No. 71 December 2005

IAMG Newsletter

Official Newsletter of the International Association for Mathematical Geology

Contents

Call for Award Nominations 2006

The Association invites all members to submit nominations for the 2006 **John Cedric Griffiths Teaching Award** and the **Krumbein Medal** – the highest award given by the Association

Deadline: January 31st 2006

For details about prerequisites for nominations see the "Guidelines for Awards within the IAMG" on the Organization's web page, section "Guidelines and Procedures": http://iamg.org/guidelines.html. There you can also find a list of recipients and their laudatios.

Please have a look at it before sending your proposal!

The (informal) documents which should accompany each proposal are:

- a short statement summarizing the relevant qualifications of the nominee
- a curriculum vitae of the nominee

The proponent may also get additional information or support for his proposal from other members of IAMG and from successful examples published on our website.

Please submit documentation (preferable in electronic format) to:

Heinz Burger – Chair, Awards Committee
Freie Universität Berlin – Geoinformatik
Malteserstr. 74 – 100
12249 Berlin, Germany
e-mail: hburger@zedat.fu-berlin.de

Toronto - welcoming city on the shores of Lake Ontario and site of IAMG 2005 this last August. The organizers of the conference chose well: Hart House of the University of Toronto, an ivy-draped, Oxbridge style college building, recalling the British heritage, was a very suitable venue for plenary talks in the "Great Hall", topical sessions in various smaller rooms, spaces for work sessions, posters and the "music room" for reading, computer connections, and listening to the occasional piano player.

Downtown Toronto turned out to be a nicely accessible city with many places within walking distance from the university, and a good public transportation system of subways and bus lines to reach other parts of the city including the harbor for a sight seeing tour or the islands across the bay for some relaxation. Breaks in the proceedings could be used to see one of the museums or do some shopping in the many enticing stores. Cultural offerings ranged from concerts to theatre, and many good restaurants invited the attendees for dinner.

The main conference banquet at the Great Hall of Hart House was the central social event where Kathryn McKinnon, the longtime editorial secretary of Computers & Geosciences, was presented with a certificate of appreciation. A slide show talk after dinner, arranged by Eric Grunsky, introduced us to a delightful collection of paintings by "The Group of Seven" as well First Nation native art, and motivated us to visit the wonderful McMichael Gallery in the small town of Kleinburg outside Toronto after the conference to enjoy the collection of paintings, graphics and sculptures in more depth.

Attendance at IAMG 2005 was high: more than 260 participants, including 45 students, presented 226 paper and posters in 33 sessions and 6 plenary talks. The geographic origin of the attendees was again widespread: 39 countries were represented, with Canada (44), USA (40) and China (31) in the top three, and Italy, Japan, Iran, Russia, Germany and UK all with 10 or more. This international diversity is a good sign for the health of the organization, especially for the first meeting in Canada (or the USA) in 10 years (since Mont Tremblant in 1994).

Many delegates used the opportunity of the field trips offered to look at the glacial geology of the region or the majestic Niagara Falls across the lake and the geology along the gorge. We also had a chance to inspect the vineyards of the southern shores and sample some of the red and white products. Excellent sunny weather helped to make the excursions a great experience for all.

Conference chair and vice-chair Qiuming Cheng and Graeme Bonham-Carter and their talented staff and local organizing committee (not forgetting the IAMG office staff from Kingston) are to be congratulated for having conceived, organized and executed a very effective and enriching conference.We hope that the next meetings, 2006 in Liège and 2007 in Beijing (not Wuhan - see p. 4), will be as diverse as this one and will attract again large audiences, maybe leading to an increase in membership.

Harald S. Poelchau

International Association for Mathematical Geology

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PRESIDENT'S FORUM

The aim of the IAMG is to promote worldwide the advancement of mathematics, statistics and informatics in the Geosciences. This involves the development of new theory with applications to be disseminated in our journals and other publications. Our scope is perhaps broader than the scopes of other organizations including, for example, SPE (Society of Petroleum Engineers) whose mission statement is: "To collect, disseminate, and exchange technical knowledge concerning the exploration, development and production of oil and gas resources, and related technologies for the public benefit; and to provide opportunities for professionals to enhance their technical and professional competence."

A marked difference between IAMG and most other societies is that we are much smaller; e.g. SPE has about 64,000 members, which makes it more than one hundred times as large as IAMG. Currently, SPE on the first page of its web site features the new book "Petroleum Geostatistics" by Jeff Caers who is one of our members. It has been estimated that about 50% of SPE members could be IAMG members as well. Small membership can be regarded as one of our weaknesses. We should make it more attractive for quantitative geoscientists to join us by improved delivery of products and services.

Continually we have to consider how we should be directing our efforts and resources in order to pursue our aims to our fullest potential and to increase our visibility. New initiatives along these lines currently pursued by your Executive include re-development of our web site and re-evaluation of our aims. We are fortunate to have Nick Fisher as IAMG Vice President. During the past 10 years, Nick has been instrumental in developing strategic plans for the Statistical Society of Australia of which he was President, and for the International Statistical Institute (ISI), which along with IUGS is one of our parents.

The ISI mission statement is: "To promote the understanding, development and good practice of Statistics worldwide". It is followed by 8 specifications on how this mission should be pursued, and 8 strategic objectives each accompanied by preamble and strategy. For example, Objective 1 "Enhance the ISI's support for the statistical community" has as preamble: "The core activities of the ISI have always been the biennial Sessions and the scientific publications. However these need to be systematically reviewed regularly" with the strategy being to "conduct a review of the current range of products and services (conferences, publications …), and implement changes."

Recently the IAMG Council has approved the formation of a Strategic Planning Commission chaired by Nick Fisher and seven members representing key groups of the IAMG as follows:

Dan Tetzlaff (geological process modeling)
Vera Pawlowsky-Glahn (mathematical statistics)
Jaime Gómez (geostatistics)
Dave Soller (geoinformatics)
Andrea Fabbri (GIS/remote sensing)
Zhou Di (developing countries), and
Ernst Schetselaar (young professionals).

The Commission, of which I am Ex-Officio member, has an agenda with strict deadlines allowing it a couple of weeks to carry out each specific action, followed by 3-4 weeks for feedback from reference groups consisting of IAMG Executive, Council and former Presidents.

Detailed Strategic Objectives that need to be SMART (Specific, Measurable, Achievable, Realistic, Time-bounded) are to be developed by the Executive at the end of February 2006 for circulation, feedback from groups, and distribution to the IAMG Membership for consideration. Final results will be presented for adoption to our next General Assembly to be called during IAMG'06 in Liège, 8-13 September, 2006.

The Commission started its work by performing a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats). Our strengths include: significant financial reserves and annual income, and excellent international attendance at our annual meetings, and weaknesses: desperately low membership (about 500 members only) with gains due to promotion at conferences largely negated by loss of about 100 members annually due to non-renewals, and low level of interest for IAMG in governments and industry (no institutional members). Opportunities include: use of financial strength to expand range of offerings and range of member benefits, and threats: possible disruption of activities due to rather abrupt quadrennial changes of Council/ Committees. The SWOT analysis serves as the basis for formulating the IAMG's mission statement with strategic objectives for the next four years.

