IAMG Newsletter

No. 62 June 2001

Official Newsletter of the International Association for Mathematical Geology

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CALL FOR NOMINATIONS

The Association invites all members to submit nominations for the

Krumbein Medal 2002 and the Griffiths Award 2002.

Deadline: January 15th, 2002

Documents which should accompany the proposal:

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

Award descriptions and guidelines, as approved by the Council, can be found in the IAMG web page www.iamg.org. There you can find also a list of recipients and their laudatios. Please, have a look at it before submitting your proposal!

The Awards Committee is working through electronic mail.

Therefore, please use the following support of documents:

- *e-mail or diskette;*
- *in rtf format or as simple text files (ascii code).*

Send to: vera.pawlowsky@udg.es

or postal address:
Vera Pawlowsky-Glahn
Awards Committee Chair
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This issue has a new section: "Research Reports", inspired by some member contributions describing their research activities. I hope it will be of interest to our readers and newsworthy at the same time. This Newsletter gets shaped by the contributions coming in. So, if you like the Research section, say so - and send in some articles.

Speaking of research - as we get older the history of science becomes more interesting to us (perhaps more interesting than science itself). Dan Merriam, the Association's archivist and historian, has put together several historical pieces, such as a history of the IAMG, Kansas Survey Computer Contributions, and now is working on the history of computer use by geologists and on the development of the field of geothermics. History, of course, is best told through the contributors and their contributions and it is fascinating what has transpired through the ages and what has been known when. In digging into the past, it is amazing how many of the present-day concepts in geology can be traced back tens or even hundreds of years, even going back to Pliny the Elder in ancient Rome, to some of the early Germans such as Alexander von Humboldt, and some famous Englishmen, including Lord Kelvin and Hutton.

From the Editor
From the Editor
From the Editor

On another historical research front, our historian and specialist in "Eigen" lore at the Kansas Survey has discovered new indications that the body of glacier-man "Ötzi" found in the Tyrolian Alps may actually be the remains of the long missing Rudolf Gottlieb Victor Eigen (1833–1876) himself. According to early speculation he perished on the Pasterzen glacier (see IAMG Newsletter 54) during an expedition crossing the Alps that was undertaken to study fractals in glacier flow patterns. However, it now appears more likely that he survived that mishap and went on to study the glaciers of the Ötztaler Alpen where he fell into a crevasse and disappeared. Opponents of this theory claim that the radioactive age dates are much too old for Eigen. Clearly, those age dates are in error, which be may be explained by Eigen's peculiar habit of drinking petroleum. The diffusion of the fossil fuel through his body would have considerably lowered his radiocarbon level, giving an erroneously old age for his body tissue. These petroleum cocktails may in fact have hastened his demise, while at the same time helping to preserve his remains for posterity to analyze. We will keep you informed on further developments in this challenging area of research.

Harald S. Poelchau

International Association for Mathematical Geology

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PRESIDENT'S FORUM

I recently attended the International Geochemical Exploration Symposium (IGES) in Santiago, Chile. The IGES is organised every second year by the Association of Exploration Geochemists (AEG). AEG is a relatively small geological organization, like IAMG. They are going through a transition period, precipitated mainly by the decrease in mineral exploration activity worldwide over the past decade or so. They are trying to adjust and evolve to stay relevant to their membership. As noted by Charles Darwin "...it is not the fittest of the species which survives, nor the most intelligent, but the ones most responsive to change."

....trying to adjust and evolve to stay relevant to their membership.

Although IAMG is in many respects a strong organization, and in a healthy state, we need to be forward thinking and mindful of changes to our "environment" so we can respond accordingly and not only survive but prosper. I think perhaps we can learn something from the AEG experience, although we are not facing serious problems at the moment.

AEG was started in 1970, just two years after IAMG. AEG has a Constitution that defines three types of membership: fellows (voting), members (nonvoting) and students. Fellows must have a bachelors degree in science and at least 2 years of experience and be actively engaged in the application of geochemistry to mineral exploration, whereas members do not need a degree, but also must be engaged in exploration. The Journal of Exploration Geochemistry was started by AEG and Elsevier in 1972.

The conditions of membership and the title of their journal served the AEG well during the 1970s and 1980s, during the heyday of mineral exploration activity, and even up to the mid-1990s their membership was in excess of 1,200 (it is now down to 700). However, several factors were to spell trouble. The first was the general downturn in mineral exploration activity and drop in the number of exploration geochemists in industry, and the parallel rise and focus on environmental geochemistry, often related to contamination from mine sites and cleanup in the aftermath of mining. The second was the journal, which brought in a handsome royalty to the association, but was struggling with a dwindling list of institutional subscribers. Elsevier greatly increased the subscription rate in the early 1990s, and yet claimed that when the subscriptions dropped dramatically that cost was not a factor in this reduction. Cost almost certainly was contributory, but the decrease in exploration interest and general drop-off in library budgets (particularly universities) also played a role.

....AEG [broke] away from Elsevier and started a new low-cost journal....

The response of AEG was to break away from Elsevier and to start a new low-cost journal, in collaboration with the Geological Society of London, named Geochemistry: Exploration, Environment and Analysis (GEEA). This is a risky venture, because of the difficulty in today's climate of starting a new journal, and the loss of royalty income. Elsevier owns the JEG journal name, and continues to publish JEG, but with an editorial board that is independent of AEG. It remains to be seen whether either GEEA or JEG (or both) survives, but there are promising signs for GEEA, which is being actively marketed by the Geol Soc in a package with their existing journals. With the new magic word 'environment' in the title, perhaps the fortunes of AEG will turn around. And concurrently the association is actively seeking to link up with groups involved in environmental geochemistry of mining, and is contemplating a change to their membership requirements that would give 'environment' equal play with 'exploration'. After all, an understanding of how metal deposits can be discovered requires a knowledge of geochemical processes that are equally important in understanding how metals behave in the environment.

In IAMG we sponsor 3 journals: MG, C&G and NRR. MG and C&G are well established: NRR is struggling to reach a viable number of library subscriptions. Despite being well-established, and strong in many respects, C&G has been losing institutional subscriptions at a fairly steady rate over the last few years. Despite Elsevier's protestations to the contrary, it is difficult to believe that the exorbitant library rate of more than US$1,600 pa does not have something to do with it. As with AEG's situation, the journal name is owned by Elsevier, and IAMG benefits greatly from annual royalties in excess of US$30,000 pa. However, if library subscriptions were to drop to a level such that access to the journal was restricted to only a few large institutions, then its publication would serve little value. If we were to reach such a situation, IAMG might have to decide whether to cut loose from Elsevier and start a new journal, with all the attendant risks, or continue to publish a journal which very few people would see. Let us hope that we don't have to make that decision, and that our library subscriptions will hold up — otherwise, AEG's experience will hold more than academic interest.

