



December 8, 2009

IUGS Secretariat  
Attn: Anne Liinamaa-Dehls  
Geological Survey of Norway  
N-7491 Trondheim  
NORWAY

Dear Madam:

Please find enclosed the International Association for Mathematical Geosciences Annual Report to IUGS for 2009.

Highlights of our 2009 activities were: the organization of our Annual Meeting held on August 23<sup>rd</sup> – 28<sup>th</sup>, 2009, at Stanford University, California, USA; a renewed effort to support student chapters to promote Mathematical Geology among the younger generation; and a new IAMG Section to promote Mathematical Geology in China. The IAMG is now planning its 2010 Annual Meeting, which will be held in Budapest, Hungary, on August 29<sup>th</sup> – September 2<sup>nd</sup>, 2010.

We are requesting a grant of \$5,000 from the IUGS to support travel expenses of scientists to our 2010 Annual IAMG meeting. These funds would be used to assist scientists from developing countries to travel to IAMG 2010

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

Sincerely,

Daniel Tetzlaff  
Secretary General, IAMG

cc.: IAMG Council

# **International Union of Geological Sciences**

## **ANNUAL REPORT OF AFFILIATED ORGANIZATION:**

### **International Association for Mathematical Geosciences**

#### **2009**

The IAMG (International Association for Mathematical Geosciences) is a non-profit organization established August 22, 1968, during the 23<sup>rd</sup> International Congress in Prague. The mission of the IAMG is to promote, worldwide, the advancement of mathematics, statistics and informatics in the Geosciences. We maintain a website ([www.iamg.org](http://www.iamg.org)) and, publish the IAMG quarterly Newsletter that also is on our website.

Although we are a relatively small organization with 500 members as of the end of October 2009, our membership is truly international and we publish three well-known international scientific journals: *Computers & Geosciences* with Elsevier as publisher, and *Mathematical Geosciences* and *Natural Resources Research* with Springer.

In August 2008, IAMG governance was taken over by a new Executive and Council. The IAMG President is Dr. Vera Pawlowsky-Glahn, and the Vice President is Dr. Qiuming Cheng.

The IAMG organizes an annual conference. This year's conference was held at Stanford University, California, USA, on August 23<sup>rd</sup> – 28<sup>th</sup>, 2009. The conference theme was: *Computational Methods for the Earth, Energy and Environmental Sciences*. Approximately 120 papers were presented in 23 sessions. Also, a number of poster presentations were held.

A renewed effort to support student chapters around the world was launched this year. Student chapters provide a local venue for young students to organize their own activities to promote study and research in mathematical methods in the earth sciences. At this time there are 8 IAMG student chapters around the world:

1. China University of Geosciences - Wuhan, China
2. Southern Illinois University - Carbondale, Illinois, USA
3. University of Alberta - Edmonton, Alberta, Canada
4. Technische Universität Bergakademie Freiberg, Germany
5. Stanford University – Stanford, CA, USA
6. Sun Yat-Sen University - Guangzhou City, China
7. University of Colorado at Boulder, Colorado, USA
8. ENSG-Nancy University, Nancy, France,

the last two of them have just been founded earlier this year.

The IAMG provides student travel grants to encourage students to participate in IAMG conference as well as in other conferences sponsored by the IAMG. During this year, the IAMG provided travel grants to students from India, Turkey, France, Germany, and Pakistan.

During 2009, a new IAMG section was formed in China. A section constitutes a group of regular IAMG members with common interests usually spanning a geographic region.

This suborganization is open to all members but greatly facilitates the communication among members with common issues and a common language. The first chair of the new section is Dr. Yongzhang Zhou who is a full professor in Earth Science Department at Sun Yat-Sen University, Guangzhou, China. Just like student chapters, IAMG sections keep their own web site.

The IAMG also provides a number of awards to outstanding scientists. Not all awards are given yearly. The Vistelius Award is given to a young scientist for promising contributions in research in the application of mathematics or informatics in any field of the earth sciences. The winner this year was Guillaume Caumon, an Associate Professor (Maître de Conférences), Nancy Université (INPL), École Nationale Supérieure de Géologie (ENSG), Centre de Recherches Pétrographiques et Géochimiques (CRPG-CNRS), France, and Director of the Gocad Research Consortium. His research interests and activities are in 3D subsurface modelling, visualisation, and characterisation of related uncertainties.

We also have a Distinguished Lecturer series. The current Distinguished Lecturer is Roussos Dimitrakopoulos of McGill University. Dr. Dimitrakopoulos began his tenure in January of 2009 and it will continue through December of 2010. Dr. Dimitrakopoulos has done three presentations to date: Santiago, Athens and Perth. Additional presentations (live and videoconference) are planned Stanford, Germany, Vancouver, with additional interest expressed in Ottawa, the US (Kentucky and Florida) and South Africa. To date, all expenses for the videoconferences have been covered by Dr. Dimitrakopoulos.

The IAMG also holds a lecture series in honor of Georges Matheron, a leader in the field of geostatistics. The series was initiated in 2005, and the first lecture was given in 2006 at the IAMG Annual Meeting in Liège, Belgium. This year Jean-Laurent Mallet (École Nationale Supérieure de Géologie, Nancy Université, France) is presenting a lecture on: *GeoChron: A Mathematical framework for sedimentary geology*.

In the past few years we have significantly expanded our Student Affairs program. In 2007, six student mathematical geoscience research grants of US \$2,000 each were awarded as well as travel grants to students presenting papers or posters at IAMG2007. Additionally, we support five student chapters at universities in Canada, China, Germany, and the USA. We actively continued to pursue expansion of the student programs during 2008.

The IAMG is planning the following major meetings for the next three years:

- 2010: Budapest, Hungary, IAMG Annual Meeting (Janos Geiger and Jozsef Kovacs, chief organizers).
- 2011: Salzburg, Austria, IAMG Annual Meeting (Robert Marschallinger, chief organizer).
- 2012: Durban, South Africa, IAMG-sponsored Invited Paper Meeting during the 57<sup>th</sup> Session of the International Statistical Institute (Eric Grunsky, Organizer).

Scientific publication remains the primary function of IAMG and continues to account for much of our income. In addition to our three main journals mentioned above, we also publish a monograph series with Oxford University Press which currently counts eight titles and a ninth one about to be published, a series of Studies for Students, which

presently consists of five titles, proceedings of all our conferences, in addition to the aforementioned Newsletter.

Our website ([www.iang.org](http://www.iang.org)) includes more details of our organization, events, membership, and publications, to keep members and others informed about our activities. Please feel free to consult it for more information.