Changes and more changes! A major change for IAMG membership was announced and voted on at the General Assembly in Berlin in September and you’ll see it reflected on the membership renewal form: a new structure for membership fees which are now decoupled from IAMG Journal subscriptions. The new $10 fee is certainly more affordable for those of us who are out of work or retired, with journal subscriptions as an option. We hope that this will attract new members and keep old ones.

The Berlin meeting was a full success (as were all of the previous meetings I have attended). Kudos to the organizers Heinz Burger, Wolfdietrich Skala and Agnes Schumann for making a change that addressed one of my pet peeves: they gave a wonderful space and plenty of time for poster presentations instead of banning posters to small side rooms while other sessions were going on at the same time. Let’s hope that change will become a permanent feature of all future IAMG conferences - posters have an important place in communicating research results in our professional meetings.

With the passing away of John Butler last year, one of the standard features in Computers & Geosciences disappeared: his regular column ANON - Another Node On the interNet. Without suggesting that John could be replaced, we are wondering if the column shouldn’t be continued in some fashion. Is there somebody among the IAMG members or the mathematical geology community who could pick up where John left off and contribute? President and C&G editor-in-chief Graeme Bonham-Carter would be overjoyed to hear from volunteers.

Harald S. Poelchau

Call for Award Nominations

The Association invites all members to submit nominations for the 2003 Vistelius Award and the 2003 Chayes Prize.

Deadline: January 15, 2003

See the “Guidelines for Awards within the IAMG” section of “Guidelines and Procedures” on the Organization’s web page http://iamg.org/awards_guidelines.html

The documents which should accompany each proposal are:

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

It is also not too early to think about candidates for the 2004 Griffiths Award and Krumbein Medal. Help your Awards Committee!!!

Please submit documentation in electronic format (preferably in .rtf format) to:
Heinz Burger - Chair, Awards Committee
Freie Universität Berlin - Geoinformatik
Malteserstr. 74-100
12249 BERLIN, Germany
E-mail: hburger@zedat.fu-berlin.de

Call for Proposals to Organize the IAMG2005 Conference

The Association is now accepting proposals for organizing the ninth annual IAMG conference during the summer or fall of 2005.

The deadline for proposals is February 15, 2003. Individuals or organizations interested in organizing IAMG 2005 should follow the instructions in “Guidelines to prepare IAMG conferences” available at the web site http://iamg.org/conference.html.

Bids should be sent to the IAMG President. In addition, it would be helpful for planning purposes for the President to receive some forewarning—a notice of intent to submit a proposal—ahead of the official deadline.
International Association for Mathematical Geology

IAMG Newsletter No. 65

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Those members who attended the recent IAMG conference in Berlin were treated to yet another excellent meeting. All the IAMG conferences to-date have been successful, both scientifically and financially. In every one so far, the conference organizers have shown a high degree of professionalism, imagination and attention to detail. Without belittling any of the considerable achievements of previous conferences, it can be said that IAMG Berlin 2002 attracted one of the largest group of registrants to-date (260), excelled by offering a large number of plenary speakers and well organized poster sessions, and was served by an administration that had thought about the many small things that go to make a smooth conference. Thank you Berlin organizers—you have set the bar very high for future meetings.

I can report that besides the printed proceedings volumes given to each registrant, the proceedings will also be available on CD from the IAMG office for a nominal cost of $10. The Cancun organizers were the first to do this, and the IAMG office has already sold about 60 copies of the IAMG 2001 proceedings. Our conference proceedings are now an important publication of IAMG, and their availability on CD will greatly increase their accessibility and value. There are also plans to put the proceedings on the IAMG server for even greater access.

During Berlin 2002, a special General Assembly was held to make some amendments to our Constitution. General Assemblies are held automatically every four years at the International Geological Congress, at which time a new Council and Executive is voted on. In order to make changes to Bylaws during intervening years, a special General Assembly must be called. On this occasion, changes were made to Bylaws 1 and 2 that deal with membership and benefits.

In short, the changes now make journal subscriptions optional, not a mandatory aspect of membership. We are returning to an earlier practice of charging dues to all members ($10 for ordinary members, $5 for students). Of course, we hope that most members will continue to subscribe to at least one journal. The change will, however, encourage new members that for a variety of reasons did not want to pay for a journal. We hope to encourage individuals to join from countries that are less favourable economically, to keep retired members from dropping out of the Association, and to get new members who previously had good access to the journals through their libraries and saw no particular reason to subscribe individually. Classes of membership have been streamlined, dropping some older (never used) categories. We now offer a student membership, in addition to the half-price student rate for Computers & Geosciences (that continues).