Benefits of the Strategic Planning process should include a clear statement of IAMG's priorities, more efficient and effective use of our resources, a sounder basis for financial planning, increased membership, and guidance to future Executives and Council Members about what the IAMG is doing.

Other positive developments during 2005 include the success of IAMG'05 in Toronto with 260 participants from 39 countries. The largest groups came from the U.S.A., Canada and China each with about 40 participants. Many countries in Europe were well represented and, for the first time, we had strong contingents from Iran and Nigeria. The IAMG Students Affairs Committee chaired by Helmut Schaeben held its inaugural meeting at IAMG'05. The new initiative to hold a "Georges Matheron Lecture" at our annual conferences was well received and Jean Serra was selected for this new type of honor at IAMG'06 in Liège.

The three IAMG journals are marked by clear identification of approach: theoretical (*Mathematical Geology*), applications (*Computers & Geosciences*), and resource economics (*Natural Resources Research*). Our Editors-in-Chief all held editorial board meetings in Toronto. Organizational changes in progress include increased editorial responsibilities for associate editors representing different subfields for each journal.

During the past few years, Elsevier had already marketed the on-line version of *Computers & Geosciences* as part of bundles of electronic journals. This has increased *C&G*'s library circulation to over 2000. Springer, our new publisher for *Mathematical Geology* and *Natural Resources Research*, is marketing the on-line versions of its journals in the same way thus increasing numbers of institutional subscribers as well. Excellent publications continue to be an IAMG hallmark.

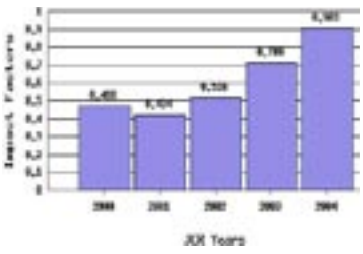
Frits Agterberg

IAMG Journal Report

Computers & Geosciences

A new 5-year contract between IAMG and Elsevier was signed this spring. The royalties generated by the journal for IAMG during 2004 were in excess of $60,000, up about 17% over 2003.

Volume 30 (2004) contained 9 issues (9-10 were combined), a total of 1127 pages, 96 regular articles, 6 short notes, 2 book reviews and 1 letter to the editor. Number 4 was a special issue entitled "Multi-dimensional geospatial technology for geosciences" edited by Zhilin Li and Chris Gold. Of the 102 papers published in volume 30, 63 (62%) were accompanied by code that was made available for public access on the IAMG server. The number of papers submitted in the last year is up sharply, mainly due to the electronic submission process. The first 7 issues of volume 31 (2005) have a total of 948 pages (94 papers), with an expected total of 1350 pages (135 papers) for the whole volume. Rejection rate is up: of the 252 decisions made on papers submitted electronically since about August 2004, 127 were accepted and 125 were rejected—almost exactly a 50% rejection rate.



The Journal's Impact Factor for 2004 was 0.903 even higher than the 2003 factor of 0.709 The two most frequently downloaded articles (see www1.elsevier.com/homepage/sad/downloads/00983004.html) from April 2004 - April 2005 were "A MATLAB-based three-dimensional viewer" by Alan Witten (last year Alan's paper "Geophysica: MATLAB-based software for the simulation, display and processing of near-surface geophysical data" was the most downloaded), and Edzer Pebesma's paper "Multivariable geostatistics in S: the gstat package". Sadly, Alan Witten passed away early in 2005. We will miss his excellent contributions, and incisive reviews.

Our former Managing Editor, Kathryn MacKinnon received IAMG's Certificate of Achievement at the IAMG'05 banquet for her 10 years of excellent service to the journal. Jean Hubay is our new Managing Editor, and she is coping very well with the transition period from our original e-submission system to a new more advanced system that started June 1, 2005.

Graeme Bonham-Carter, Editor-in-Chief

Computers & Geosciences Best Paper 2004

The C&G Best Paper Committee selected **Edzer J. Pebesma**'s paper "Multivariable geostatistics in S: the gstat package" volume 30, number 7, pages 683-691 as the Best Paper for 2004. Pebesma teaches and does research in bio- and geostatistics at the Department of Physical Geography, Faculty of Geosciences of the University of Utrecht in The Netherlands. He also plays trumpet, clarinet and sax in a jazz band called "Galukken Klinkers" and has recorded several CDs.

2004 Mathematical Geology Best Paper Award

Jean-Laurent Mallet was selected by Mathematical Geology as winner of the 2004 Best Paper Award for his article: "Space–Time Mathematical Framework for Sedimentary Geology", Volume 36, Number 1, pp. 1 - 32 . Mallet is a professor at the Ecole Nationale Supérieure de Géologie in Nancy, France and heads the gOcad Research Group of INPL-ENSG. This is his second Mathematical Geology Best Paper Award.

Natural Resources Research

The submission of good manuscripts has slowed, but this is true not only for NRR but other journals as well (including the AAPG Bulletin). Numbers 1 (published) and 2 (in page proof) were six months behind schedule for lack of acceptable manuscripts and partly because of the change in publisher. I have gone through three publishers, five copy editors, and the journal is now typeset in India. Education starts all over with each change.

Year	Volume	Number of Manuscripts Submitted	Number of Manuscripts Published
2001	10	42	20
2002	11	28	24
2003	12	24	24
2004	13	27	23
2005	14	15+	8+

+ as of 27 July 2005

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Association Business

Webmaster's Report

At the Board meeting during IAMG'05 in Toronto there was discussion on the transfer of responsibility for the IAMG web site to Secretary General **Clayton Deutsch**. Webmaster **Eric Grunsky** will circulate an analysis of the Association web site in the near future. It was agreed that moving the site from the computers of the Government of Canada is a good idea. Attendees expressed gratitude to Webmaster Grunsky for longstanding web site support and expressed understanding for his desire to pass on the responsibility for the web site. Deutsch is evaluating bids from several web site designers and web hosting firms.

Distinguished Lecturer Committee

In their search for the next Distinguished Lecturer, to follow Larry Drew, the committee first suggested **Jean-Laurent Mallet,** the 2004 Mathematical Geology Best Paper Award winner. Unfortunately, Mallet is not able to spend the time required in 2006 but would be willing to be considered for 2007.

Meanwhile, Dr. **Larry Lake** (University of Texas) was contacted and agreed to be put forward as a nominee. This touched off a large round of emails within the committee. Dr. Lake was not an IAMG member at this time but has since joined the Association. The DL rules do not require IAMG membership; however, some felt that the rules should be amended to include IAMG membership as a requirement. Other members of the committee are strongly opposed to any change to the current rule. Dr. Lake has published a considerable amount of work in the general area of "mathematical geology", is known to be an engaging speaker and is enthusiastic about serving as an advocate for IAMG. The Board has accepted Larry Lake as Distinguished Lecturer for 2006.

