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Dr. Luís Lamas
Secretary-General, ISRM Secretariat
LNEC
Av. do Brasil, 101
1700-066 LISBOA
PORTUGAL

5th March 2014

Dear Dr. Lamas,

2015 MÜLLER AWARD NOMINATION: EMERITUS PROFESSOR JOHN A. HUDSON

The British Geotechnical Association, which hosts the UK ISRM National Group, is pleased to nominate Emeritus Professor John A. Hudson for the ISRM 2015 Müller Award. Dr Hudson holds an Emeritus Professor position at Imperial College in London and his address is 7, The Quadrangle, Welwyn Garden City, Herts AL8 6SG, UK.

In submitting this nomination, we would like to highlight some key aspects of his career which demonstrate his immense contribution to ISRM and Rock Mechanics. Following his undergraduate degree, Professor Hudson's 50-year career has included the full range of theoretical and practical rock mechanics and rock engineering activities. Since his PhD work at the University of Minnesota, and in the period 1972–1983, he worked at two prestigious UK governmental research laboratories, the Transport Research Laboratory and the Building Research Establishment, conducting research and advising on a variety of rock engineering projects. This work was so well regarded that he received both a Doctor of Science degree and promotion to the position of Individual Merit Senior Principal Scientific Officer. This double honour is a rare achievement and reflected his high stature before his move to Imperial College in 1983.

Professor Hudson joined the Mineral Resources Engineering Department in the Royal School of Mines at Imperial College in a Readership position running the MSc course in rock mechanics. He later became the Director of Research in the Department. He was then promoted to full Professor and subsequently Emeritus Professor. During his time at Imperial College, he taught rock mechanics, supervised 17 PhD and 50 MSc students, and obtained many contracts for theoretical and practical research. Furthermore, in 1985, he started his own independent consultancy, Rock Engineering Consultants, which has now completed more than 100 projects worldwide covering the full spectrum of civil and mining rock engineering, both at the surface and underground. In 1998, he was awarded Fellowship of the Royal Academy of Engineering – the most prestigious engineering organisation in the UK.

Professor Hudson has always been keen to disseminate rock mechanics knowledge. This has demonstrably been through his large number of publications and twelve books. It has also been through his long-term editorship of the International Journal of Rock Mechanics and Mining Sciences, together with his editorship of the 4407-page Comprehensive Rock Engineering compilation. Additionally, he has given many Short Courses around the world.

The generous amount of time that John Hudson has devoted to the ISRM over many years began in 1984 when he arranged the technical content of the ISRM Symposium in Cambridge, UK. It has continued without a break with many responsibilities, including being President of the Testing Methods Commission 1987–2006, through to his ISRM Presidency in the period 2007–2011. It carries on to the present day as the ISRM Design Methodology Commission President and the Editor of the ISRM News Journal. Prof Hudson has been our UK ISRM representative for most years since 1987.

Two letters supporting this nomination are on the following two pages, the first from Dr Nick Barton, the 2011 Müller Award winner, and the second from Professor John Cosgrove, the Structural Geology Professor at Imperial College and Professor Hudson's colleague. These letters are followed by Professor Hudson's CV outlining his many accomplishments and contributions in both the theoretical and practical aspects of rock mechanics and rock engineering.

For all these commendable reasons, the BGA is nominating Professor Hudson for the 2015 Müller Award.

Yours sincerely

Dr Chris Menkiti
Chairman
British Geotechnical Association

ISRM Müller Award Candidate: John Hudson, for 2015

Oslo, March 2014

To whom it may concern

It requires no imagination or presumption to assess Dr. John Hudson as the very obvious Candidate for the Müller Award of 2015. Duty – as ISRM past President – has prevented him from being a candidate and obvious winner in the more recent past, and it is a surprise that he who has been and still is a 'household name' to all of us in rock mechanics, and this for so many years, was not put forward as a candidate many years ago. Such unintended omissions always happen in a scientific society. But this time there can be no doubt to whom the next Müller Award must go.

John Hudson has given and continues to give the subject of rock mechanics and rock engineering, a uniquely strong boost, as a high-standard editor of countless rock mechanics journal editions, of edited volumes on our subject (Comprehensive Rock Engineering), as book author, research and development author, and conference lecturer with countless and important contributions. For decades he has also been a highly valued college lecturer, college professor and Emeritus Professor at one of the most distinguished colleges of engineering in the world. Inevitably he has travelled the world as an advisor on a very large number of rock engineering projects giving his valued assessments and advice.