These changes have been recommended by a Membership Commission, discussed and accepted by Council, and ratified at the Berlin General Assembly. You will by now have received the 2003 membership renewal form, on which these new changes are implemented. The modified Bylaws and a document describing Benefits of Membership are posted on www.iamg.org. I hope that you will tell your colleagues and friends about the changes, and encourage them to join our Association.

Graeme F. Bonham-Carter

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**Member News**

**Carol Crawford** receives superlative honor from American Statistical Association

The 162nd Annual Meeting of the American Statistical Association was held in New York City, August 13, 2002. During the Presidential Awards Ceremony, IAMG Secretary Carol Crawford was elected ASA Fellow in recognition of her outstanding professional contributions in the field of statistical science. Her citation and affiliation at the time of induction were listed as:

Carol A. Gotway Crawford, Senior Mathematical Statistician, National Center for Environmental Health: “For influential collaborative research and innovative applications of statistical methodology across a spectrum of scientific disciplines and for key research contributions in spatial modeling, geostatistics, and environmental statistics.”

Congratulations, Carol!

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**Andrea Fabbri** is leaving his present job at ITC in Enschede and will be associated with the Free University of Amsterdam and the University of Milan

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**Ute Herzfeld** has received a new grant and will reside in Boulder, Colorado for the next couple of years.

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**Webmaster Eric Grunsky** is now located at Geological Survey of Canada

Natural Resources Canada

601 Booth St.

Ottawa, Ontario

CANADA K1A 0E8

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**Networking**

**Report from the Webmaster Eric Grunsky**

The primary web site (www.iamg.org) is currently located in Ottawa, Ontario, Canada and is hosted by Natural Resources Canada. Security features at this site are excellent and the integrity of the web site and its contents are maintained at the highest standard. The Ottawa site uses SUN computers and the UNIX operating system platform. A second IAMG computer is now located at the Geological Survey of Canada. This machine is an INTEL computer running Windows NT 4.0 and is under consideration as a replacement for the current UNIX server that may be phased out within the next couple of years.

With the recent move of the web site manager to the Geological Survey of Canada, there will be closer integration between the server and the management of the IAMG web site pages.

The Membership Directory is currently unavailable because of firewall security issues. A plan is underway to relocate it either to the Ottawa server or to the IAMG business office. The latter would facilitate updating of membership information by the IAMG business office staff as well as place the on-line directory within a secure server environment. It is unlikely that it will again be operational before March of 2003.
First Annual Awards through the IAMG Student Grants Program

The Student Grants Committee of the IAMG recently completed its work on reviewing student proposals for financial support under the Student Grants Program. A number of quality proposals were submitted from around the world, three of which were selected by the Committee for funding. The awardees for 2002, along with their university affiliations and their project titles, are:

Ning Liu, University of Tulsa, Conditional simulation of facies distributions with truncated pluri-gaussian model

Carolina Guardiola-Albert, Universidad Politécnica de Valencia, Stochastic inverse modeling for the improvement of the reservoir caracterizations accounting for the heterogeneity of relative permeabilities

Hirotaka Saito, University of Michigan, Multiscale sampling strategy for geosciences: application to selective remediation of contaminated sites

All proposals were evaluated on the basis of the applicant’s academic record, endorsement from the sponsoring university and faculty, relevance and feasibility of the project, and financial need.

The Committee congratulates these students and is pleased to recommend IAMG sponsorship of their research. Students who are interested in applying for funding in 2003 are invited to review the program guidelines found on the IAMG website at www/iamg.org/studentgrants.html.

Tim Coburn
Student Grants Committee chairman.

John Davis - IAMG 2002 Distinguished Lecturer

Dr. John C. Davis of the Kansas Geological Survey is the IAMG’s 2002 Distinguished Lecturer.

He will be familiar to many as the author of the classic text “Statistics and Data Analysis in Geology”, recently released in its 3rd edition. Institutions interested in hosting a lecture by Dr. Davis are invited to submit a proposal to Alexandre Desbarats, chair of the IAMG Distinguished Lecturer Committee (desbarat@NRCan.gc.ca) or directly to Dr. Davis (jcdavis@ksu.edu). The IAMG will fund the speaker’s travel expenses to the extent allowed by the DL series budget; however, host institutions will be expected to contribute toward the speaker’s meals and accommodation as their resources permit. Dr. Davis has prepared a selection of talks suitable for a variety of earth science audiences and technical levels:

1. Computing Risk for Oil Prospects: Even a little operator can use big tools!
   This presentation is on the quantitative evaluation of petroleum prospects. It is based on research conducted by Dr. Davis at the KGS since 1973, and which has resulted in two books, two industry training programs, an academic course, and numerous publications. Most of the examples in the presentation use data on oil exploration in Kansas, although additional material is drawn from his cooperative research on regionalization conducted with Prof. Jan Harff of the Institute for Baltic Research in Germany. This presentation would be of interest to those concerned with improving the state-of-the-practice in prospect evaluation and resource estimation.