Matheron Lectures established

The IAMG Board has approved the holding of Matheron Lectures during IAMG Annual Conferences (see IAMG Newsletter v. 70, p. 4). Beginning at IAMG'2006 in Liège, **Jean Serra** will be the first George Matheron Lecturer. Future Lecturers will be selected by a small committee chaired by the IAMG Vice President. The Georges Matheron Lectures will be held annually during IAMG Conferences and during International Geological Congresses.

Dan Merriam Lifetime Honorary Member

As announced during IAMG'05 in Toronto, **Dan Merriam** has become our one and only lifetime Honorary Member in recognition of his unparalleled services to the IAMG. With **Dick Reyment** he had the original idea of founding the IAMG. His many contributions include founding and, for many years, being the Editor-in-Chief of both Mathematical Geology and Computers & Geosciences, and currently being the Editor-in-Chief of Natural Resources Research.

IAMG2007 to be held in Beijing only

Professor **Zhao Pengda** has decided that it will be better to hold IAMG'07 in Beijing only instead of in Wuhan and Beijing. The number of participants in Toronto at IAMG'05 was larger than could be easily accommodated in Wuhan. There will be workshops in Wuhan, however. This is welcome news to those of you who had expressed some reservations about the extra travel that would be involved in traveling to and from Wuhan.

Strategic Planning Commission

At the Toronto Board Meeting Vice President **Nick Fisher** proposed forming a Strategic Planning Commission to anticipate future needs, safeguard the financial health and formulate the goals and purpose of the Association. As a result the IAMG Strategic Planning Commission has been formed and has commenced its deliberations chaired by Vice President Nick Fisher. Frits Agterberg is an Ex Officio member. The following members have agreed to serve:

1. Geological Process Modeling: Dan Tetzlaff (U.S.A.)
2. Mathematical Statistics: Vera Pawlowsky-Glahn (Spain)
3. Geostatistics: Jaime Gómez (Spain)
4. Geoinformatics: Dave Soller (U.S.A.)
5. GIS/Remote Sensing: Andrea Fabbri (Belgium)
6. Developing countries: Zhou Di (China)
7. Young Professionals: Ernst Schetselaar (the Netherlands)

The Matrix Man

More on the Trials and Tribulations of R.G.V. Eigen's Life

Its amazing that such a deserving person as Rudolf G.V. Eigen[1] (1833-1876), brilliant mathematician, chess player deluxe, mountaineer, and linguist, has been overlooked for his contributions and essentially lost to oblivion. He, perhaps, is best known for his elucidation of the matrix properties that bear his name. Other than a few remarks and tidbits in the IAMG Newsletter by a few faithful followers, the 'Father of Geomathematics has essentially been forgotten. However, some new bits and pieces of his interesting life have come to my attention recently and I relate them to you here.

A few remarks on his background. Eigen was born and raised in the Alpine village of Heiligenblut in the Hohe Tauern Range of Austria. He was a child prodigy in mathematics and at 24 became a professor of mathematics at the University of Göttingen, but he was forced to leave the university amid 'a scandal that rocked the university.' It is known that he was a popular teacher with the students, although his academic demands earned him the nickname, Ogre. After his expulsion from the university, he spent the rest of his short life as an Alpine mountain guide.

Eigen was a slender figure, 1.88m tall, weighing about 85kg, with blondish hair, blue eyes, facial whiskers, and wore glasses. He had a passion for schnapps (not surprising). A single portrait tintype is known, but it is hazy; several other photos exist, but are not clear enough to see Eigen's facial features. Not much is known about his parents or childhood, but his father was the local medical doctor and also served as the church sexton, his mother a homemaker (excellent cook and seamstress); he reportedly had an older brother and younger twin sisters. One of the sisters entered the Church of the Annunciation and the other married a local farmer but was childless. There is no evidence that either Rudolf or his older brother married. The Eigens were fixtures in their mountain village.

Eigen gave lectures on his work to mathematical societies in England and France and so must have been at least quadrilingual. He was acquainted with the leading mathematicians of the day. His contact in England undoubtedly was the mathematician, Charles Babbage, who also belonged to the Geological Society of London. Through Babbage, Rudolf would have known of the work of Ada Byron (Lady Lovelace), and met or knew many of the leading geologists of the time including Charles Lyell, Daniel Conybeare, Roderick Murchison, and William Buckland. He was particularly intrigued by Babbage's difference engine and went back home with the intent of creating a similar calculating machine, but alas did not have the financial or technical resources to accomplish the task.

Eigen is credited with the monumental work, "Überbrückungsschlüsse der Zahlen", published in Leipzig in 1867 but long out-of-print, and few copies, if any, still exist. It is known, however, that he proposed using nonnumeric approaches to solving problems where hard data were absent. Bits and pieces of manuscripts have been discovered that indicate he was particularly interested in determining repetitious patterns (Wiederholungmusterauflös ung) in strings of data, for example, daily weather changes, and analyzing spatial data (Raumangabenauflösung) to compare (Vergleichungsauflösung) them through time, for example, glacial topology. These proposed techniques, for which he did all the computations by hand, were used effectively in his research. For the time, they were groundbreaking, and now in modern terms are referred to as auto- and cross-association, but unfortunately the approach is not credited to Eigen as it should be.

His subsequent inglorious disappearance into obscurity was at the early age of 43 when he met his untimely death. There has been speculation as to his demise and mysterious death. One version is that he fell into a crevasse on the Pasterzen glacier and froze to death. Another version is that he was rescued from the crevasse and went to Russia, took up the Russian Orthodox faith, and served as a missionary to the wild Chepookha tribes in the remote parts of Siberia living to the grand old age of 111. The missionary story is fanciful thinking and never was verified. However, in 1991, when the 'iceman' was recovered from an Austrian glacier, speculation was rekindled that the iceman might be Eigen. The iceman created quite a sensation and was subjected to numerous medical tests, but the DNA proved without a doubt that the frozen body of the iceman was not that of Rudolf Eigen nor a relative. Thus, the mystery remains a mystery of where and how Rudolf Gottlieb Viktor Eigen met his maker.

[1] As a sidelight, the translation of the German word eigen is 'own,' but also means 'peculiar, strange, odd'. After knowing some of the details of Rudolf's life, this latter translation of his name seems more appropriate.

DFM

22 September 2005

Member News

Vera Pawlowsky-Glahn is the new Dean of the Graduate School of the University of Girona. Congratulations Vera!

<>

Ricardo Olea is doing research in Jan Harff's Institute of Baltic Sea Research in Warnemünde Germany. He even made it into the local newspaper, "Rostocker Neueste Nachrichten"! The report highlighted the international diversity of researchers at the institute and showed some of them in the picture.