There are some other interesting comparisons between AEG and IAMG. AEG publishes a Newsletter ("Explore") quarterly (ours is twice per year), and it contains advertising and feature articles on applied topics that are not suitable for an academic journal. Besides the editor, there are 8 associate or assistant editors and a business manager. AEG publishes special volumes of various kinds, including sets of course notes from short courses offered at their meetings. AEG supports a Distinguished Lecturer series, and offers an annual Student Paper prize. They have something called a Student Chapter, which organises activities and training courses for student members. Besides regular Councilors, AEG has a number of Regional Councilors to coordinate their activities nationally and/or regionally. AEG pays a part-time office manager to look after memberships, journal subscriptions and other matters.

The recent IGES in Santiago had an attendance of 200. It was a most enjoyable and useful meeting. Unlike IAMG meetings where almost everyone gives a paper, AEG meetings have a large number of industry attendees who come to learn and listen, and proportionally fewer academics than IAMG. As a result they have a single large lecture session throughout, as opposed to our multiple sessions. This gives a greater sense of group participation than IAMG, and of course avoids the problem of having to skip from one session to another. And they know how to party — the social events in Santiago were a blast.

So–what can we learn from our geochemical cousins? I think that the first lesson is that an organization must adapt to changing circumstances, which they are being forced to do, although it is early days yet to see how their excursion into a new journal, and their evolution from 'exploration' to 'exploration and environment' will turn out. We can see that their Distinguished Lecturer program is working, and this may be helpful to us in our new DL venture. Although we offer cut rates to students for C&G, we could probably do more to bring in new student members. Our new Student Grants program is a good start, but perhaps we could follow some of AEG's activities in this area for ideas. And finally, AEG's system of Regional Councilors may be something to emulate, although the regional and student activities proposed by the previous IAMG Membership Committee was following similar lines.

Graeme Bonham-Carter

Annual Conference of the International Association for Mathematical Geology, IAMG'2002

15 - 20 September 2002, Berlin, Germany

WELCOME TO IAMG'2002 IN BERLIN

The Annual Conference of the International Association for Mathematical Geology, IAMG'2002, aims to integrate interdisciplinary research in mathematical modeling and analysis of geodata. Besides general topics in Mathematical Geology it will primarily focus on the interaction between mathematical modeling of geo-processes and new developments in geo-informatics. Our main interest will be the processes of creation, management, distribution, access and exploitation of digital spatial data. The conference will provide an international forum for the exchange of original research results, ideas and practical development experiences.

Abstracts of oral presentations, posters or software contributions on all aspects of geodata analysis and modeling are welcome. Both research and application papers are solicited. All submitted abstracts will be reviewed on the basis of technical quality, relevance, originality, significance, and clarity. Authors are encouraged to submit electronically via the IAMG'2002 web site. Otherwise, abstracts should be mailed to the Conference Secretariat. Proceedings of the conference will be published in a conference volume. The conference language will be English.

Sessions will be held on the following topical areas

1) Geoinformatics (geospatial databases, open GIS)
2) Visualization and Learning (internet educational issues, hypermaps, 3D-models)
3) Space-time-modeling
4) Geostatistical techniques
5) New statistical approaches
6) Case studies in applied Mathematical Geology

Conference Chairs

H. Burger & W. Skala,
Freie Universität Berlin, Germany

Organizers and Sponsors

Freie Universität Berlin (FUB), International Association for Mathematical Geology (IAMG), Deutsche Geologische Gesellschaft (DGG), Deutsche Forschungsgemeinschaft (DFG)

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Visit the Web Site of IAMG'2002

http://www.fu-berlin.de/iamg2002/

Important Dates

- January 31, 2002 — Abstracts Due
- March 31, 2002 — Author Notification
- May 31, 2002 — Early Registration, Workshop Registration, Short Course Registration
- June 15, 2002 — Camera-Ready Paper Due

Association Business

IAMG AWARD WINNERS 2001

The Awards Committee, consisting of John Cubitt, John C. Davis, André Journel, Hugh Rollinson, IAMG president Graeme Bonham-Carter (non-voting) and chair Vera Pawlowsky-Glahn, has completed selection of award recipients for 2001. This year's recipients are:

2001 Chayes Prize: Jim Nicholls, Canada
2001 Vistelius Award: Jef Caers, USA

Jim Nicholls was elected as the third winner of the Felix Chayes Prize for Excellence in Research in Mathematical Petrology out of a field of four; Jef Caers is our 18th awardee of the Andrei Borisovich Vistelius Research Award for a Young Geomathematician and had one competitor. Evaluation of all nominees was based on resumes, accompanying statements and supporting proposals distributed by e-mail. As usual, some difficulties appeared with the attached files, but we are improving.

Jim Nicholls

Soon you will find the laudatios for the winners in the website of our Association, as well as in the proceedings of the Cancun meeting and in our journals. There you will learn that Jim Nicholls, originally from Montpelier, Idaho, is now professor at the University of Calgary, in Canada, whereas Jef moved from Geel, in Belgium, to Stanford University, in California, where he is assistant professor. Both are outstanding researchers as you will see for yourself if you attend the IAMG meeting in Cancun in September. Both Jim and Jef have agreed to come and give an invited lecture there. They will join **Larry Drew**, who received last year's **Griffiths Award**. Larry was not able to attend the meeting in Rio last summer, so he will give us his lecture this year in Cancun. These talks are the 'award' to the IAMG, so come to listen to them to get your part!

Jef Caers

Thanks are owed to the many persons who submitted proposals for the Awards: Frits Agterberg, Carles Barceló-Vidal, Anthony Fowler, Roland Froidevaux, Jaime Gómez-Hernández, Terence Gordon, Stephen Henley, Michael Ed. Hohn, Andrè Journel and Daniel G. Krige. Without their effort, our task on the awards committee would be impossible to perform.

It is not too early to start thinking about candidates for the 2002 Krumbein Medal and 2002 Griffiths Awards (see the call for nominations on the front page). The Awards process requires that the committee make selections from independently nominated candidates — we cannot do this without input from the membership. The nominees who failed in this year's competition will automatically be considered in the next round of competition in two years. The exception is if the candidate is too old (Vistelius Award), or has been in the selection pool for too long.

Vera Pawlowsky-Glahn
Chair, Awards Committee

Profits from Trondheim

The IAMG99 meeting in Trondheim resulted in a positive financial balance. **Richard Sinding-Larsen** sent IAMG treasurer **Geoff Bohling** a check for $ 3277.48 as part of the surplus owed the Association (30% of the profit).

Thank you, Richard, for your good stewardship and for organizing such a successful meeting!

New Awards Committee Members

Andre Journel has been confirmed as member of the Awards Committee

Hugh Rollinson has been confirmed as member of Awards Committee

These two new members will serve for 4 years until IGC 2004.

Heinz Burger has been confirmed as Chair of Awards Committee to succeed Vera Pawlowsky after IAMG 2002 in Berlin.

Congratulations to the new committee members.

Publications Committee

The Council voted for the following new members of the Publications committee:

Roussos Dimitrakopoulos
Jaime Gomez-Hernandez
Joanne DeGraffenreid
Harald Poelchau

Thus the Publications Committee is composed of the following members for 2000-2004:

Mike Hohn (Chair)-USA
Roussos Dimitrakopoulos-Australia
Jaime Gomez-Hernandez-Spain
Ed Sharp (future Editor-in-Chief for Mathematical Geology)-USA
Graeme Bonham-Carter (Editor-in-Chief for Computers & Geosciences)-Canada
Dan Merriam (Editor-in-Chief, Natural Resources Research)-USA
Joanne DeGraffenreid (Editor, IAMG Monograph Series)-USA
Harald Poelchau (Editor, IAMG Newsletter)-USA

See you soon in CANCUN !