2. Geological Hazard Prediction: Landslides—Not tornados—In Kansas??
   This presentation draws on recent research conducted by Dr. Davis in cooperation with Dr. Greg Olmacher on risk assessment applied to landslides. This research project in northeastern Kansas is still underway and a presentation of the mathematical theory behind the risk assessment procedure was given at the 12th Annual Conference of the IAMG in Berlin. The presentation includes additional recent work on environmental hazards done by Gunther Hausberger in Austria.

3. Geochemical Data and How to Map It: Looking for minerals—Finding the environment
   The topic of this presentation is the analysis of multiple geological properties. It is based on material from several sources, but mostly on the work done by Dr. Davis during his tenure as a Fulbright scholar in Austria. This material consists of geochemical data produced for the Geochemical Atlas of the Austrian Republic, for which the KGS provided mapping software solutions and advice on statistical analyses. Additional examples are drawn from grain-size data from the Baltic Sea provided by the Institute for Baltic Research. These data are used to illustrate discussions on the issue of closure and the application of multivariate statistical methods such as canonical analysis.

4. Classical Statistics for Geological Problems: Regulation, monitoring, and other nasty tasks
   The role of classical statistics in the analysis of geologic data is the subject of this presentation which is based on KGS experience in quality control and analysis of variance applied to water level measurements in the High Plains Aquifer of western Kansas. The presentation also describes applications of regression and time-series analysis to climate data.

5. Alternatives for an Unpopular Business: Decision-making in the mining and mineral industry
   This presentation describes the use of probabilistic modeling in the minerals industry. It addresses the possible costs of societal decisions that may adversely affect mining, and how financial models incorporating alternative actions can be used as management decision tools. Although these risk-based methodologies are not widely known in the mining industry, they are commonly used in petroleum exploration and are discussed in the book, Computing Risk for Oil Prospects, co-authored by Dr. Davis.

Association Business

IAMG Council has decided to give support of $2,000 for a special session at the 8th South African Geophysical Association (SAGA) meeting in Pilsen, South Africa, as requested by Gordon Cooper.

Report of the IAMG Distinguished Lecturer Committee

Under the chairmanship of Alex Desbarats (Geological Survey of Canada), a committee was formed in order to implement the recommendations of the report prepared by the IAMG Distinguished Lecturer Commission under Ricardo Olea. The committee members are: Patrick Bogaert (Université Catholique de Louvain), Jianping Chen (China University of Geosciences), Natalya Hunter-Williams (Geological Survey of Ireland), Sean McKenna (Sandia National Laboratories) and Graeme Bonham-Carter (ex-officio). This committee was approved by council ballot on October 22nd 2001.

As a first task, the committee was charged with identifying potential candidates for distinguished lecturer, meeting the criteria given in Recommendation #3 of the DL Commission report. Committee members were also asked to identify potential host institutions in their respective regions with programs in mathematical geology.

A call for nominations for the 2002 IAMG Distinguished Lecturer was placed in the December 2001 issue of the IAMG Newsletter.

In response to the call for nominations, one letter, nominating John C. Davis, was received. This nomination was unanimously endorsed by the DL committee and was forwarded to the IAMG president, Graeme Bonham-Carter, for approval. The DL committee notes that the IAMG is extremely fortunate to have a DL candidate of the caliber of Dr. Davis in order to launch the DL series.

On April 4th 2002, the IAMG president issued a formal letter to Dr. John C. Davis of the Kansas Geological Survey inviting him to be the inaugural lecturer of the DL series.

Dr. Davis has accepted this invitation, despite current turmoil within the KGS. He was introduced formally as the IAMG 2002 Distinguished Lecturer at the Berlin meeting where he provided outlines of the talks that he has prepared for the lecture series (see below).

Following the Berlin meeting, the DL committee and Dr. Davis will consult on itineraries for one or more lecture tours, as funding resources permit.