More complementary words and recommendations are unnecessary.

Sincere regards,

Dr. Nick Barton

NRBarton

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Imperial College
London

Prof. J. W. Cosgrove
Professor of Structural Geology

3 March 2014

To: Dr. Luís Lamas, Secretary-General, ISRM Secretariat, LNEC
Av. do Brasil, 101,
1700-066 LISBOA, PORTUGAL

Support for the Nomination of Emeritus Professor John A. Hudson for the 2015 Müller Award

I have known Professor Hudson for over 30 years as both an academic colleague and in a consulting capacity involved with rock engineering projects around the world. We have collaborated extensively, both academically at Imperial College in London and practically via Professor Hudson's consultancy, Rock Engineering Consultants. We have worked together on rock mechanics problems associated with quarries, metal and coal mines, a bridge foundation, ancient monuments, and repositories for underground radioactive waste disposal. Additionally, together we have promoted the necessity of linking structural geology and rock mechanics and engineering through joint publications, and through a series of Short Courses given in many countries worldwide.

Because of my long-term respect for Professor Hudson's outstanding expertise and the application of his rock mechanics knowledge, both theoretically and in practice, I strongly support his application for the 7th Müller Award. He has spent his working life dedicated to enhancing the use of geology and rock mechanics for practical rock engineering. In addition, his guidance through mentoring students and his textbooks has been and is greatly appreciated by students and professional engineers throughout the world.

Also, his quarter-century editorship of the International Journal for Rock Mechanics and Mining Sciences and his editorship of the 5-volume "Comprehensive Rock Engineering" compendium emphasise his wish to apply knowledge gained through research to the variety of practical rock engineering applications.

I can confirm that Professor Hudson has indeed had "an outstanding career that combines theoretical and applied rock engineering with a profound understanding of the basic sciences of geology and mechanics", as described in ISRM By-Law No. 8 covering the Müller Award requirements. Furthermore, he has devoted much of his time to the ISRM over many years, as outlined in his CV for this Müller Award application. Thus, his candidature has my strong recommendation.

Yours faithfully

Professor John W. Cosgrove

Department of Earth Science and Engineering
Royal School of Mines
Imperial College of Science, Technology and Medicine
Prince Consort Rd.
London SW7 2AZ

2015 Müller Award Candidate

EMERITUS PROFESSOR JOHN A. HUDSON BSc, PhD, DSc, FREng

ISRM President 2007–2011
Fellow, Royal Academy of Engineering, UK
Fellow, International Society for Rock Mechanics
Fellow, American Rock Mechanics Association

Contents

A) ACADEMIC & PROFESSIONAL QUALIFICATIONS/CAREER SUMMARY

A1. ACADEMIC AND PROFESSIONAL QUALIFICATIONS

BSc: Mining Engineering, Heriot-Watt University, Scotland, UK, 1965
PhD: Rock Mechanics, University of Minnesota, USA, 1971
DMS: Diploma in Management Studies (with distinction), Hertfordshire University, UK, 1975
DSc: Doctor of Science for Rock Mechanics contributions, Heriot-Watt University, Scotland, UK, 1982

Fellow, Royal Academy of Engineering, UK,
Fellow, International Society for Rock Mechanics
Fellow, American Rock Mechanics Association (and Life Member)

Member, British Geotechnical Association
Member, International Society for Rock Mechanics
Member, British Tunnelling Association

Face Working Certificate, longwall coal mining, Woolmet Colliery, Scotland, 1962
Chartered Engineer, 1976, UK

A2. CAREER SUMMARY FOLLOWING THE PhD DEGREE

1971–1972 Post-doctoral research, University of Minnesota, USA
1972–1974 Senior Scientific Officer, Tunnels Division, Transport and Road Research Laboratory, UK
1974–1977 Principal Scientific Officer, Tunnels Division, Transport and Road Research Laboratory, UK
1977–1979 Principal Scientific Officer, Strategic Research Operations, Department of the Environment, UK,
1979–1980 Visiting Professor, Mining and Metallurgy, University of Wisconsin, USA
1980–1982 Principal Scientific Officer, Geotechnics Division, Building Research Station, UK
1982–1983 Individual Merit Senior Principal Scientific Officer, Geotechnics Division, Building Research Station, UK
1983–1989 Reader, Mineral Resources Engineering, Imperial College, London, UK
1989–2006 Professor, Engineering Rock Mechanics, Imperial College, UK
2006–present Emeritus Professor, Engineering Rock Mechanics, Imperial College, UK