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IAMG Founding Members Congregate in Print

A recent issue of *Zeitschrift der Deutschen Geologischen Gesellschaft* (Volume 155, Issue 2-4 - 2005, published by E. Schweitzerbart'sche Verlagsbuchhandlung, Stuttgart) presents a collection of papers all written by still active founding members of the IAMG and edited by Hannes Thiergärtner:

Theses on the Subject of Mathematical Geology - Hannes Thiergärtner. p. 195 – 202. 1 fig. 4 tabs.

A Half Century of Mathematical Geology: the New Threshold - E. H. Timothy Whitten. p. 203 – 209. 3 figs.

Time, Concepts and Mathematics in Geology - Frederik P. Agterberg. p. 211 – 219. 3 figs.

On Aspects of Scientific Uncertainty - Richard B. McCammon. p. 221 - 223.

Knowledge-based Systems and Geological Survey - T. V. Loudon. p. 225 – 246. 3 figs.

Hillshade Mapping of the Fine-scale Crustal Fracture System in Kansas - John W. Harbaugh, Dan F. Merriam & Jorgina A. Ross. p. 247 – 262. 11 figs. 1 tab.

Aspects of Applied Morphometrics - Richard A. Reyment. p. 263 – 274. 8 figs.

Are Multivariate-heuristical Models Suitable to Investigate Little-explored Groundwater Contaminations? - Hannes Thiergärtner. p. 275 – 285. 13 figs. 2 tabs.

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"Mathematics may be compared to a mill of exquisite workmanship, which grinds you stuff of any degree of fineness; but, nevertheless, what you get out depends upon what you put in; and as the grandest mill in the world will not extract wheat-flour from peascod, so pages of formulae will not get a definite result out of loose data".

T. H. Huxley, 1869

Conference Reports

CoDaWork'05:
2nd Compositional Data Analysis Workshop

held in Girona, Spain, 19-21 October 2005

This successful workshop was organized by the Girona Compositional Data Group led by Vera Pawlowsky-Glahn and consisting of seven scientists at the University of Girona. The research by this group follows ideas originally developed by John Aitchison in the 1980s and is integrated with groups at seven other European universities within the Compositional Data Analysis Network. The first workshop of this type (CoDaWork'03) was held two years ago. The IAMG was a cosponsor of both events.

CoDaWork'05 provided a forum for discussion of important new developments related to the modeling and statistical treatment of compositional data with practical applications. There were three keynote addresses and two sessions on theoretical advances (10 papers) chaired by Josep Martin-Fernandez and Raimon Tolosana-Delgado. Later sessions were concerned with applications in geology and environmental science (13 papers), other applications (8 papers), and design of computer-based teaching tools (4 papers). The purpose of the many ensuing discussions including the Round Table at the end of the workshop was to obtain insight into the most promising future lines of research in the compositional data analysis field.

John Aitchison was Honorary Chair of CoDaWork'05, and delivered the first keynote address entitled "Some last thoughts on compositional data analysis". This is because he plans to retire in the near future at the age of 80. The sensible sample space for compositional data is the simplex which differs from Euclidean space because compositions are nonnegative and add up to one. The simplex can be treated as a Hilbert space with its own operations (internal perturbation; external powering), metric, inner product and norm.

New ideas take time to be appreciated and Aitchison vividly described the unwarranted opposition to which he was subjected during the 1980s and 1990s including Letters to the Editor in *Mathematical Geology*. "Living in the simplex" made him aware of other unsatisfactory aspects of conventional data analysis in Euclidian space. In the real world, measurements are positive and this may make the lognormal a more realistic starting point for modeling than the normal. His new way of thinking has inspired the development of new methods of statistical analysis within the Girona research group epitomized by the PhD thesis of Glòria Mateu-Figueras. At the Round Table, Juan José Egozcue ably advocated the new approach of adopting other constrained sampling spaces. This also was the topic of last April's IAMG co-sponsored Invited Paper Meeting at the biennial meeting of the International Statistical Institute in Sydney, Australia.

The second keynote lecture entitled "Aitchison geometry for probability and likelihood as a new approach to mathematical statistics was given by Gerald van den Boogaart. He generalized the Aitchison vector space structure for the simplex to a Hilbert space structure $A^2(P)$ for frequency distributions and likelihoods on arbitrary spaces. Basic concepts of statistics, such as Information and Likelihood, can be characterized concisely and elegantly in the algebraical structure of $A^2(P)$.

The fact that the Aitchison approach is rapidly becoming more widely accepted worldwide was illustrated in the invited lecture by Dean Billheimer of Vanderbilt University on "Compositional data in biomedical research". Although a search using Google Scholar (www.scholar.google.com) showed that, of about 550 citations of Aitchison's (1986) monograph "The Statistical Analysis of Compositional Data", only 10 were in medical or biomedical journals, these articles were published very recently. Similar developments are taking place in archeology, geophysics, economics, statistical surveys, and in the social sciences.

Billheimer introduced three problems in cancer research where compositional data analysis is shedding new light. Other workshop participants obtained novel results analyzing archaeological glasses, student time-budgets, earnings structure surveys at the Swiss Federal Statistical Office, and vote shares in the 2001 Australian Federal election. These developments indicate that compositional data analysis is reaching beyond geological and environmental applications. The latter included presentations of compositional approaches to stable isotope analysis, thermodynamics in fluid geochemistry, grain sizes of sediments, volcanic ashes, eco-toxicological data on mammals from polluted areas, tin deposits, and exogenic processes at the surface of the planet Mars.

New features of the user-friendly compositional data analysis package CoDaPack were introduced by Santiago Thió-Henestrosa. Three subsequent presentations were concerned with compositional data analysis packages written in R. The workshop had been preceded by a one-day introductory course on statistical analysis of compositional analysis using CoDaPack.

Papers presented during CoDaWork'05 are available on http://ima.udg.es/Activitats/CoDaWork05/index.html and on the Proceedings CD (ISBN: 84-8458-222-1). The International Scientific Committee chaired by Carles Barceló-Vidal included IAMG members Antonella Buccianti and Heinz Burger. The Local Organizing Committee did a marvelous job keeping everything on track and making the participants feel at home. At the end, during the CoDaWork'05 banquet, John Aitchison performed an amazing array of magic tricks, some involving the simplex. Other entertainment on that occasion included the performance by Michael Greenacre of his newly composed "Perturbation Blues" with chorus: "I'm getting a non-linear transformation sensational perturbation – I'm going to shake off my simplex slippers and put on those logratio shoes!"

Frits Agterberg

Journal Report cont'd from p. 4

Rejection rate varies from year to year but ranges from about 21 to 38%; this year so far, it is 20% but promises to increase when the manuscripts in the system are finished being processed. Most of the manuscripts forwarded to me by the editors of JMG and C&G are by foreign authors and are usually rejected for one reason or another. Now the good news: we are processing papers from a symposium held in Canada several years ago. It is being organized and managed by Ken Logan, who is with Transcanada in Calgary. This will be a special issue (v. 14, no. 3) with seven papers and an introduction by Ken.