John Davis - IAMG 2002 Distinguished Lecturer

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In presenting this citation, I cannot help but recall the apocryphal story of the young man who breathlessly entered the church as a couple was about to be married, and rapped out, "No, no! Stop! Please, don't let this happen!" But, it has happened, it is not stopping, and we are here to celebrate the presentation of the John C. Griffiths Teaching Award to Ian Lerche. Much as Griffiths pioneered the application of quantitative methods to a variety of geological and economic problems, so too has he pioneered the application of inverse methods to a variety of geological, geochemical, basin analysis, thermal history and economic problems. However, his many achievements in the geosciences are only half of his professional story. He also achieved a first-class degree in theoretical Astrophysics at the University of Manchester and taught 15 years in the Astronomy and Astrophysics Department at the University of Chicago. Suddenly, in 1981, he shifted careers and disciplines when he joined Gulf Research and Development Company. Since then, he has conducted and published research in both geosciences and astrophysics.

Ian is a prodigious worker and a prolific publisher. He has over 700 research articles to his credit, of which about half are in the geosciences and the other half in astrophysics. He also has published 17 single- or co-authored books on a variety of geological topics and risk analysis. Unfortunately, at least from the standpoint of education and teaching, not a single person in the world has read all these articles; not even Ian. One possible explanation for his almost unbelievable productivity is that he sleeps only three hours a night. Being a systematic person, he makes sure that he gets some writing done each day. So, he rises very early and limits himself to only 20 pages a day by painting the page with a roof by two. Then he leaves his house about 7 AM, when he leaves for work. This is a constant source of friction with his ever-suffering wife, Kathleen, because she lives in a surprise house that has been repainted once a week.

In the spirit of Karl Popper, Ian also teaches by attempting falsification. He has an uncanny ability to listen to a qualitative, in-depth discussion about some geological topic until he understands that piece of science. Then he formulates equations that seem to represent the behavior of that particular system. Once, I moderated a three-day session of scientists to condense expert knowledge about carbonate systems into some rules of thumb so that we could then formulate some mathematical models of that system. The goal was to then build a stratigraphic model capable of simulating these systems. Ian was one of the participants and a few weeks after the conference he sent me a long-type-paper outlining a possible model approach with numerous partial differential equations that might prove a usable starting point. He was famous among his students for taking this approach toward multiple ideas and topics, and then demanding that they show him what is wrong with the equations. He has a healthy and skeptical attitude about the formulation of equations that presume to describe some natural system; he treats them all as empirical and modifiable through experience. Perhaps this is why he has applied inversion to so many different topics.

His tenacity to quantify geology and falsify hypotheses leads him naturally to practice rigor and, therefore, teach rigor by example. He once modeled a water/gas system in Canada where there was supposedly a subtle diagenetic "water block" model. After modeling, Ian told them they showed him what is wrong with the equations. He has a healthy skepticism about the formulation of equations that presume to describe some natural system; he treats them all as empirical and modifiable through experience. Perhaps this is why he has applied inversion to so many different topics.

On a personal level, Ian was always generous to students, regularly taking them into his house, loaning them his truck, sending them to conferences and so forth. He did not even get mad when a former student locked the keys in his truck and had to break into the truck to retrieve them. From the perspective of a stranger, Ian’s generosity and caring character isn’t always apparent, especially as Ian tends to use pejorative language more than most. However, for him, he wasforming “one up” Ian by cursing him as a greeting, much like Ian did when he was a student. However, when they saw each other, Ian got the first punch and shouted: “McKenna, you’re fat and you’re bald.”

Finally, I want you to know that Ian really appreciates this award. Upon learning that he was going to be presented with the Griffiths award, several friends and students wanted to celebrate with a dinner. However, it was Good Friday, and Ian said that there was not a restaurant in Columbia that would serve dinner on Good Friday. Instead, he left work early that day. When I went home after work and asked him how the celebration was going, his red-face response was, “The Easter Bunny came to kick me.”

Ian, it is a pleasure to recognize you as the 2002 John C. Griffiths Teaching Award winner. Congratulations.

T.A. Cross

Acceptance Speech for John Cedric Griffiths Award

Thank you for the wonderful laudation, which is almost more than my embarrassment can stand. I am not quite sure I should have been honored with the "outstanding teaching" because in fact it seems to me that I have not measured up to the standards demanded for the Award. Let me give you some examples of my failure to educate after a short personal background.