A3. PRACTICAL EXPERIENCE

Early work on the Loch Awe Hydroelectric Project in Scotland, in the Woolmet longwall coal mine in Scotland, and via a Rhodesian Selection Trust scholarship for metal mining work at Mufulira Copper Mine, Zambia

1972–1977 and 1980–1983 provided advice for a wide variety of practical projects via Tunnels Division, Transport and Road Research Laboratory, UK, and Geotechnics Division, Building Research Station, UK

From 1985–present, via the personal independent consultancy, Rock Engineering Consultants, completed more than 100 individual projects:

- Contracts covering the full spectrum of civil and mining surface and underground rock engineering in Australia, China, Chile, Finland, Hong Kong, India, Italy, Japan, Singapore, Spain, Sweden, Taiwan, Tunisia, Turkey, UK, USA
- Expert witness work
- Many aspects of design and practical testing for underground radioactive waste disposal—with long term contract work for the Finnish, Swedish and UK programmes

A4. VISITING ACADEMIC POSITIONS

1979–1980 Visiting Professor, University of Wisconsin-Madison, USA
1993 Visiting Professor, Nanyang Technological University, Singapore
1994–2004 Guest Researcher & Adjunct Professor, Royal Institute of Technology, Stockholm, Sweden
1994 MTS Visiting Professor, University of Minnesota, USA
1995–1998 Visiting Professor, Western Australia School of Mines, Curtin University
1996–2000 Visiting Professor, University of Leeds, UK
2002–present Adjunct Professor, Chinese Academy of Sciences, Wuhan, China
2003 Fellowship, Japan Society for Promotion of Science, Kyoto University, Japan
2008–present Honorary Professor, University of Hong Kong, China
2010–present Visiting Professor for Senior International Scientists, Chinese Academy of Sciences

B) CONTRIBUTIONS TO ROCK MECHANICS AND THE ISRM

B1. CONTRIBUTIONS TO TEACHING AND MSc/PhD STUDENT SUPERVISION

At Imperial College, from 1983–1993 teaching rock mechanics to students in

- Undergraduate civil engineering
- Undergraduate mining engineering
- Undergraduate engineering geology
- Post-graduate rock mechanics

Director, Engineering Rock Mechanics MSc Course, Imperial College
Departmental Director of Research
Supervision, 17 PhD & 50 MSc students
External MSc Course examiner, Universities of Durham and Newcastle, UK
External PhD examiner at many European universities

B2. CONTRIBUTIONS VIA ROCK MECHANICS RESEARCH

Research has covered the spectrum of rock mechanics and rock engineering, including laboratory testing, rock characterisation, site investigation, computer modelling, rock engineering design and site monitoring.

Research subjects of special interest:

- Deformation, strength and post-failure behaviour of intact rock
- Geometry of *in situ* rock fractures
- Incorporation of structural geology into rock engineering
- Rock engineering systems
- Rock engineering design
- Coupled thermo-hydro-mechanical-chemical processes in geo-systems
- Rock engineering risk

Responsible for rock mechanics laboratories at University of Minnesota & Imperial College, and for an *in situ* underground laboratory in Cornwall, UK

B3. CONTRIBUTIONS VIA DISSEMINATION OF ROCK MECHANICS INFORMATION

- Editor, International Journal of Rock Mechanics and Mining Sciences, 24 years 1983–2007
- Senior Editor, Comprehensive Rock Engineering—(with Profs. Ted Brown, Charles Fairhurst, Evert Hoek) 5 volume, 4407 page compendium, Elsevier, 1993
- 204 publications, see Annex, pages 9–21
- Short Courses given in Australia, Austria, Brazil, Chile, China, Colombia, Finland, Hong Kong, India, Peru, Singapore, UK, USA
- Many Keynote Lectures
- ISRM Web Lecture, 2013

B4. CONTRIBUTIONS TO ROCK ENGINEERING PRACTICE

Through

- Many worldwide Rock Engineering Consultants projects
- Chairmanship, DECOVALEX project, 2007 to 2015—international consortium of radioactive waste disposal implementers/regulators testing the validity of computer programs for application to underground repository design
- Authorship of books and papers explaining geology and rock mechanics applied to rock engineering practice