I am getting lots of attention from nongeologists about the paper by David Pimentel and Tad Patzek on 'Ethanol Production Using Corn, Switchgrass, and Wood' (NRR14/1). It seems, we have found a subject of great concern and as a result many are reading the journal who otherwise wouldn't. *

Daniel F. Merriam, Editor-in-chief

* The NPR radio station KERA in Dallas, TX, on 28 July 2005 aired a commentary titled "*Ethanol Mandates Bad for Consumers and the Environment*" by Sterling Burnett, a senior fellow with the Dallas-based National Center for Policy Analysis, who referred to this article:

"Worse, most studies show that it takes more energy to produce a gallon of ethanol than the energy it produces - a net loss of energy. For example, a study published in the journal Natural Resources Research in early July found that ethanol produced from corn requires 29 percent more fossil energy than the fuel produced; switch grass requires 45 percent more fossil energy than the fuel produced; and wood biomass requires 57 percent more fossil energy than the fuel produced. Thus requiring that the U.S. use five to eight billion gallons of ethanol - a mandate that Congress is currently considering - means burning more, not less, imported oil and natural gas."

Editor

Mathematical Geology

Submissions during 2005 are running ahead of that in previous years. Quite likely this is the result of the introduction of a web based submission system. An additional 9 articles were submitted as part of a special issue on compositional data analysis. As in previous years, time from receipt of a manuscript to time of publication is about one year if minimal revision is required.

The number of papers to be published in 2005 is similar to that of previous years:

	2000	2001	2002	2003	2004	2005
Papers	47	44	50	50	45	47
Book Reviews	9	6	9	8	9	8
Letters to Editor	3	2	0	3	1	0
Assoc. Announcements	1	3	3	2	1	1
Notes	0	1	0	1	0	1
Teacher's Aides	0	3	0	0	0	0
Submissions	87	54	74*	75*	66*	48!

*excluding special issues.
!period January through June.

The scientific content of the journal is determined entirely by the nature of the manuscripts submitted. For example, no teacher's aides or letters have been published because there were no submissions. At the present time the editor is publishing all manuscripts that pass review. For the editor to exercise any direction over the scientific content of the journal under the current page agreement, annual submissions would need to reach at least 90 per year.

The journal was running nearly on schedule until Springer assumed the production duties being performed by Kluwer. As a consequence, since February the journal has again fallen about three months behind schedule. Hopefully the journal will be back on schedule by the end of the calendar year. The manuscripts for v.38 issues 1 and 2 are currently with Springer's production editor.

W. Edwin Sharp, Editor-in-Chief


Hart House - Univ. of Toronto


Registration & Welcome Desk


Nick Fisher with Eric & Jean Grunsky

Chairman Cheng


Ice breaker - Kathryn MacKinnon with Graeme & Gwendy Bonham-Carter & Larry Drew


Opening Ceremony in "The Great Hall"

IAMG 2005 Toronto


Board Meeting: Mike Hohn, Tim Coburn, Helmut Schaeben, Eric Grunsky, Frits Agterberg, Ed Sharp, Clayton Deutsch, Graeme Bonham-Carter, Qiuming Cheng, Gina Ross, Nick Fisher, Maria Pereira, Codien Agterberg, Chen Zhijun, Abani Samal, Dan Merriam

Lectures, breaks, ice breaker, and banquet


















Frits Agterberg in animated discussion

Chairman & Secy-General of IAMG 2007: Zhao Pengda & Qiuming Cheng

Eric Grunsky & DL Jack Schuenemeyer

Chayes Prize to Eric Grunsky

IAMG Certificate of Appreciation for Kathryn MacKinnon

Vistelius Award to Sebastien Strebelle

Conference Fieldtrip to Niagara Falls and the Ontario wine country

Student Affairs

Student Affairs Committee

The new Student Affairs Committee under the Chairmanship of **Helmut Schaeben** has been established and consists of: **Angela Diblasi** (Argentina), **Juan José Egozcue** (Spain), **Sergey Kotov** (Russia), **Jack Schuenemeyer** (U.S.A.), **Christien Thiart** (South Africa). **Maria Theresa Schafmeister** (Germany) was added as a full member of the SA Committee, and **Tim Coburn**, previously chairman of the Student Grants Committee, will be a member for one year.

Student Members: **Zhijun Chen** (China), **Abani Samal** (U.S.A./India).

The Student Affairs Committee chaired by Helmut Schaeben had its first meeting in Toronto. Our web site (iamg.org) now has a link to the new CUG Wuhan Student Chapter web site. The first 2004 student research grant reports also have been posted on the IAMG web site. Possibly new student chapters could be formed at Eötvös University, Budapest (Hungary), Hanoi University of Mining and Geology (Vietnam), and Ecole Nationale Supérieure de Géologie Nancy (France).

Student Grant Committee - Final Report

The committee was merged into the new Student Affairs Committee. Chairman Tim Coburn (USA), filed a final report of the committee's activities which included the members Clayton Deutsch (Canada), Fred Delay (France), Peter Atkinson (UK), John Butler (USA) (deceased) and Graeme Bonham-Carter, ex-officio (as IAMG president). During the three years of operation there were 39 applicants (2002=8; 2003=13; 2004=18). Of these 15 were women, 24 were men. They came from: 21 USA, 2 Canada, 3 Russia, 4 Spain, 2 China, 1 India, 1 Japan, 2 Italy, 1 Switzerland, 1 Brazil, 1 Azerbaijan (1 from USA and 1 from Spain were submittals from the same applicant in two different years). Some, but not all, were sponsored by IAMG members. A total of 11 awards were given (3 in 2002, 4 in 2004 and 4 in 2004). Four of the awardees were women and 7 men. Nine came from US institutions and 2 were Europeans.

The Association gratefully acknowledges the good work that Tim and his group have done under difficult circumstances.

Correction!

IAMG Newsletter 70 on p. 10 erroneously assigned the wrong advisors to **Abani R Samal**. His actual supervisor at Southern Illinois University is Richard Fifarek.

We regret the error and have corrected the information on the Association web site.

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Diploma for …

Peggy Melzer (pme@uni.de) on the completion of her diploma thesis "Management of geodata from the central Saxothuringikum east of the Franconian line with ArcGIS", in German (Geodatenmanagement in ArcGis für das zentrale Saxothuringikum östlich der Fränkischen Linie), supervised by Uwe Kroner and Helmut Schaeben

The objective of the thesis was to create a geographic information system (GIS) with ArcGIS 9 for the Saxothuringian Zone east of the Franconian Line. First studies of the Saxothuringian Zone date back to the beginning of the 20th century. All previous results, analyses, interpretations as well as future work on geological data can be used more efficiently in a GIS. The GIS contains a lot of vector and raster data related to geology, geochemistry, geochronology, stratigraphy and structural geology which are organized in a relational geodatabase. Macros based on Visual Basic for Application have been created to obtain additional information on the content of the data base, and for the interaction with ArcGIS and a program that creates stereographic nets. For continuation of vector data in a simple way and independent from the GIS and the relational database a formula based on C# has been created.