Annual Conference 2001 of the International Association for Mathematical Geology

You can review the continuously updated information at our conference web site:
http://www.kgs.ukans.edu/Conferences/IAMG/

Under the Technical Program you will find a listing of all technical sessions and workshops.

Submit the electronic Registration Form. Reduced registration fees are available through June 4, 2001. Details on all fees can be found at the web site.

Hotel reservations should be made directly by FAX with the Hotel Camino Real Cancun. The hotel registration form is available as an Adobe Acrobat document.

Cancun and the surrounding areas of the Yucatan Peninsula have much to offer for scientist and tourist alike. The organizing committee hopes attendees will investigate opportunities for tours, available through the EPIC Group ("Everything's Possible In Cancun") which has a registration desk in the hotel lobby.

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The IAMG2001 meeting will start Wednesday, September 5, at 6 p.m. with initial registration, followed by two days of workshops and one free day for interesting geological and archeological excursions. An official reception will take place on Sept. 9 at 9 p.m. The final three days will consist of plenary and parallel technical sessions.

Preliminary Technical Program Schedule

Sunday Afternoon, Sept. 9, 2001
6:00-9:00 Registration
9:00 Welcoming Reception

Monday Morning, Sept. 10, 2001
6:30-8:00 Breakfast Buffet
8:00-9:00 OPENING SESSION
9:00-12:30 *Five sessions will run in parallel in the morning:*
d. Geostatistics and Data Integration
g. Mineral Resources, Mining, and the Environment
h. Geologic Modeling and Simulation of Sedimentary Systems
i. Building National and Regional Geologic Map Databases
n. Fractal/Multifractal and Scaling Modeling and Geographical Information Systems

Monday Afternoon, Sept. 10, 2001
12:30-2:00 Lunch
2:00-2:30 GRIFFITH AWARD
2:30-8:00 *Six sessions will run in parallel in the afternoon:*
b. Computer-Aided Modeling in Marine Geosciences
d. Geostatistics and Data Integration
e. Geophysics and Geoengineering
f. GIS applications and digital field data capture: integration of geologic database development, analysis, and map production
h. Geologic Modeling and Simulation of Sedimentary Systems
i. Building National and Regional Geologic Map Databases
8:00 Council Meeting

Tuesday Morning, Sept. 11, 2001
6:30-8:00 Breakfast Buffet
8:00-9:00 CHAYES PRIZE
9:00-12:00 *Five sessions will run in parallel in the morning:*
d. Geostatistics and Data Integration
g. Mineral Resources, Mining, and the Environment
i. Building National and Regional Geologic Map Databases
j. Petroleum Geology
n. Fractal/Multifractal and Scaling Modeling and Geographical Information Systems

Tuesday Afternoon, Sept. 11, 2001
12:00-1:30 Lunch
1:30-4:00 *Six sessions will run in parallel in the afternoon:*
a. Ground Water Applications
d. Geostatistics and Data Integration
h. Geologic Modeling and Simulation of Sedimentary Systems
i. Building National and Regional Geologic Map Databases
j. Petroleum Geology
l. Statistics in the Earth Sciences

5:00-6:15 Bus to Xcaret
6:15-6:30 Mayan Ball Game
6:30-7:00 Walk through park to amphitheater
7:00-8:00 Folkloric show
8:00-9:30 BANQUET
9:30-10:30 Return to Hotel

Wednesday Morning, Sept. 12, 2001
6:30-8:00 Breakfast Buffet
8:00-9:00 VISTELIUS AWARD
9:00-12:00 *Six sessions will run in parallel in the morning*:
a. Ground Water Applications
c. Geochemistry
l. Statistics in the Earth Sciences
f. GIS applications and digital field data capture: integration of geologic database development, analysis, and map production
m. Numerical Methods and Applications
n. Fractal/Multifractal and Scaling Modeling and Geographical Information Systems

Wednesday Afternoon, Sept. 12, 2001
12:00-1:30 Lunch
1:30-7:30 *Five sessions will run in parallel in the afternoon:*
a. Ground Water Applications
f. GIS applications and digital field data capture: integration of geologic database development, analysis, and map production
k. Prediction Models in Spatial Data Analysis
l. Statistics in the Earth Sciences
m. Numerical Methods and Applications

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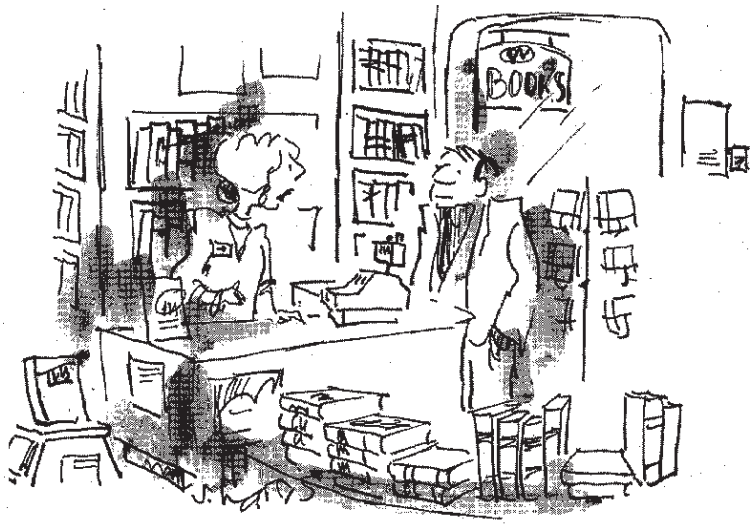
Member News

Workshop: Statistical Analysis of compositional data
Speaker: **John Aitchison**
Title: The Eternal Triangle
Date: March/30th/2001
Organization: Càtedra Lluís Santaló University of Girona (Spain)

"Yesterday" John gave what he said to be his last lesson on compositional data. Because we are not like "a fool on the hill" and we are not living in a "yellow submarine", at the end of the talk all of us said to John "Help!" and "please come back", not believing that it was really his very last lesson. At the end, the Girona group on compositional data decided to take more lessons, mainly on magics, in a Spanish tapas bar; the class finished singing Beatles's songs, accompanied by the guitar of Michael Greenacre, from the University Pompeu Fabra in Barcelona.

Josep Antoni Martín-Fernández.

Susanna Sirotinskaya is spending a couple of years in Brazil in the town Porto Alegre in the extreme south of Brazil. She is a "professora visitante" and is doing research using her methods in the field of the mineral deposit geology at the UFRGS (Universidade Federal de Rio Grande do Sul). Her e-mail is <sirot@ppgem.ufrgs.br>



'Oh, we have lots *of stuff that doesn't require any reading.'*

Clayton Deutsch writes:
Manu Schnetzler and I have formed a company based out of California that specializes in geostatistics. Our company name is Statios (see www.statios.com) . No, statios doesn't mean anything. It just happened to be a name with "stat" in it, seven characters or less, and the web site was free. Manu works full time on Statios; I'm part time.
Research and teaching at the university are going fine. My second book, Geostatistical Reservoir Modeling, is in the final stages of preparation at Oxford University Press. I currently have six Ph.D. students and three M.Sc. graduate students; two finished last year. My research is into diverse aspects of geostatistics in different areas of application - keeps me challenged and interested.