B5. OTHER CONTRIBUTIONS

- UK representative at International Atomic Energy Agency meetings, Vienna, Madrid, and Chairman, IAEA meeting, Helsinki: site investigation for radioactive waste disposal
- Chairman, Schlumberger Rock Mechanics Lecture Award

B6. CONTRIBUTIONS TO THE ISRM

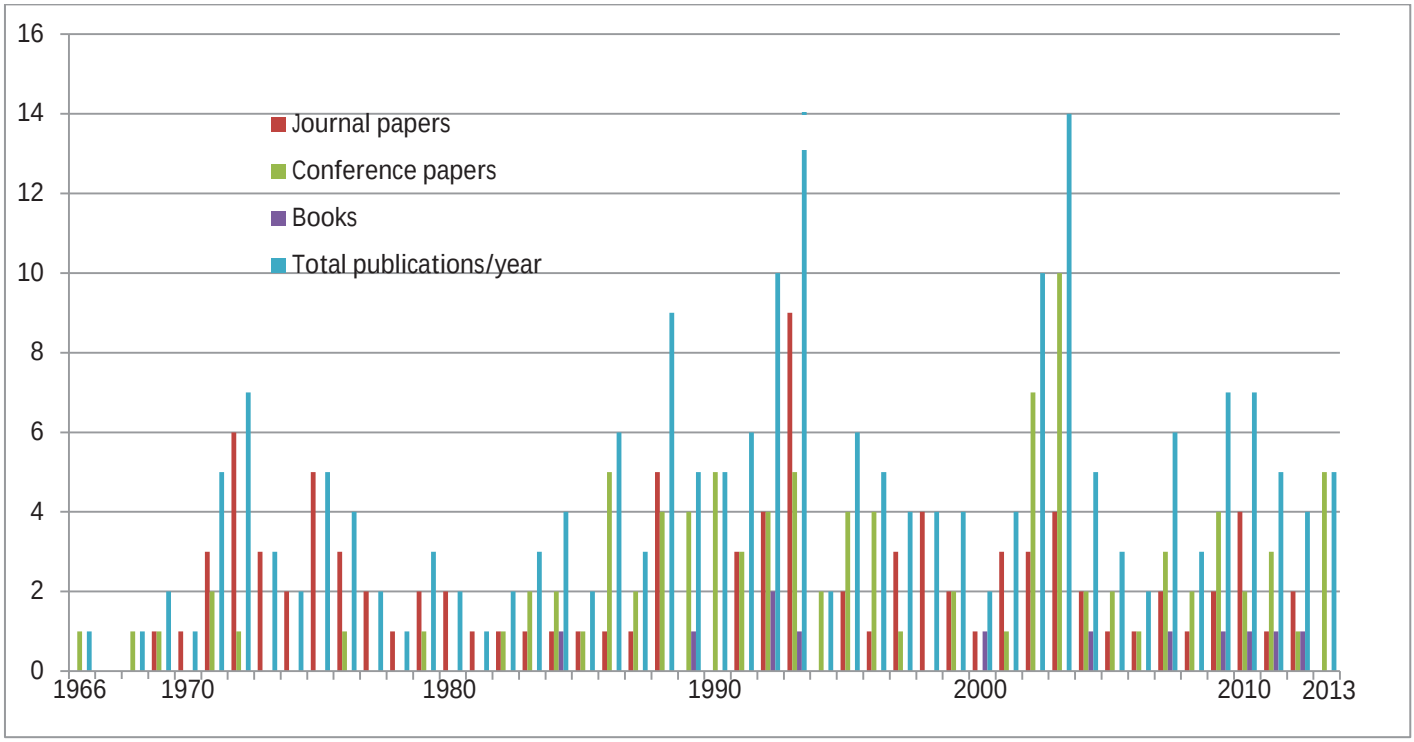
- President, 2007–2011
- Representative, UK National Group, British Geotechnical Association, at ISRM Council Meetings most years 1987–present
- Chairman, Technical Committee, ISRM Rock Mechanics Symposium, Cambridge, UK, 1984
- ISRM Vice-President at Large (1995–1999)
- President, ISRM Testing Methods Commission (1987–2006)
- Co-author, three ISRM Suggested Methods
- Chairman, first ISRM EUROCK Symposium—held in Chester, UK, 1992
- Lecturer, ISRM Lecture Tours in China
- Co-Chairman, ISRM SINOROCK Symposia: Yichang, China, 2004; Hong Kong, China, 2009; Shanghai, China, 2013.
- President, ISRM Commission, Design Methodology (2011–present)
- Co-President, ISRM Commission, Underground Research Laboratories (2011–present)
- Co-Editor & Compiler, ISRM News Journal 2007–2013 (7 issues)
- Co-Editor & Compiler, ISRM 50th Anniversary Commemorative Book, 2012
- Many initiatives during ISRM Presidency, including establishing 18% increase in individual ISRM Members, 5354 (2007) $\rightarrow$ 6312 (2011)