The result of the GIS had been used in the diploma thesis. Due to the spatial visualization and the geological information in the relational geodatabase some relationships between the geological data have already been confirmed, and a new geological map of the Lower Carboniferous with a new lithostratigraphical profile has been created.

Helmut Schaeben, Technische Universität Bergakademie Freiberg

2005 Student Grant Candidates

Name	Most recent academic degree / year	Previous Institution	Degree pursued	Institution
Maria Noel Morales Boezio	MSc Engineering 2004		PhD	Federal University of Rio Grande do Sul, Porto Alegre, Brazil
Deb Prasad Jaisi	MSc Geotechnical and Geoenvironmental Engineering 2003	Asian Institute of Technology, Thailand	PhD	Miami University Oxford, OH, USA
Zhijun Chen	MSc 2003		PhD	China University of Geosciences Wuhan
Zhijing Wang			PhD	York University Toronto Canada
Karina González	BSc Sciences and Engineering 2005		MSc 2006	University of Chile, Santiago, Chile
Lucia Robles	BSc Sciences and Engineering 2005		MSc 2006	University of Chile, Santiago, Chile
Milovan Fustic	BSc Geology 1993	Faculty of Geology, Belgrade, Yugoslavia	PhD	University of Calgary, Alberta, Canada
Anthony Stevens	BSc Geology 2005		PhD 2009	Southern Illinois University Carbondale
James D. McCarthy	BSc Geoinformatics 2005		MSc 2007	University of Windsor, Windsor, Ontario, Canada
Elif Akcan	MSc Mining Engineering 2003		PhD 2007	Hacettepe University, Ankara, Turkey
Christian R. Carvajal	MSc Geology 2002	Loma Linda University, California, USA	PhD 2006	Jackson School of Geosciences, The University of Texas, Austin, Texas, USA
Coraly Genty	MSc Engineering 2004		MSc 2006	Dept. Of Geology and Geophysics, Texas A&M University, Texas, USA
Xiangyang Xie	MSc Petroleum Geology	Northwest University Xi'an, Shaanxi, China	PhD 2007	Dept. of Geology and Geophysics, University of Wyoming, Laramie, Wyoming, USA
Sunday A. Jonah	MSc Applied Geophysics 2000		PhD 2010	Federal University of Technology, Minna, Nigeria

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Short Note: Runoff mapping using WEPP erosion model and GIS tools — de Jong van Lier, Q., Sparovek, G., Flanagan, D.C., Bloem, E.M., Schnug, E., pp. 1270-1276.

Teseo: A vectoriser of historical seismograms* (http://sismos.ingv.it) — Pintore, S., Quintiliani, M., Franceschi, D., pp. 1277-1285.

Finite element modeling of Cr(VI) reduction by Shewanella oneidensis MR-1 employing the dual-enzyme kinetic model — Hossain, M.A., Alam, M., Yonge, D., Dutta, P., pp. 1286-1292.

Book Reviews:

Expert Systems and Geographic Information Systems for Impact Assessment — Bonham-Carter, G.F., pp. 1293-1294.

Telegeoinformatics: Location-Based Computing and Services — Duckham, M., pp. 1295-1296.

Atlas of Antarctica: Topographic Maps from Geostatistical Analysis of Satellite Radar Altimeter Data — Harbaugh, J.W., pp. 1297-1299.

An Introduction to Programming with Mathematica — Haneberg, W.C., pp. 1300-1301.

Analysis and Modelling of Spatial Environmental Data — Christakos, G., pp. 1302-1304.

Letter to the Editor: Comments on the paper by Pierre D. Glynn, "Modeling Np and Pu transport with a surface complexation model and spatially variant sorption capacities: Implications for reactive transport modeling and performance assessments of nuclear waste disposal sites" — Neretnieks, I., pp. 1305-1307.

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Upcoming Meetings

E&P KNOWLEDGE And DATA MANAGEMENT, London, UK, **30-31 January 2006.** Oil & Gas IQ, Gareth Owens, Anchor House, Britten St, London, SW3 3QL, Phone: +44 (0)20 7368 9300, FAX: +44 (0)20 7368 9303, EMail: gareth.owens@iqpc.co.uk, http://www.oilandgasIQ.com/GB-2561/ediary

Joint 3rd Federal Hydrologic Modeling and 7th SEDIMENTATION CONFERENCE, Reno, NV, USA. **02-06 April 2006**. G. Douglas Glysson, U.S. Geological Survey, 412 National Center, Reston VA 20192, Phone: 703-648-5019, FAX: 703-648-5722, EMail: gglysson@usgs.gov, http://www.jfic.org/

European Geosciences Union (EGU), (General Assembly), Vienna, Austria, **2–7 April 2006**. EGU Office, Max-Planck-Str. 13, 37191 Katlenburg-Lindau, GERMANY; Phone: +49-5556-1440; Fax: +49-5556-4709; E-mail: egu@copernicus.org; Web Site: www.copernicus.org/EGU/egu_info/prevga.html

American Association of Petroleum Geologists (AAPG) and Society for Sedimentary Geology (SEPM), "Perfecting the Search," (Joint Annual Meeting), Houston, Texas, USA, **9–12 April 2006**. AAPG Conventions Department, P O Box 979, 1444 S. Boulder Ave., Tulsa, OK 74101-0979, USA. Phone: +1 918 560 2679; Fax: +1 918 560 2684; E-mail: convene@aapg.org

AGU, Geochemical Society, Microbeam Analysis Society, Mineralogical Society of America, Society of Exploration Geophysicists Joint Assembly, Baltimore, Maryland, **23-26 May 2006**. Meetings Manager, 2000 Florida Avenue, NW, Washington, DC 20009, Phone: 202-777-7330 FAX: 202-328-0566. EMail: ja-help@agu.org, http://www.agu.org/meetings/ja06/

HOLIVAR2006: Natural Climate Variability and Global Warming, University College London, London, UK, **12-15 June 2006**. Environmental Change Research Centre (ECRC). HOLIVAR2006 Local Organising Committee, EMail: info@holivar2006.org, http://www.holivar2006.org

European Association of Geoscientists and Engineers (EAGE) (68th International Conference & Exhibition), Vienna, Austria, **12–15 June 2006**. Contact: http://www.eage.org/conferences/index2.phtml?confid=40&ActiveMenu=8&Menu_Id=59&Opendivs=s1

Regional Geoscientific CARTOGRAPHY AND INFORMATION SYSTEMS–Earth and Water (5th European Congress), Barcelona, Spain, **13–15 June 2006**. Institut Cartogràfic de Catalunya, Servei Geològic de Catalunya, Parc de Montjuïc, 08038 Barcelona, Spain; Phone: +34 935671500; Fax: +34 935671568; E-mail: econgeo2006@icc.es; Web Site: www.icc.es/econgeo2006/home.html