Clayton V. Deutsch is in the School of Mining and Petroleum Engineering - Department of Civil and Environmental Engineering at the Universitv of Alberta - Edmonton - Canada

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I am pleased to announce that Dr. **Lynn Watney** has been selected to receive the Distinguished Achievement Citation from the Iowa State University Alumni Association. It is the highest honor given to ISU alumni. Lynn is one of five recipients who will be honored during halftime at the ISU homecoming game on Oct 19. The award is given to alumni who are nationally or internationally recognized for preeminent contributions to agriculture, arts, education, professions, public service, social welfare, science, or other endeavors.

Please join me in extending congratulations to Lynn.

M. Lee Allison, State Geologist & Director
Kansas Geological Survey

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As announced in the previous newsletter, after getting a temporary position, **Vera Pawlowsky** has now definitively joined the compositional data group in Girona. From now on, her permanent address will be:

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IAMG Journal Report

Nondelivery of Mathematical Geology

Members who subscribe to Mathematical Geology have probably noticed the late arrival of issues for 2001, or no arrival at all. The officers of the IAMG and the Editor-in-Chief have expressed their concern to the publisher of the journal, Kluwer Academic/Plenum Publishers. The publisher attributes the problem to a changeover in the computer system that holds the database of members. We hope the problem is rectified soon.

And now for

Natural Resources Research:

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Silver CD Project of Computers & Geosciences

IAMG and Elsevier have jointly supported the Silver CD project of Computers & Geosciences, now coming to fruition. The CD contains all the code ever published by Computers & Geosciences, covering the years 1975-2000, inclusive. The project was undertaken to celebrate 25 years of publication, and was originally scheduled to appear in the Millennium year of 2000. It finally appeared at the end of May 2001, a few months later than originally planned. It will be distributed in the back cover of a forthcoming issue of Computers & Geosciences, and a copy will be sent to all members of IAMG. Copies of the CD will also be given away at IAMG 2001 in Cancun, and will be available from Elsevier booths at major geological conferences.

The CD contains a database with title, authors, volume, issue, pages, year and keyword fields for each paper published and a link to the code, if it exists (not all papers have associated code). This is similar to what is currently available on the Editor's Home Page (http://www.iamg.org/CGEditor/index.htm) except that it is accompanied by a flexible search engine. Two types of search are possible, either using words in any field, or using words in particular fields, with Boolean operators for complex queries.

Having made a selection, one may view the associated code (if it exists) and save it or print it, if desired. Code in papers published prior to 1994 were printed, whereas code associated with more recent papers are available in ASCII text format from the IAMG server. The code that appeared in print has all been scanned, and is available in .pdf format, readable with Adobe Acrobat. The more recent code in ASCII can, of course, be read as text files. Experiments with optical character recognition (OCR) gave unsatisfactory results, because the quality of the printing on the early daisy-wheel printers led to many uncertainties—particularly confusion between certain characters such as 'ones' and 'els'. The amount of editing required to clean up the translated files was simply too great to be worthwhile. However, the quality of the scanned .pdfs is as good as the original printed pages, so anyone wishing to run OCR software and edit the files can do so.

Most of the early code is now mainly of historical interest, but there are many programs and subroutines that are directly useable, and coding ideas that can be gleaned from the programs. We believe that the files are a unique archive, and provide great added value to the C&G papers themselves. The search capability allows a researcher to look for programs dealing with topics of interest, such as wind roses, FFTs, time series, or whatever is desired.

Although the original idea was conceived by Graeme Bonham-Carter, the project has been planned and coordinated by Eric Grunsky. Eric hired Jean Hubay to do the hard work of scanning, editing and indexing. Ray Evans designed the search interface using a commercial search engine.

The plan is to release new updated versions of the CD periodically, as new code is added to the IAMG server. In due course, the contents of the CD will be put on the IAMG server, replacing the current system with a more readily searchable, and complete, database.

Graeme Bonham-Carter and Eric Grunsky

C&G Best Paper Award for 2000: Eric Anthony de Kemp

The 2000 award for Best Paper in Computers & Geosciences was given to Eric de Kemp for his paper "3-D visualization of structural field data: examples from the Archean Caopatina Formation, Abitibi greenstone belt, Quebec, Canada" which appeared in C&G volume 26, number 5, pages 509-530, and was accompanied by computer code now publicly available on the IAMG server. Dr. de Kemp will receive a one-year free membership to IAMG with a subscription to Computers & Geosciences.

Eric de Kemp is a 3-D GIS specialist with the Continental Geoscience Division of the Geological Survey of Canada in Ottawa, and is active in the newly emerging field of computer-aided 3-D visualization and modelling of geological structures. His expertise in 3-D geological analysis is coupled with a strong background in the integration of geoscientific data using Geographic Information Systems and remote sensing technologies. He specializes in 3-D field-based studies that combine stratigraphical, structural, and geochronological analysis in tectonically complex regions of the Canadian Shield.

Eric recently completed his Ph.D. at the Université du Québec à Chicoutimi. His thesis was entitled *"3-D Integration and Visualization of Structural Field Data: Tools For Regional Subsurface Mapping"*.

His current research focuses on the optimization of methods for improving regional geological interpretations using advanced 3-D computing technologies. Future interests include co-modelling through inversion (geophysical and structural), geological process simulation (folding, emplacement, erosion) and hyperspectral imaging in bedrock mapping applications.

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Mathematica in the Laboratory by S. Dick, A. Riddle, and D. Stein — Reviewed by Robert Underwood

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Characteristics of water-well yields in the part of the Blue Ridge geologic province in Loudoun County, Virginia, by DM Sutphin, LJ Drew, JH Schuenemeyer, and WC Burton

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Li Zheng — Geostatistics: Modeling Spatial Uncertainty - by Jean-Paul Chilès and Pierre Delfiner, Wiley, New York, 1999, 695 pp., ISBN 0-471-08315-1, US $125.00

Geoff Bohling — VARIOWIN: software for spatial data analysis in 2D - Yvan Pannatier. Springer, New York, 1996, 91pp, 3.5-inch IBM-compatible diskette, ISBN 0-387-94679-9, US $52.95

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Thomas A. Jones — Using flowpaths and vector fields in object-based modeling

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Arlei Benedito Macedo — Multimedia cartography by W. Cartwright, M. Peterson, and G. Gartner (Eds.). Springer-Verlag, Berlin, 1999, 343pp., US$ 59.00, ISBN 3-540-65818-1.

B.S. Daya Sagar — Computer processing of remotely sensed images: an introduction. 2nd Edition - Paul M. Mather. Wiley, Chichester, 1999, 292pp., US$ 65.00 (Includes CD with image processing software for Windows), ISBN 0-471-98550-3.

