



December 15, 2004

IUGS Secretariat
Geological Survey of Norway
N-7491 Trondheim
NORWAY

Dear Sir or Madam:

I enclose the Annual Report for 2004 on behalf of the International Association for Mathematical Geology (IAMG).

A highlight of our 2004 activities was our The organization held its 12th General Assembly August 20th – 28th, 2004, in conjunction with the 32nd International Geological Congress, in Florence Italy. IAMG sponsored five symposia and four short courses at the IGC 2004 in Florence, Italy.

The IAMG is planning its 9th 2005 Annual IAMG Meeting, which will be held in Toronto, Canada at the University of Toronto Campus.

We are requesting a grant of \$5,000 from the IUGS to support travel expenses of eastern European speakers for our Ninth 2005 Annual IAMG meeting in Toronto, Canada.

Finally, please note that IAMG has new officers for the 2004-2008 term. I am replacing Carol A. Gotway Crawford as Secretary General of the IAMG.

I look forward to hearing from you and hope you will find our budget request worthy of your support.

Sincerely,

Clayton V. Deutsch
Secretary General, IAMG

Enclosures
xc: IAMG Executive Committee

International Union of Geological Sciences

REPORTING FORM FOR CONSTITUENT BODIES 2004

1. TITLE OF CONSTITUENT BODY

International Association for Mathematical Geology (IAMG)

2. OVERALL OBJECTIVES

Our Statutes read: “The aim of IAMG is to promote international cooperation in the application and use of mathematics in geological research and technology. To this end the activities of the IAMG shall include:

- (a) the organization of meetings, of field excursions, and of visits to centers of research and technology;
- (b) the issue of publications on the application of mathematics in the geological sciences, and of discussions thereon;
- (c) cooperation with other organizations professionally concerned with applications of mathematics and statistics to the biological sciences, earth sciences, engineering, environmental sciences, and planetary sciences.”

The IAMG promotes international cooperation for the advancement of quantitative geology.

3. FIT WITHIN IUGS SCIENCE POLICY

The aim of IAMG is to promote international cooperation in the application and use of mathematics in geological research and technology. This aim is consistent with the IUGS goal of international and interdisciplinary cooperation in the earth sciences.

4. ORGANIZATION (broad description)

The IAMG is governed by a Council of twelve voting members plus the three non-voting Editors-in-Chief of our journals. Standing committees appointed by the Council carry out such specialized tasks as membership drives and selection of award winners. Members elect the voting Council members through electronic balloting every four years.

At present, the IAMG has 453 individual members from 49 countries. The membership decreased from 457 last year.

5. EXTENT OF NATIONAL/REGIONAL/GLOBAL SUPPORT FROM SOURCES OTHER THAN IUGS

The IAMG receives no support from other sources. IAMG’s sole income is from publication royalties or donations.

Regional groups receive limited support from IAMG to organize meetings and workshops. The IAMG receives no financial support from these regional groups.

6. INTERFACE WITH OTHER INTERNATIONAL PROJECTS

The Association is affiliated with the International Union of Geological Sciences (IUGS), the International Statistical Institute (ISI), and the American Association of Petroleum Geologists (AAPG).

7. CHIEF ACCOMPLISHMENTS IN 2004

The organization held its 9th General Assembly August 20th – 28th, 2004, in conjunction with the 32nd International Geological Congress, in Florence Italy. IAMG sponsored five symposia and four short courses at the IGC 2004 in Florence, Italy. Approximately 45 persons were present, including 29 voting members.

At this meeting, the results of IAMG's recent election were announced. These are:

President:	Frits P. Agterberg, Canada
Vice President:	Nick Fisher, Australia
Secretary General:	Clayton V. Deutsch, Canada
Treasurer:	Jorgina Ross, USA

The Awards Committee selected winners of IAMG's four biennial awards:

- 2003 Felix Chayes Prize to Antonella Buccianti (Italy)
- 2003 Andrei Vistelius Award to K. Gerald van den Boogaart (Germany).
- 2004 John Cedric Griffiths Teaching Award to John H. Schuenemeyer, (USA)
- 2004 Krumbien Medal to Ricardo Olea (USA)

IAMG Co-sponsored with American Statistical Association a session entitled "Environmental Applications of Mathematical Geology" held on August 11th, during JSM 2004 in Toronto, Canada.