ACCURACY 2006 - 7th international symposium on spatial accuracy assessment in natural resources and environmental sciences, Lisbon, Portugal, **5-7 July, 2006**. Secretary: Maria Pereira (Portuguese Geographic Institute, PT), http://2006.spatial-accuracy.org

The Application of Earth System Modelling to Exploration, Snowbird, Utah, USA, **11-13 July 2006**. SEPM (Society for Sedimentary Geology) & The Geological Society of London. Howard Harper, 6128 E. 38th St., Tulsa, OK 74135, Phone: 918-610-3361 x24, EMail: hharper@sepm.org

2006 JOINT STATISTICAL MEETINGS, Seattle, Washington, **6 -10 August 2006**. Elaine Powell, Phone: 703-684-1221 or 800-308-8943, Fax: 703-684-8069, EMail: jsm@amstat.org, www.amstat.org/meetings/index.cfm?fuseaction=main

Ninth BALTIC Sea Geological Conference, Bulduri, Latvia, **28-30 August 2006.** Ervīns Lukševičs, Department of Geology, University of Latvia, Rainis Blvd 19, Riga LV-1586, LATVIA, Phone: +371 7 331 766, Fax: + 371 7 332 704, Ervins.Luksevics@lu.lv

IAMG 2006 Liège, Belgium, **3 - 8 Sept. 2006**. Eric Pirard, Université de Liège, Chemin des chevreuils – B52 / 3, Sart Tilman, B-4000 Liège, BELGIUM, Tel: 32-4-3669528, Fax: 32-4-3669520, E-mail: eric.pirard@ulg.ac.be, http://www.ulg.ac.be/geomac

Engineering geology for tomorrow's cities (10th IAEG International Congress), Nottingham, UK, **6–10 September 2006**. info@iaeg2006.com or programme@iaeg2006.com; www.iaeg2006.com/

Ninth International Symposium on Mineral Exploration (ISME IX), Bandung, Indonesia, **19-21 September 2006**. http://www.mining.itb.ac.id/agenda/agenda.php

SPE Annual Technical Conference and Exhibition, San Antonio, TX, USA, **24-27 Sept. 2006**. Society of Petroleum Engineers. Debbie Weaver, P.O. Box 833836, Richardson, TX 75083-3836, FAX: 972-952-9435, EMail: dweaver@spe.org, Web: http://www.spe.org

AAPG (International Conference & Exhibition), Perth, Australia, **20–25 October 2006** (tentative). AAPG Convention Dept., P.O. Box 979, Tulsa, OK 74101-0979, USA; Phone: (888) 945-2274 (USA and Canada only) or +1 918 560 2679; Fax: +1 918 560 2684; E-mail: convene@aapg.org

GSA Geological Society of America (Annual Meeting), Philadelphia, Pennsylvania, USA, **22–25 October 2006**. GSA Meetings Dept., P.O. Box 9140, Boulder, CO 80301-9140, Phone: +1 303 447 2020; Fax: +1 303 447 1133; E-mail: meetings@geosociety.org; http://www.geosociety.org/meetings/index.htm

geoENV VI, the 6th annual European Conference on Geostatistics for Environmental Applications, Island of Rhodes, Greece, **25-27 October 2006**. web site: http://geoenvia.org/

AGU American Geophysical Union (Fall Meeting), San Francisco, California, USA, **11–15 December 2006**. E. Terry, AGU Meetings Department, 2000 Florida Avenue, NW, Washington, DC 20009 USA ; Phone: +1 202 777 7335; Fax: +1 202 328 0566; E-mail: eterry@agu.org; or meetinginfo@.agu.org; http://www.agu.org/meetings

AAPG and SEPM (Joint Annual Meeting), Long Beach, California, USA, **1–4 April 2007**. AAPG Conventions Department, P O Box 979, 1444 S. Boulder Ave., Tulsa, OK 74101-0979, USA. Phone: +1 918 560 2679; Fax: +1 918 560 2684; E-mail: convene@aapg.org, www.aapg.org

LANDSLIDES AND SOCIETY (1st North American Conference), Vail, Colorado, USA, **3–8 June 2007**. Dr. Keith Turner, E-mail: kturner@mines.edu; Web Site: http://www.mines.edu/academic/geology/landslidevail2007/

2007 JOINT STATISTICAL MEETINGS, Salt Lake City, Utah, **29 July 29 - 2 August 2007**. http://www.amstat.org/meetings/index.cfm?fuseaction=main

ISI International Statistical Institute, 56th Biennial Session: Includes meetings of the Bernoulli Society, the International Association for Statistical Computing, the International Association of Survey Statisticians, the International Association for Official Statistics and the International Association for Statistical Education, Lisboa, Portugal, **22 - 29 August 2007**. ISI Permanent Office, 428 Prinses Beatrixlaan, P.O. Box 950, 2270 AZ Voorburg, The Netherlands, Phone: +31–70–3375737, Fax: +31–70–3860025, E-mail: isi @cbs.nl, http://www.isi2007.com.pt/

IAMG 2007 Beijing, China, **23-30 September 2007**. Zhao Pengda, China University of Geosciences, Wuhan, & Qiuming Cheng, York University, Toronto, Canada, E-mail: qiuming@yorku.ca. qiuming@cug.edu.cn

http://geoenvia.org/geoENV2006

6th International Conference on Geostatistics for Environmental Applications

Liège, Belgium
3-8 September 2006

Technical Programme

Topical sessions scheduled

- S1 - "Astronomical Tuning of the Geologic Time Scale"
  a joint session with the International Commission on Stratigraphy convened by Fr. Hilgen; L. Lourens; J. Ogg and F. Gradstein
- S2 - "Mapping indoor radon levels and radon-prone areas"
  a joint session with the European Radioactivity Environmental Monitoring Group convened by G. Dubois and J. Miles
- S3 - "Spectro-spatial classification of images"
  a joint session with the Geological Remote Sensing Group convened by R. Teeuw and C. de Souza Filho
- S4 - "Digital Elevation Models Derived from Optical and Radar Satellite Remote Sensing"
  a joint session with the Geological Remote Sensing Group convened by C. de Souza Filho and Ph. Tréfois
- S6 - "Quantitative texture analysis"
  a joint session with the International Society for Stereology and Image Analysis convened by J. Riss and H. Schaeben.
- S7 - "Geochemical modeling: numerical and statistical approach"
  convened by A. Buccianti and G. Mateu-Figueras
- S8 - "Progressive failure and dynamic triggering of landslides : connecting field observation, lab tests and numerical modelling"
  convened by O. Korup and H-B Havenith
- S9 - "Recent advances in geological hazard and risk mapping : spatial data and models, predictions, uncertainties"
  convened by C-J Chung and H-B Havenith
- S10 - "Use of multiple sources in conditioning/calibrating groundwater flow and transport models"
  convened by Fr. Stauffer and A. Dassargues
- S11 - "Innovative techniques in geomathematics"
- S12 - "Stochastic modeling of subsurface formations"
  convened by J. Caers and P. Biver
- S13 - "Multivariate, multiple sources and spatio-temporal geostatistics"
  convened by E. Pebesma and P. Goovaerts
- S14 - "3D integration and modelling of geological data"
  convened by G. Caumon and E. de Kemp