Xin-She Yang — Mathematical modeling in the environment - Charles R. Hadlock; The Mathematical Association of America, Washington, DC, 1998, 312pp., US$ 55.00, ISBN 0-88385-709-X.

E.C. Grunsky — Aspects of multivariate statistical analysis in geology - Richard A. Reyment and Enrico Savazzi; Elsevier, Amsterdam, 1999, 285pp., 1 CD. ISBN 0-444-50412-5, US $76

Heng Tsai — Comment on "A FORTRAN program for fitting Weibull distribution and generating samples" by A. Ghosh

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Indranil Roy, B.C. Sarkar and A. Chattopadhyay — MINFO a prototype mineral information database for iron ore resources of India

Wei Luo — LANDSAP: a coupled surface and subsurface cellular automata model for landform simulation

BOOK REVIEWS

Ulrich Zier and J.P. Morgan — High-performance computing - R.J. Allan, M.F. Guest, A.D. Simpson, D.S. Henty and D.A. Nicole; Kluwer Academic/Plenum Publishers, New York, 584+xiii pp., US$ 130.00, ISBN 0-306-46034-3

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Recent Books of Interest

Boundary Element Method In Contact Problems For Elastic Spatial-and-nonhomogeneous Bases

(3D-Problems of Numerical Geotechnique)

Sergey M. Aleynikov (The State University of Architecture and Civil Engineering, Voronezh, Russia)

Publishing House of Civil Engineering Universities Association, Moscow, 2000, ISBN 5-93093-053-8, Hardbound: 754 pages

Capricious Earth: Models And Modeling Of Geologic Processes And Objects

editors Prof. V.A. Glebovitsky and Dr. V.N. Dech

198 p., US$65, ISBN 5-88143-116-2, Theophrastus Pbl - St.Petersburg – Athens

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Mathematische Geologie

volume 5 (August 2000):

Applied geostatistics for mining, geology, geophysics, geodesy and environmental protection.

In 2000, the fifth volume of the journal Mathematische Geologie (ISSN 1431-8016) has been issued. It was prepared by Joachim Menz as guest editor and published by the CPress Publishing House Dresden (Germany). Boards, 213 pp. Price DM 48. To be ordered by "Geostatistics".

Content:

Research work about "Integrated mine surveying - geological data analysis and prediction based on geostatistical assumptions", supported by the Leibnitz program of the German Research Council (DFG), tasks, results and their importance - J. Menz (in German)

SAFARI - an extended geostatistical software package - A. Röttig, D. Tzscharschuch, F. Tonn, H.-J. Wendel (in German)

Least-squares collocation - H. Moritz

Collocation: a synonym of kriging in geodesy - J. Menz, Shaofeng Bian

Estimation of the model parameters for geostatistical prediction - T. Hillmann (in German)

A method for estimating variogram parameters in the presence of trends - J. Menz, D. Stoyan, N. Kolesnikow

Local changes of quasi-geoid, determined from torsion balance data using geostatistical integration, differentiation and combination; with an introduction to physical geodesy - J. Menz (in German)

On the allocation and assessment of absolute values for geoid determination using torsion balance measurements - R. Lehmann

The geological model and local gravity - a description of local variations of geoid undulation in a test area - S. Knospe (in German)

Deterministic and stochastic network design for the measurement of altitude, dips and slopes - J. Menz, K. Wälder (in German)

Inference and use of structure information for the selection of gradients to describe surface variability in space - N. Kolesnikov (in German)

Exploration and exploitation strategies in potash mining - K. Wälder

How accurate are geochemical maps? - S. Lindner, K. Kardel

Geostatistical modelling of the Second Miocene brown coal seam - M. Jäkel (in German)

Calculating exceeding probabilities by conditional simulation or by indicator kriging? - J. Menz, K. Wälder (in German)

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Research Reports

Compositional data

On March 23, 2001 Josep Antoni Martín-Fernández from the Dept. of Computer Sciences and Applied Mathematics of the University of Girona (Catalonia-Spain), presented his PhD thesis, entitled **"Measures of difference and non-parametric cluster analysis for compositional data"** at the Technical University of Barcelona. A short summary follows:

Compositional data are by definition proportions of some whole. Thus, their natural sample space is the open simplex and interest lies in the relative behaviour of the components. Basic operations defined on the simplex induce a vector space structure, which justifies the developement of its algebraic-geometric structure: scalar product, norm, and distance. At the same time, hierarchic methods of classification require to establish in advance some or all of the following measures: difference, central tendency and dispersion, in accordance with the nature of the data. J. A. Martín-Fernández studies the requirements for these measures when the data are compositional in type and presents specific measures to be used with the most usual non-parametric methods of cluster analysis. As a part of his thesis he also introduces the centering operation, which has been shown to be a powerful tool to visualize compositional data sets. Furthermore, he defines a new dissimilarity based on measures of divergence between multinomial probability distributions, which is compatible with the nature of compositional data. Finally, J. A. Martín-Fernández presents in his thesis a new method to attack the "Achilles heel" of any statistical analysis of compositional data: the presence of zero values, based on a multiplicative approach which respects the essential properties of this type of data

Web-page: http://ima.udg.es/~jamf
e-mail: josepantoni.martin@udg.es

Contributed by Vera Pawlowsky Glahn.

Evolution of the drainage systems

John Harbaugh and Dan Merriam are working on simulating the evolution of the drainage system in eastern Kansas, using ARCVIEW to manipulate topographic data in the form of "DTM" quadrangles or "Digitized Terrain Models." The DTM data are derived from conventional 1:24,000 topographic maps and provide digital files of the land's elevation on a cell-by-cell basis in which each cell is 30 meters square. Being digital, the files can be manipulated readily. ARCVIEW's capabilities also allow the terrain to be viewed in shaded relief, and also in color-coded form.

The results can be breathtaking. Viewed in detail in shaded relief, eastern Kansas appears as a very seamed and scarred landscape in which fractures have had huge influence in affecting the courses of streams. These fractures are mysterious. They seem not to be faults, but whatever their nature, they have had surprisingly great influence.

One of the goals in the simulations is to progressively allow the landscape in eastern Kansas to evolve as the streams cut downward to yield the present landscape. ARCVIEW makes these simulations feasible because it can handle the huge volumes of numerical data involved, and all the while let the user see what is happening via its shaded-relief and color-coding capabilities.

All this might seem to be a numerical and computer-graphic fantasy, but there are some real-world constraints that can be applied. In many places in eastern Kansas, there are "high-level" chert gravels that are most commonly preserved on interstream divides, although they also occur elsewhere. These chert gravels are assumed to have been deposited by ancient streams that flowed eastward from the Flint Hills, which provided the chert. The present streams have cut down as much as 300 feet below the elevations of the chert gravels. Dan Merriam has mapped these high level gravels in parts of eastern Kansas, and Jim Aber, of Emporia State University, as well as others, have also mapped some of them.