The IAMG Lecture Series in 2004 was highly successful Dr. Frits Agterberg toured the Southern Hemisphere giving a total of 14 lectures. The primary purpose of the lectureship is to present to the geological community the latest mathematical thinking on critical topics. An important component of the series will be the transfer of knowledge to nations outside of the North American - European orbit. This series will increase the visibility of mathematical geology through the IAMG will, eventually, increase the membership, subscriptions to journals, and participation in IAMG sponsored congresses.

Toronto, Canada was selected as the site of the Tenth Annual Meeting, IAMG'05, to be held 21-25 August 2004.

8. CHIEF PROBLEMS ENCOUNTERED IN 2004 (IF ANY)

Increasing membership continues to be IAMG's biggest challenge. Our membership rate has been constant for several years.

9. CHIEF PRODUCTS IN 2004

Our main products are our publications:

- (a) *Mathematical Geology*, 8 issues per year
- (b) *Computers & Geosciences*, 10 issues per year
- (c) *Natural Resources Research*, 4 issues per year.

10. SUMMARY EXPENDITURES IN 2004

Accounting Services	\$2815.00
Awards	\$7487.68
Bank Charge	\$ 116.95
Computer	\$ 64.37
Distinguished Lecturer	\$ 7491.68
E&M Management Expenses	\$ 3695.84
E&M Management Fees	\$6170.00
Meeting Support (non-IAMG)	\$2300.00
Miscellaneous, Bus	\$28.35
Promotion & Booths	\$5652.13
Travel, Officers & Members	\$4030.94
Webmaster Expenses	\$584.00
Total	\$40436.94

These numbers are preliminary and do not include November and December.

11. WORK PLAN FOR NEXT YEAR AND FOLLOWING YEARS

Short Term

Preparations are underway for our 2005 IAMG Meeting, which will be held in Toronto, Canada at the University of Toronto Campus.

IAMG is organizing an Invited Paper Meeting on sampling in constrained sampling spaces at the next Session of the International Statistical Institute to be held in Sydney, Australia, April 2005.

2006 IAMG Annual meeting will be held in Liege, Belgium, September 3-8, 2006. This will include a symposium on the geologic time scale co-sponsored by the IUGS International Commission on Stratigraphy.

Longer Term

Increase the membership. Once we broaden our base, it will be easier for the Association to expand programs and services.

Increase the number of subscriptions to *Natural Resources Research* to at least the minimum circulation necessary to start receiving royalties from the publishers.

Prepare sessions and workshops for the IAMG Meetings. These will be held in years in which the International Geological Congress does not meet.

Sponsor additional meetings, workshops, and symposia.

Make closer contact with academia to create awareness about the need to offer more courses in mathematical geology.

Make closer contact with industry to ensure the applicability of methods from mathematical geology.

Publish a series of tutorial articles -- Studies for Students -- on various aspects of mathematical geology.

Secure submission of good papers to our journals in order to maintain or increase the quality of our publications.

Publish several additional monographs.

12. CRITICAL MILESTONES TO BE ACHIEVED NEXT YEAR

- Increase membership.
- Increase number of subscribers to *Natural Resources Research*.

13. ANTICIPATED RESULTS/PRODUCTS NEXT YEAR

2005 IAMG Meeting, Toronto, Canada, August 21-25, 2005

Additional tutorial articles in the series Studies for Students will appear. The Education Committee is working on soliciting additional tutorial articles by leading geomathematicians.

14. COMMUNICATION PLANS

IAMG's primary communication plans will continue to be its three journals (*Mathematical Geology*, *Computers & Geosciences* and *Natural Resources Research*), the IAMG Newsletter, and the IAMG website (<http://www.iamg.org>).

15. SUMMARY EXPENDITURES FOR 2005 (If IUGS support is requested, please specify)

The amounts will be similar to those of 2004 (given above).

IUGS support in the amount of \$5,000 is requested to support travel expenses of eastern European speakers for our Ninth Annual IAMG meeting in Toronto, Canada.

16. POTENTIAL FUNDING SOURCES OUTSIDE IUGS

The royalties generated by publications are our principal source of income. All dues paid to the Treasurer are transferred to the publishers of the journals as journal subscriptions.

