminology, Symbols, and Graphic Representation
- Testing Methods

Commissions started 1970–1974

- Behaviour of Tunnels and other Permanent Openings
- Classification of Rocks and Rock Masses
- Publication and Translation
- Teaching of Rock Mechanics

Main technical concerns (in Congresses and Commissions)

- Properties of rocks and rock masses
- Geological site characterization
- Mines
- Dams
- Underground excavations
What have we done 1962—1974?

1967–1981 - Commission on Definition of most Promising Lines of Research
Chairman: Pierre Habib

1971 - ISRM International Symposium, Nancy
“Rock Fracture”
Editor: René Houpert

Leopold Müller
1st President, 1962—1966

Manuel Rocha
2nd President, 1966—1970

Leonard Obert
3rd President, 1970—1974
What have we done 1974—1987?

New Commissions in this period

• Computer Programs
• Research
• Revision of Statutes
• Swelling Rocks
• Case Histories
• Design of High Slopes in Mining
• Rock Boreability, Cuttability and Drillability
• Rock Failure Mechanisms
• Interpretation of Hydraulic Fracturing Records
• Rock Failure Mechanisms in Underground Openings

Publication of ISRM Suggested Methods and launch of the Yellow Book, 1981 (Ed. E.T. Brown)
What have we done 1974—1987?

Institution of the Rocha Medal in 1982 for an outstanding PhD thesis

<table>
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<th>Name</th>
<th>Country</th>
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<td>1982</td>
<td>A.P. Cunha</td>
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<td>1983</td>
<td>S. Bandis</td>
<td>GREECE</td>
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<td>1984</td>
<td>B. Amadei</td>
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<td>W. Purrer</td>
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<td>D. Elsworth</td>
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<td>S. Gentier</td>
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<td>T.H. Kleine</td>
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<td>A. Ghosh</td>
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<td>O. Reyes W.</td>
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<td>C. Derek Martin</td>
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<td>2006</td>
<td>D. Ask</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>2013</td>
<td>M. Pierce</td>
<td>CANADA</td>
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<td>2014</td>
<td>M.S.A. Perera</td>
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<td>2015</td>
<td>A. L. Bradley</td>
<td>ITALY</td>
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<td>2016</td>
<td>C.W. Boon</td>
<td>MALAYSIA</td>
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<td>2017</td>
<td>Bryan Tatone</td>
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Main technical concerns (in Congresses and Commissions)

- Underground works (long tunnels, large caverns, mechanised excavation)
- Numerical methods
- Beginning of the interest on environmental issues

Pierre Habib
4th President, 1974—1979

Walter Wittke
5th President, 1979—1983

Ted Brown
6th President, 1983—1987
What have we done 1974—1987?

1974–1979 - Commission on Revision of Statutes
Chairman: Pierre Duffaut

Chairman: Vincent Maury
What have we done 1987—1999?

Institution of the Müller Award in 1989

Bestowed in recognition of distinguished contributions to the profession of rock mechanics and rock engineering.

- 1991 – Evert Hoek
- 1995 – Neville Cook
- 1999 – Herbert Einstein
- 2003 – Charles Fairhurst
- 2007 – Edwin T. Brown
- 2011 – Nicholas Barton
- 2015 – John Hudson

The “News Journal” replaced the “News” in 1992

The ISRM News Journal is a new venture intended to promote communication and awareness among ISRM members and, indeed, anyone interested in rock mechanics.

(From the editorial of the first issue by Charles Fairhurst)

Revision of the Statutes

- Creation of the Regional Symposia.
- Creation of the positions of Vice President at Large.
What have we done 1987—1999?

**1987–1991 - ISRM Vice President for Europe**
Marc Panet

John Franklin
7th President, 1987—1991

Charles Fairhurst
8th President, 1991—1995

Shunsuke Sakurai
9th President, 1995—1999
What have we done 1987—1999?

New Commissions in this period

• Communications
• Education
• Petroleum Engineering
• Rock Grouting
• Rock Joints
• Rock Slope Stability
• Squeezing Rocks in Tunnels

• Rock Fragmentation by Blasting
• Rock Properties for Petroleum Engineering
• Scale Effects in Rock Mechanics
• Tectonic Stability and Site Selection
• Rockbursts in Hard Rock Situations
• Application of Geophysics to Rock Engineering
• Preservation of Natural Stone Monuments

Main technical concerns (in Congresses and Commissions)

• Environmental issues gain great relevance
• Underground works (e.g. for nuclear waste)
• Numerical methods
• Risk assessment
• Petroleum geomechanics
• Stone monuments
• Slope stability
What have we done 1987—1999?

1989 - ISRM International Symposium, Pau
“Rock at Great Depth”
Editors: V. Maury, D. Fourmaintraux

Chairman: Vincent Maury

Chairman: Frédéric Santarelli

1999 – 9th ISRM Congress, Paris
Editors: Gérard Vouille, Pierre Bérest

John Franklin
7th President, 1987—1991

Charles Fairhurst
8th President, 1991—1995

Shunsuke Sakurai
9th President, 1995—1999
What have we done 1999—2011?