So, between the present topography represented by the DTM data, and the ancient fluvial landscape represented by the remnants of the high-level chert gravel deposits, there are several million years of fluvial history. With the help of ARCVIEW, the plan is to link the present landscape with the ancient landscape in progressive simulations of topographic changes over this span of geologic time. The locations of remnants of high-level chert gravels that are preserved in simulations can be compared with the actual remnants of gravels that have been mapped.

Also, the plan includes incorporating schemes in simulations that will allow the intricate network of fractures to influence simulated streams as they evolve. How to incorporate the influence of fractures in experiments is still problematical, but ARCVIEW's file-handling capabilities hopefully will provide a way.

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Manfred Mudelsee — Statistical Analysis in Climate Research - Hans von Storch and Francis W. Zwiers; Cambridge University Press, Cambridge, 1999, x+484pp., US$ 110, ISBN 0-521-45071-3 (hardback)

Kim Kastens and John C. Butler — Another Node On the interNet

C&G Volume 27, Issue 5, June 2001

Ute Christina Herzfeld and Oliver Zahner — A connectionist-geostatistical approach to automated image classification, applied to the analysis of crevasse patterns in surging ice

Qiuming Cheng, H. Russell, D. Sharpe, Frank Kenny and Ping Qin — GIS-based statistical and fractal/multifractal analysis of surface stream patterns in the Oak Ridges Moraine

Ricardo Diniz da Costa and John Starkey — PhotoLin: a program to identify and analyze linear structures in aerial photographs, satellite images and maps

R. Tagliaferri et al. — Soft computing methodologies for spectral analysis in cyclostratigraphy

Eulogio Pardo-Igúzquiza and Peter A. Dowd — VARIOG2D: a computer program for estimating the semi-variogram and its uncertainty

A. Guillen, Ch. Meunier, X. Renaud and Ph. Repusseau — New Internet tools to manage geological and geophysical data

C.-T. Lee, Q.-Z. Yin and T.-C. Lee — An internal normalization technique for unmixing total-spiked mixtures with application to MC-ICP-MS

M. Alarcón and S. Alonso — Computing 3-D atmospheric trajectories for complex orography: application to a case study of strong convection in the western Mediterranean

Ken J. Woolfe, Lachlan K. Stewart and Andrew D. Heap — Wind and currents 2000: A new tool for the visualisation of vectorial time-series data

José Manuel Vacas Peña — Isogons: a program in Pascal to draw the dip isogons of folds

BOOK REVIEW

James R. Carr — Data analysis in the Earth sciences using Matlab - Gerard Middleton; Prentice-Hall, Upper Saddle River, NJ, 2000, 260pp., ISBN 0133935051 (paperback+disk)

Mário A. Gonçalves — Computing for scientists: principles of programming with C++ and Fortran 90 - R.J. Barlow and A.R. Barnett; Wiley, Chichester, 1998, 292pp., price US$49.95, ISBN 0-471-95596-5.

Barbara DeFelice — Another Node On the interNet

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Upcoming Meetings

DC ROCKS 2001, Washington, DC, USA, **7-10 July 2001**. American Rock Mechanics Association, Mark Cramer, ExpoMasters, Inc., 7632 East Costilla Ave, Englewood, CO 80112, Phone: 303-771-2000, E-mail: mcramer@expomasters.com, Web: http://www.armarocks.org

AAPG Regional Int'l Conference, St. Petersburg, Russia, **15-18 July 2001**. American Association of Petroleum Geologists, Convention Dept., 1444 S. Boulder Ave., Tulsa, OK 74119 USA,
Phone: 800-364-2274 or 918-560-2679, E-mail: convene@aapg.org, Web: http://www.aapg.org/meetings/stpetersburg2001

VI International ICHNOFABRIC Workshop, Margarita Island, Porlamar & Puerto La Cruz, Nueva Esparta, VENEZUELA, **15-21 July 2001**. Venezuelan Geological Society, CSC Consulting, &Petroleos de Venezuela. Dr. Nicolas G. Munoz J., Consultores CSC, POBOX 69546 Caracas 1060, Venezuela, Phone: —5816-6580029, EMail: ng_munoz@usa.net & ngmunoz@cantv.net

Int'l Conf. on the BIOGEOCHEMISTRY OF TRACE ELEMENTS, Guelph, Ontario, Canada, **29 July - 2 Aug 2001**. Dr. Kim Bolton, Dept of Land Resource Science, Univ. of Guelph, Guelph, Ontario, Canada, N1G 2W1, Phone: (519) 824-4120 ext. 2531, E-mail: icobte@lrs.uoguelph.ca, Web: http://icobte.crle.uoguelph.ca

2001 JOINT STATISTICAL MEETINGS, Atlanta, GA, **5-9 August 2001**. Sponsored by ASA, ENAR, WNAR, IMS, SSC. Program Committee Chair, Richard D. DeVeaux, Williams Coll.
E-mail: meetings@amstat.org or phone (703) 684-1221, http://www.amstat.org/meetings/jsm/2001/

INTERNATIONAL STATISTICAL INSTITUTE, 53rd Biennial Session , Seoul, Korea, **22–29 August 2001**. Includes an Invited Paper IAMG Session on "Extreme Value Distributions in Geology" chaired by Frits Agterberg. ISI Permanent Office, Prinses Beatrixlaan 428, P.O. Box 950, 2270 AZ Voorburg, The Netherlands. Tel.: +31–70–337–5737; Fax: +31–70–386–0025; E-mail: isi@cbs.nl, Website http://www.nso.go.kr/isi2001

Int'l Conf. on GEOMORPHOLOGY (5th), Tokyo, Japan, **23–28 August 2001**. Prof. Kenji Kashiwaya, Dept. of Earth Sciences, Kanazawa University, Kakuma, Kanazawa 920-1192, Japan; Phone & Fax +81-76 264 5735; E-mail: kashi@kenroku.kanazawa-u.ac.jp; wwwsoc.nacsis.ac.jp/jgu/

21st IAS meeting of SEDIMENTOLOGY, Davos, Switzerland, **3-5 Sep 2001**. IAS-2001 Secretariat., Geological Institute ETH-Zentrum, 8092 Zürich, Switzerland, E-mail: info@ias-2001.ethz.ch
Web: http://www.ias-2001.ethz.ch

International Association for MATHEMATICAL GEOLOGY 6th Int'l Conference, Cancún, Mexico, **6–12 September 2001**. Gina Ross, Kansas Geological Survey; E-mail: aspiazu@kgs.ukans.edu;
Website: www.kgs.ukans.edu/Conferences/IAMG

Assoc. of European Geological Societies: "CARPATHIANS PALEGEOGRAPHY and GEODYNAMICS – a Multidisciplinary Approach" (12th Biennial Mtg), Cracow, Poland, **8–15 September 2001**. Polish Geological Society, Oleandry 12, PL-30-063 Cracow, Poland; E-mail: ptg@ing.uj.edu.pl

Society of Exploration Geophysicists, San Antonio, Texas, USA, **9–14 September 2001**. SEG Business Office, Phone: +1-918 497 5500; Fax: +1-918 497 5557; Website: seg.org