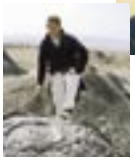
Conference Chair Eric Pirard

Other **suggestions** include :

- Quantitative Mineralogy and Petrology
- Hyperspectral image processing
- 3D GIS and geomodelling
- Mineral resource assessment
- GIS for petroleum exploration
- Risk assessment of geohazards
- Multivariate environmental geostatistics
- Stochastic modelling of reservoirs
- Upscaling / Downscaling methods in hydrogeology
- Sampling of spatial processes
- Handling Uncertainties in the Spatial Domain
- Validation of geological models
- Groundwater vulnerability assessment from multiple field data
- Multivariate classification in geochemistry and sedimentology
- Spatial statistics for soft and indicator data
- Calibration and co-registration of multiple data
- Interoperability between spatial databases

Plenary Lectures

The plenary speakers invited at IAMG'06 are:



- Peter ROUSSEEUW Universiteit Antwerpen (Belgium)
  « Robust Multivariate Statistics »
- Jean SERRA, Ecole des Mines de Paris (France)
  « Random Set Modelling »
- Freek VAN DER MEER, ITC (Netherlands)
  « Knowledge based remote sensing: including spatial context in image analysis »

Conference Secretariat:

IAMG2006, Mlle Nadia ELGARA
Université de Liège, Département GeomaC
Sart Tilman B52 / 3, 4000 LIEGE, Belgique
Phone: +32-4-3663799, Fax: +32-4-36696520, Mail: geomac@ulg.ac.be

IAMG – ICS

International Association for Mathematical Geology
and
International Commission on Stratigraphy
JOINT SYMPOSIUM

IAMG Annual Conference, September 2006, Liege, Belgium

Astronomical Tuning of the Geologic Time Scale

Rationale: The Milankovitch theory that quasi-periodic oscillations in the sun-earth position have induced significant 10^4-10^6 – year-scale variations in the Earth stratigraphic record of climate is widely acknowledged. The recognition and calibration of these astronomical-climate cycles have revolutionized the modern Geologic Time Scale and provided ultra-high estimates of elapsed time throughout the past 500 million years. This special symposium of the International Commission on Stratigraphy, in collaboration with the International Association of Mathematical Geology, focuses on present status, new applications, and problems and challenges in cycle tuning of the geologic record and calibrating the next-generation Geologic Time Scale.

Symposium conveners: Frits Hilgen, Lucas Lourens, James Ogg, Felix Gradstein

Time: Approx. 7 September 2006, 11.00 am until 17.30 pm + posters 1630 – 1800 pm

Lectures are 20-25 minutes + 5 minutes discussion

Programme:

11.00 am

1) "history" lecture with Lyell, Croll, Gilbert, Bradley, Milankovitch--who all appreciated the calibration issue. — Frits Hilgen, The Netherlands (see also James Fleming, Colby College, www.meteohistory.org)

2. Theoretical limits in using Orbital Tuning Methodology for the Geologic Time Scale — J. Laskar (France)

3. The Astronomically Tuned Neogene Time Scale — Luc Lourens (The Netherlands)

Lunch

13.30 pm

4. The Wanganui Cycles and Ashes –Template for Late Neogene chronologies — Brad Pillans (Australia)

5a. Scaling the Early Paleogene and rates of seafloor spreading. — Ursula Rohl (Germany) and James Ogg (USA)

5b. Towards an astronomically-tuned Oligocene - Eocene time scale. — Heiko Paelike and Nick Shackleton (UK)

6. Problems in Stage Correlations using Upper Jurassic Cyclostratigraphy— Graham Weedon and Angela Coe (UK)

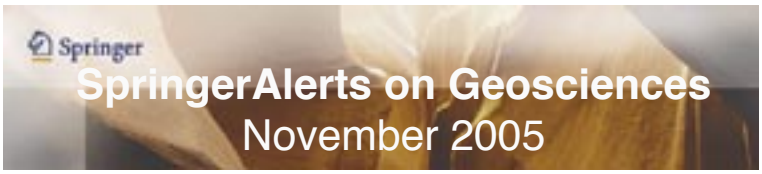
7. Status of Cycle scaling of Cretaceous and Triassic stages — James Ogg/ Linda Hinnov/Pete Sadler, USA

8. Integration Orbital Tuning and other Time Scale Methods and Recent Developments and Limits in Isotope Radio-geochronology. — Felix Gradstein (Norway), Mike Villeneuve and Frits Agterberg (Canada).

9. Future Applications and limitations of Orbital Tuning in the Phanerozoic — Linda Hinnov (USA)

All authors are requested to deliver a poster of their lecture/study also.

Announcements



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Located in Reston, Va.

Announcement Dates: Jan 2, 2006 through Feb. 28, 2006

The U.S. Geological Survey invites applications for the following position. This position is in the Eastern Energy Resources Team, Geologic Discipline, located in Reston, Va. The Team has responsibility for planning and conducting research relating to the oil, gas, and coal resources of the United States and for the application of the results of these investigations to the exploration, development, and assessment of the resources. Applicants must apply online on the Online Automated Recruitment Service (OARS): http://www.usgs.gov/ohr/oars.

The Energy Resources Team has oil and gas, and coal resource volume and quality assessment responsibilities as well as research responsibilities relating to effects of fossil fuel combustion and carbon sequestration. The incumbent will serve as a member of a multi-disciplinary team (geologist, geochemists, geophysicists, and economists) to design assessment methods and participate in the preparation of assessments. In addition, the incumbent will be responsible for design, analysis, interpretation of laboratory experiments , and in the sampling design of field data collection programs in support of ongoing team research activities

Announcement
&
Call for papers

ACCURACY 2006

The 7th international symposium on spatial accuracy assessment in natural resources and environmental sciences

5-7 July, 2006

Lisbon, Portugal

http://2006.spatial-accuracy.org

Aim and scope

Accuracy 2006 is the 7th meeting in a series of biannual symposia organised by the Spatial Accuracy Research Group, who focuses on how to measure, model and handle uncertainty in spatial data, specifically originating from the fields of environment and natural resources. This group involves both researchers and GIS specialists who share a common interest on the use of spatial data and the management of its uncertainty.

The International Symposia on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences have been held in diverse locations since 1994. Their aim has been to constitute a forum where experts coming from the environmental and natural resources fields, spatial statistics and geographic information science can interact, exchange views and contribute to the development of the theoretical and practical knowledge about spatial uncertainty in environmental sciences.

In this framework, Accuracy 2006 will cover topics related with assessment, modelling, visualisation and propagation of uncertainty in spatial data and process models, with an emphasis on themes related with the environment and natural resources.