Digital communication and spread of information

- **Digital Library**, launched in 2010: proceedings of ISRM conferences.
- **News Journal** distributed electronically to all members.

Establishment of “ISRM Fellows” in 2011

To acknowledge select individuals who have achieved outstanding accomplishments, and have contributed to the community through the ISRM.
What have we done 1999—2011?

Marc Panet
10th President, 1999—2003

Nielen van der Merwe
11th President, 2003—2007

John Hudson
12th President, 2007—2011

ISRM Fellows
2011 - Pierre Habib, Marc Panet
What have we done 1999—2011?

New Commissions in this period
- Case Histories in Rock Engineering
- Environment
- Information Technology
- Maintenance and Repair of Underground Structures in Rock Masses
- Mine Closure
- Preservation of Ancient Sites
- Radioactive Waste Disposal
- Rock Dynamics
- Rock Engineering Design Methodology
- Spalling Prediction

Main technical concerns (in Congresses and Commissions)
- Renewed interest in properties of rocks and rock masses
- Underground works
- Numerical methods, especially large and complex applications
- Risk assessment
- Rock dynamics

The Blue Book in 2007
(Ed. R. Ulusay, J.A. Hudson)

Marc Panet
10th President, 1999—2003
Nielen van der Merwe
11th President, 2003—2007
John Hudson
12th President, 2007—2011
What have we done 1999—2011?

2001 - ISRM Regional Symposium, Paris
First Albert Caquot International Conference
“Modelling and Simulation in Civil Engineering”

2003 - ISRM Regional Symposium, Nancy
“Post Mining 2003: Impacts and Risk Management”

2004–2011 - Commission on Mine Closure
Chairman: Christophe Didier

Marc Panet
10th President, 1999—2003

Nielen van der Merwe
11th President, 2003—2007

John Hudson
12th President, 2007—2011
What have we done 2011—2017?

Institution of the Franklin Lecture in 2013

Recognises a mid-career ISRM member who has made a significant contribution to a specific area of rock mechanics and rock engineering.

New initiatives on the website and through social media

- Online lectures series, started in 2013: every three months
- Rock Mechanics glossary, launched in 2015, with 1000 words
- Communication through Twitter and LinkedIn.

New ISRM Awards

- Outstanding Commission Award.
- Best Performing National Group Award.
What have we done 2011—2017?

2011–2015 - ISRM Vice President for Europe
Frédéric Pellet

Xia-Ting Feng
13th President, 2011—2015

Eda Quadros
14th President, 2015—2019
What have we done 2011—2017?

New Commissions in this period

• Coupled THMC Processes
• Crustal Stress and Earthquakes
• Design Methodology
• Discontinuous Deformation Analysis
• Evolution of Eurocode 7
• Grouting
• Hard Rock Excavation
• Petroleum Geomechanics
• Soft Rocks
• Subsea Tunnels
• Underground Nuclear Power Plants
• URL Networking

Main technical concerns (in Congresses and Commissions)

• Rock mechanics for energy (hydrocarbon extraction, hydro-fracking, shale gas, very large dams)
• New survey techniques
• Prevention of large landslides
• Numerical modelling, large underground excavations

The Orange Book, 2014
(Ed. R. Ulusay)
What have we done 2011—2017?

ISRM Online Lectures
10th, Jul. 2015, “Multiphysics couplings and stability of fault zones”, Jean Sulem
18th, Jul. 2017, “The deformations in the vicinity of the face of a deep tunnel”, Marc Panet

2017 - ISRM Specialised Conference, Paris
GeoProc 2017 - 6th Int. Conf. on Coupled THMC Processes in Geosystems
The ISRM in 2017

A non-profit scientific association

Runs 18 technical Commissions, coordinated by a Technical Oversight Committee

Produces the ISRM Suggested Methods for testing

Runs a program of Sponsored Conferences

Has a program for young members, managed by a Young Members Committee

Has a fund specific for education, managed by a Education Fund Committee

Gives several awards to the rock mechanics fraternity

Publishes an annual News Journal and a quarterly e-Newsletter

Has a Digital Library, free for members

… and promotes many activities announced on the ISRM Website or through Tweeter and LinkedIn
The ISRM in 2017

Membership

• 8000 individual members.
• 61 National Groups.
• 155 corporate members

The ISRM Board 2015-2019

• President: Eda Quadros, Brazil
• VP Africa: William Joughin, S. Africa
• VP Asia: Seokwon Jeon, S. Korea
• VP Australasia: Stuart Read, New Zealand
• VP Europe: Charlie Li, Norway
• VP N. America: Doug Stead, Canada
• VP S. America: Sérgio Fontoura, Brazil
• VP at Large: Manchao He, China
• VP at Large: Norikazu Shimizu, Japan
• VP at Large: Petr Konicec, Czech Rep.
• Secretary General: Luís Lamas, Portugal
The ISRM in 2017

Council meeting 2016

For more information visit our website: www.isrm.net