20th Int'l Meeting on ORGANIC GEOCHEMISTRY IMOG 2001, Nancy, France, **10-14 Sep 2001**. Patrick Landais, UMR7566 G2R Université Henri Poincaré, BP239 54506 Vandoeuvre,
EMail: imog2001@g2r.uhp-nancy.fr, Web: http://www.imog.uhp-nancy.fr

Causes, processes, and effects of SUBSURFACE SEDIMENT MOBILISATION on reservoir to regional scale, Het Pand, Ghent University, Ghent, Belgium, **10-13 September 2001**. EAGE, Flemish Minister of Education. Pieter Van Rensbergen, Ghent University Krijgslaan 281-S8 B-9000 Ghent Belgium, Phone: +32-9-2644590, EMail: mobilesediment@yahoo.com, http://geocities.com/mobilesediment/

PALEOCEANOGRAPHY (7th Int'l Conf.), Sapporo, Japan, **17–21 September 2001**. Prof. Helmut Weissert, Geological Institute, ETH-Zurich, CH-8092 Zurich, Switzerland; Phone: +41 (0)1 632 37 15; Fax: +41 (0)1 632 10 30; E-mail: helmi@erdw.ethz.ch; Website: www.iijnet.or.jp/jtb-cs/icp7/

Fifth Int'l Conf. on Computer Modelling of SEAS AND COASTAL REGIONS, Rhodes, Greece, **19 - 21 September 2001**. Coastal Engineering 2001, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO40 7AA, phone: 44 (0) 23 80 293223, Fax: 44 (0) 23 80 292853, E-mail: gcossutta@wessex.ac.uk, http://www.wessex.ac.uk/conferences/2001/coastal01)

STRUCTURAL TRAPS AND FRACTURED RESERVOIRS of the Rocky Mountain Region, Denver, CO, USA, **2 Oct 2001**. Rocky Mountain Association of Geologists and the Petroleum Technology Transfer Council. Sandi Pellissier, 820 16th Street, Suite 505, Denver, CO 80202, Phone: 303.573.8621, EMail: RMAGdenver@aol.com, http://www.rmag.org

2001 MARGINS International Conference and Annual Meeting of the Deutsche Geologische Gesellschaft (DGG) and Geologische Vereinigung (GV) at Christian Albrechts University, Kiel, Germany, **2 - 6 October 2001**. Registrations by fax <+49-431-600-2925> or email: <marginsregist@geomar.de> (until June 15, 2001).
Web: http://www.g-v.de/agenda-GV/ or http://www.dgg.de/

Modeling and Simulation in CIVIL ENGINEERING, Paris, France, **3-5 Oct 2001**. http://www.enpc.fr/caquot

American Institute of HYDROLOGY Annual Meeting — Hydrologic Science: Challenges for the 21st Century, Bloomington, MN, USA, **14-17 Oct 2001**. American Institute of Hydrology, USGS, AWRA, MGWA, ASAE, USACE, AGWT, USEPA, UMN. Helen Klose, Manager, 2499 Rice Street, Ste. 135, St. Paul, MN 55113-3724, Phone: (651)484-8169, EMail: AIHydro@aol.com, http://www.bae.umn.edu/aihydro/

The 40th MINING PRIBRAM symposium - the international section on GEOETHICS, Pribram, Czech Republic, **15 - 17 October 2001**. Vaclav Nemec and Lidmila Nemcova, K rybnickum 17, 100 00 Praha 10 - Strasnice, Czech Republic,
phone +4202 7811801, fax +420306 23169,
e-mail: nemcoval@vse.cz or marcinikova@diamo.cz

Third South American Symp. on ISOTOPE GEOLOGY, Pucón, Chile, **21-24 Oct 2001**. Servicio Nac'l de Geología y Minería de Chile (SERNAGEOMIN); Dept. de Geología, Univ. de Chile; and Sociedad Geológica de Chile. Eugenia Fonseca, Laboratorio Sernageomin, Til-Til 1993 Ñuñoa, Santiago, Chile, Phone: 56-2-2385292
E-mail: ssagi@sernageomin.cl Web: http://www.sernageomin.cl/ssagi/

Land Surface Mapping and Charcterization Using LASER ALTIMETRY, Annapolis, Maryland, USA, **22-24 Oct 2001**. ISPRS, University of Maryland, NASA Goddard Space Flight Center, Ohio State University. M. Hofton, Department of Geography, University of Maryland, College Park, MD 20742, Phone: 301-405-8543, EMail: mhofton@geog.umd.edu, http://lvis.gsfc.nasa.gov/laser_workshop.html

GSA Annual Meeting, Boston, Mass., USA, **5–8 November 2001**. Geol. Soc. of America Meetings Dept., P.O. Box 9140, Boulder, CO 80301-9140, USA; tel: +1 303 447 2020; fax: +1 303 447 1133; meetings@geosociety.org; www.geosociety.org/meetings/index.htm

Achieving Climate Predictability using Paleoclimate Data: Euroconference on ABRUPT CLIMATE CHANGE DYNAMICS, Castelvecchio Pascoli, Italy, **10 - 15 November 2001**.
Chair: J.-C. Duplessy (Gif sur Yvette). Dr. Josip Hendekovic or Mr. Rachid Adghoughi, Phone: +33 388 76 71 35,
fax: +33 388 36 69 87, e-mail: radghoughi@esf.org, http://www.esf.org/euresco/01/lc01170a.htm

First International Conference on NEUTROSOPHY, Neutrosophic Logic, Set, Neutrosophic Probability and Neutrosophic Statistics, Gallup, New Mexico, **1 - 3 December 2001**. Florentin Smarandache, University of New Mexico, 200 College Road, Gallup, NM 87301, USA. Tel.: (505) 863-7647, Fax: (505) 863-7532 (Attn: Neutrosophic Conference), E-mail: smarand@unm.edu, http://www.gallup.unm.edu/~smarandache/FirstNeutConf.htm

IAMG 2003 in Portsmouth, U.K.

IAMG Council received two excellent proposals for the IAMG Conference in 2003, one from U.K. by **John Cubitt** and **John Whalley** to hold the meeting in Portsmouth, the other from Argentina by **Angela DiBlasi** and **Dan Tetzlaff** to hold the meeting in Mendoza.

The IAMG Council voted 7 to 3 to hold the meeting in Portsmouth. Perhaps the beautiful and historic city of Mendoza, centre of Argentina's wine industry, will be proposed again for a future meeting.