Pages 5–8: 989 words

C) ANNEX–LIST OF PUBLICATIONS

(BOOKS, JOURNAL PAPERS, CONFERENCE PAPERS)

204 Publications: 12 Books, 94 Journal papers, 98 Conference papers



BOOKS: Authored, co-authored, edited

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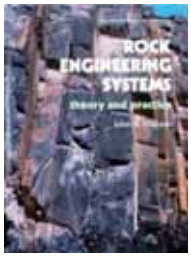

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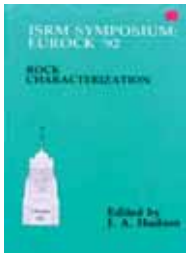

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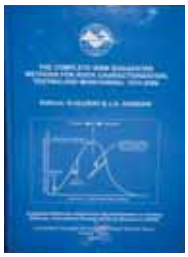

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**Books 6 & 7 ("Engineering Rock Mechanics: An Introduction to the Principles" by J.A. Hudson and J.P. Harrison and "Engineering Rock Mechanics: Illustrative Worked Examples" by J.P. Harrison and J.A. Hudson are rock mechanics teaching textbooks which have been used worldwide since 1997.*

Book titles listed on the next page

1. 1984 E. T. Brown and J. A. Hudson (Editors): ISRM UK Symposium "Underground Openings", British Geotechnical Society
2. 1989 J. A. Hudson: "Rock Mechanics Principles in Engineering Practice", CIRIA. Also translated into Japanese
3. 1992 J. A. Hudson: "Rock Engineering Systems: Theory & Practice", Ellis Horwood
4. 1992 J. A. Hudson (Editor): ISRM UK Symposium "Rock Characterisation", British Geotechnical Society
5. 1993 J. A. Hudson (Senior Editor—with E.T. Brown, C. Fairhurst, E. Hoek): "Comprehensive Rock Engineering", 5 volumes, 4407 pages, Elsevier— which is the only international benchmark overview of rock mechanics and rock engineering
6. 1997 J. A. Hudson and J. P. Harrison: "Engineering Rock Mechanics: An Introduction to the Principles", Elsevier. Translated into Turkish in 2005 and Chinese in 2009
7. 2000 J. P. Harrison and J. A. Hudson: "Engineering Rock Mechanics, Part 2. Illustrative Worked Examples." Elsevier. Translated into Turkish in 2005 and Chinese in 2009
8. 2004 O. Stephansson, J. A. Hudson, L. Jing (Editors): "Coupled Thermo-Hydro-Mechanical-Chemical Processes in Geo-Systems": Elsevier
9. 2007 R. Ulusay and J. A. Hudson (Editors): "The Complete ISRM Suggested Methods for Rock Characterisation, Testing and Monitoring: 1974–2006", ISRM
10. 2010 C. A. Tang and J. A. Hudson: "Rock Failure Mechanisms—Explained and Illustrated", Taylor & Francis
11. 2011 X. T. Feng and J. A. Hudson: "Rock Engineering Design", Taylor and Francis
12. 2012 J. A. Hudson and L. Lamas (Editors): "ISRM 50th Anniversary Commemorative Book", ISRM

JOURNAL PAPERS

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1973 Hardy, M. P., Hudson J. A., 1973. Controlling crack growth in the beam test. *The Magazine of Mechanical Testing*, Spring, 9–13.

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1975 Hudson, J. A., Brown E. T., Rummel, F., 1975. The controlled failure of rock discs and rings loaded in diametral compression: Authors' reply to the Discussion on Hudson, J. A., Brown, E. T., Rummel, F. paper in *Int. J. Rock Mech. Min. Sci.* 9: 241–248 (1972), by Durelli, A. J., Parks V. J. *Int. J. Rock Mech. Min. Sci*. 11: 341–342 (1974). Reply in *Int. J. Rock Mech. Min. Sci*. 12: 379–380 (1975).

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