17. REVIEW CHIEF ACCOMPLISHMENTS/RESULTS OVER LAST 5 YEARS: PERIOD 1999 - 2004

A new five-year contract for publication of *Computers & Geosciences* was signed by IAMG and Elsevier in 1999, giving IAMG royalties for *Computers & Geosciences Online*, an electronic version of the journal.

IAMG approved a grant in 1999 of exceptional aid to the Institute of Mathematical Geology, St. Petersburg, Russia. This consists of a \$10,000 grant toward preparation of a special issue of one of our journals. The result was published recently as a special issue in *Mathematical Geology* edited by Victor Kotov and Stephen Henley.

Creation of a single compilation of computer programs that were published during the first 25 years of *Computers & Geosciences* -- the Silver CD project -- is complete. Elsevier, publisher of the journal, also participated in the project. The scanning of all code from *Computers and Geosciences* volumes back to 1975 is included. The CD can be purchased on website at www.iamg.org.

In 2000 the IAMG Student Grant Program was developed. The Student Grant Program is intended to advance the development and application of quantitative methods to geology by supporting graduate students enrolled in a formal university department related to mathematical geology. A grant is a cash amount up to the equivalent of US\$2,000 of the year 2000 plus a one-year subscription to one of the IAMG journals. Further details can be found under the Guidelines and Procedures heading on the IAMG home page (<http://www.iamg.org>).

In 2000 an on-line membership directory was established for IAMG members. The directory will enable members to obtain contact information for other members and to easily update their own contact information.

In 2001 the IAMG Lecture Series was established. The primary purpose of the lectureship is to present to the geological community the latest mathematical thinking on critical topics. An important component of the series will be the transfer of knowledge to nations outside of the North American - European orbit. This series will increase the visibility of mathematical geology through the IAMG will, eventually, increase the membership, subscriptions to journals, and participation in IAMG sponsored congresses.

In 2002 IAMG signed a contract for office services with Events & Management, a company in Kingston, Ontario, Canada. E&M now looks after our membership dues, manages the subscriptions to our three journals (and deals directly with the publishers) circulates our Newsletter and has sends out blanket e-mails from time to time. These services have changed IAMG into a more professionally managed body.

The IAMG presents Annual Meetings in years that the IGC does not meet. Sites of recent meetings include Trondheim, Norway (1999), Rio de Janeiro, Brazil (2000), Cancún, Mexico (2001), Berlin, Germany (2002), Portsmouth, UK, (2003) and Florence, Italy (2004). In 2000, the IAMG was responsible for the organization of four special symposia and twelve general symposia at the IGC 2000 in Rio de Janeiro.

Other conferences organized or co-sponsored by IAMG:

- Geostats-UK '99, November 22, Leicester, United Kingdom.
- Oklahoma Geological Survey "Petroleum systems of sedimentary basins in the southern Midcontinent," Oklahoma City, March 28-29, 2000.
- Second International School of Fluids Geochemistry, Arezzo, Italy, September 5-8, 2000.
- A meeting on "Extreme Value Distributions in Geology" was organized for the 53rd Biennial meeting of the International Statistical Institute in Seoul, Republic of Korea, August 22-29, 2001. Papers have been published in the Bulletin of the International Statistical Institute.
- IAMG assisted and sponsored the 7th Conference of the Baltic Geologists, April 21-27, 2002, Kaliningrad, Russia.
- The IAMG accepted to organize, as a Guest Society, an invited paper meeting at the 54th Session of the ISI, in Berlin, Germany, August 13-20, 2003
- 8th South African Geophysical Association (SAGA) meeting in Pilanesburg, South Africa, October 7-10, 2003.
- Compositional Data Analysis Workshop, October 15-17, 2003. Girona, Spain.
- Workshop entitled "Analogue and numerical forward modelling of sedimentary systems; from understanding to prediction", October 9-11, 2003, Utrecht, The Netherlands.

IAMG is in contact with the American Statistical Association and the International Statistical Institute and participates in their meetings by organizing sessions.

18. SUMMARIZE ANTICIPATED OBJECTIVES AND WORK PLAN FOR THE NEXT 5 YEARS (2005-2010):

IAMG's principal activities will lie in the following areas:

1. Increase membership rate.
2. Re-vamp the existing membership committees to increase their effectiveness.
3. Monitor Student Grant Program, and make any changes that might be necessary;
4. Monitor Lecture Series and make any changes that might be necessary

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POSITION: Secretary General

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