8th Int'l Symp. on application of mathematical methods and computers in MINING, GEOLOGY AND METALLURGY, Cracow, Poland, **3 - 6 December 2001**. Prof. Jerzy Klich, AGH, Al. Mickiewicza 30, 30-059 Cracow, Poland, fax: +4812 4233760

AAPG Annual Convention and Exhibition, Houston, Texas, **10-13 Mar 2002**. Am. Assoc. of Petroleum Geologists Convention Dept., 1444 S. Boulder Ave., Tulsa, OK 74119, USA, Phone: 800-364-2274 or 918-560-2679, E-mail: convene@aapg.org Web: http://www.aapg.org

BASEMENT-COVER CONNECTIONS, University of Missouri-Rolla, Department of Geology & Geophysics, Rolla, Missouri, USA, **19-24 May 2002.** International Basement Tectonics Association. John P. Hogan, Department of Geology & Geophysics, University of Missouri-Rolla, Rolla, MO 65409-0410, Phone: 573-341-4618, EMail: jhogan@umr.edu

EAGE European Assoc. of Geoscientists and Engineers (63rd Conf. & Technical Exhibition), Florence, Italy, **27–30 May 2002**. www.eage.nl

SPWLA / Society of Professional Well Log Analysts, Annual Symposium, Oiso, Japan, **2-6 June 2002**. http://www.spwla.org/

ModelCARE'2002, 4th International Conference on Calibration and Reliability in GROUNDWATER MODELLING, Prague, Czech Republic, **17-20 June 2002.** Conference Secretariat ModelCARE'2002, c/o Guarant Ltd, Opletalova 22, CZ-11000 Prague 1, Czech Republic ; Phone: +420-2-8400 1444; Fax: +420-2-8400 1448; E-mail: modelcare2002@guarant.cz, http://www.guarant.cz/ModelCARE2002

JOINT STATISTICAL MEETINGS, New York, NY, **11-15 August 2002**. Sponsored by ASA, ENAR, WNAR, IMS, and SCC. ASA, 1429 Duke St., Alexandria, VA 22314-3415; (703) 684-1221, E-mail meetings@amstat.org, http://www.amstat.org/meetings/jsm/

2nd Biot Conference on POROMECHANICS, Grenoble, France, **26-28 August 2002**. Jean-Louis Auriault, Université Joseph Fourier, Domaine universitaire, BP 53, F - 38041 Grenoble Cedex 9, tel. : (33) (0)4 76 82 51 68, fax : (33) (0)4 76 82 70 43, e-mail: bio2002@hmg.inpg.fr, http://geo.hmg.inpg.fr/biot2002

12 European Conf. on EARTHQUAKE ENGINEERING, London, UK, **9-13 Sep 2002**. http://www.12ecee.org.uk

International Association for MATHEMATICAL GEOLOGY 7th Int'l Conference, Berlin, Germany, **15-20 September 2002.** IAMG'2002 - Conference Secretariat, Freie Universität Berlin, Malteserstr. 74-100, D-12249 Berlin, Germany, phone +49-30-838 70570, fax +49-30-775 2075, email: iamg2002@zedat.fu-berlin.de, *http://www.fu-berlin.de/iamg2002/*

Cairo 2002 AAPG EPEX SEG EGS EAGE, Cairo, Egypt, **27-30 Oct 2002**. AAPG Convention Dept., 1444 S. Boulder Ave., Tulsa, OK 74119 USA, Phone: 800-364-2274 or 918-560-2679, E-mail: convene@aapg.org, Web: http://www.aapg.org

Geological Society of America (Annual Meeting), Denver, Colo., USA, **28–31 October 2002**. GSA Meetings Dept., P.O. Box 9140, Boulder, CO 80301-9140, USA; tel: +1 303 447 2020; fax: +1 303 447 1133; e-mail: meetings@geosociety.org; Website: http://www.geosociety.org/meetings/index.htm

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Geomodeling" at "MARGINS 2001"

On the occasion of the joint annual conference "MARGINS 2001" of the German geological associations DGG (Deutsche Geologische Gesellschaft) and GV (Geologische Vereinigung) in Kiel, Germany, Oct. 2 - 6, 2001, the special interest group on 'computer sciences in geology' (Fachsektion Geoinformatik) organizes the session "*Analysis of Uncertainties in Geomodeling"* convened by Heinz Burger, FU Berlin, Helmut Schaeben, TU Freiberg, and Karl Stattegger, Univ. Kiel. Prof. Gerard B.M. Heuvelink, Univ. Amsterdam, The Netherlands, has been invited as keynote speaker; he is the author of "Error Propagation in Environmental Modelling with GIS": Taylor & Francis, 1998.

The call for papers reads as follows: The 'model' and the 'computer' are now integral parts of thinking in the geological sciences. Mathematics and computer sciences can be of essential aid in geology in formulating conceptual models and scientific theories to integrate and unify diverse geological phenomena the common features of which would not be revealed otherwise. Developments and progress in geomathematics and geoinformatics are stimulated by the prospect that they might provide the prerequisites of computer simulation to carry out geological experiments which have formerly been said to be impossible. Concerned with geomathematical and geoinformatical models we find an experimental verification often impossible due to the complexity and variability of the large natural systems to be studied, and the scientific status of geological theory definitely less elaborated than say celestial mechanics. Being on the poor side with respect to both criteria, this situation strongly demands analytical clarification of the mathematical treatment including explicit consideration of uncertainties ('errors') and error propagation through any model. Even though several mathematical approaches exist to describe, analyse, and model uncertainties and error propagation, their application in mathematical and computer models of geological phenomena is often missing. We find situations reported where computer aided geological models create the false illusion of unquestionable functioning, and a substantial discussion of model reliability and credibility has commenced. The lack of a rigorous treatment of uncertainty may well be a major reason why the public and many geologists properly remain cautious about the significance and value of computer aided geological models. Therefore, the special interest group on 'computer sciences in geology' is calling for contributions to its session *Analysis of Uncertainties in Geomodeling*.

For more and continuously updated information the reader is referred to http://www.g-v.de/agenda-GV/ or http://www.dgg.de/ .

Helmut Schaeben, FS Geoinformatik der DGG

GEOSTATISTICS POSITION

Research Fellow/Postdoctoral Research Fellow
WH Bryan Mining Geology Research Centre
The University of Queensland
Brisbane, Australia

Applications are invited for the position of **Research Fellow/ Postdoctoral Research Fellow**, in the WH Bryan Mining Geology Research Centre (BRC).
The BRC is a member of the Sustainable Minerals Institute at The University of Queensland. The University of Queensland is one of the largest mining and mineral research centres in the world. The BRC provides state of the art facilities and a stimulating, high tech and professional environment in which to work. The Centre conducts advanced applied research in geostatistics, resource modelling, and optimization in mine design and planning. The BRC team includes experts in their fields. The Centre has links to and conducts collaborative research with major mining companies.
The successful applicant will have a PhD in geostatistics or a closely related field. Applicants should have a research record, industrial experience, strong computing skills and be able to work both independently and as part of a team.
The successful candidate will conduct independent research in Geostatistics and be responsible for selected BRC research projects. The candidate will be expected to collaborate and interact with the Mining Industry and the Centre's other stakeholders as well as contribute to the teaching activities within the scope of the Centre. Level of appointment will be commensurate with qualifications and experience.

Applications should include curriculum vitae and the names of three referees. Please forward applications to:
Prof. Rousos Dimitrakopoulos, Director
WH Bryan Mining Geology Research Centre
The University of Queensland
Brisbane. Q. 4072. Australia

Applications close: August 15th 2001

Further information can be obtained from the WH Bryan Mining Geology Research Centre, University of Queensland, Brisbane, Queensland, 4072. Phone (07) 3365 3473,
Fax: (07) 3365 7028, Email: brc@mailbox.uq.edu.au, Web: www.minmet.uq.edu.au/~bryan

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