I was trained as a theoretical astrophysicist and practiced that profession for several years until it became obvious to me that I would rapidly go bankrupt in attempts to put my children through college. By serendipity, I had the good fortune to be asked to solve some simple classical physics ray tracing problems for seismic waves by Gulf Oil Corporation which paid me a salary of 800 dollars per week. It was successful - the scientist had completed this wonderfully well-paid task, Gulf offered me a permanent position at about three times my astrophysics salary - no brainer for me in terms of college tuition versus bankruptcy.

Seeking to educate me in the ways of geophysics, geology, geochemistry and economics, Gulf decreed that I should participate in a geological field excursion with a bunch of other employees.

As we walked by an outcrop, there on the top was a free-standing rock in relatively stable condition because it hadn't fallen since at least Permian time. A colleague (who shall be anonymous, but whose name is an anagram of IladneK) remarked "That is a huge rock sitting up there!" I said, "How the f**k is it there?" He replied, "It's the biggest rock of its size in the world!" This observation was met with a few moments of presumed cerebral activity before IladneK then remarked, "What do you mean by that?" So there is one situation where "outstanding teaching" failed miserably.

As a second example of my failure to teach I would like to regale you with an attempt to use my astrophysics training to communicate the increase in the fenth of the day with geologic time to a colleague (not IladneK but an equally anonymous colleague whose name is an anagram of He Not). After explaining to He Not that, because of tidal action over the millennia, the Earth was not spinning any slower on its axis than it had done about 500 million to a billion years ago, He Not commented that this must mean the years were longer in the past than at present. When I attempted to point out that the spin of the Earth was not related to the time of the Earth to orbit the Sun, He Not noted that it had to be so there would be the same amount of daylight over the course of a year. So once again my silver-tongued magical explanations availed me not at all, and I was reduced to a quivering blob of inestimable profligacy.

It therefore became apparent, even to me eventually, that if I could not do an outstanding job of teaching verbally the basics of quantitative geology at the individual level, perhaps I would do better in written format at educating a bulk of the scientific population: a quantity versus quality argument. So I set to work trying to put together papers and books in what I preferred to call: workshop and Teacher’s Manuals. The idea here was, hopefully, to find a broader audience receptive to such measures of objective scientific discourse. Alas, again my efforts were foiled and/or delayed by both the many reviewers of my works (mostly anonymous, continued on p. 6

T.A. Cross

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of course, so they could vent their spleen without fear of being cornered by me in some dark alley at some future time), and by critics of my books that had been designed, at least so I thought, to educate.

For instance, one book reviewer wrote, “This research monograph would seem not to follow the conventional wisdom” although no definition of what that meant was given. And, indeed, one would hope a book would not follow conventional wisdom or nothing new has been learnt! Or again, in commenting on a paper I had done (and one that I was inordinately proud of at the time) a reviewer wrote “I disagree with his philosophy and therefore the paper must be rejected even though I agree with the scientific arguments” Fortunately the editor was somewhat less swayed by this masterpiece of English double-speak and the paper eventually appeared.

So it would seem that my attempts to be an “outstanding teacher” have been less than 100% successful over time. And yet, despite such vicissitudes, slowly and steadily work did get published in both paper and book form; I did give progressively more talks per year at scientific meetings; and have been blessed with more than my fair share of very capable graduate students and postdocs, to whom any successes I have achieved are, in extremely large measure, rather than to any abilities I might profess to have.

At my home University of South Carolina, this progressive and systematic long-term success was met with several notable events, clearly designed to enhance and promote what the University deemed to be its own best interests. Three such events that have marked the distinction attendant on the burgeoning success over the years are:

1. Arbitrary removal by the Department Chair of all space for my research group of 14 graduate students when I was out of town, without my knowledge or approval; a truly unique honor.
2. Attempted removal by the Department administration of my personal office space when I went on sabbatical- and I also enjoy the unique distinction of being the only faculty member to whom this has ever occurred;
3. Systematic lowest percentage pay raises out of all the faculty in the Department over a 12 year period by the same Chair - to the point that the Dean finally put in writing that such were clearly discriminatory. This distinction is surely the ultimate accolade. It would therefore seem that my ability to be an “outstanding teacher” of ethics to a less than fair administration is also smaller than 100%.

So as I said at the beginning of this acceptance speech, I am not quite sure I should have received the Griffiths Award of the IAMG. But I am very honored, and extremely flattered, that I was chosen. At the very least, the Award tells me that, over the long haul, I must surely have been able to teach some group of people something, even if not how big rocks are, how the Earth rotates away from the center - and I also enjoy the unique distinction of being the only faculty member to whom this has ever occurred;

At my home University of South Carolina, this progressive and systematic long-term success was met with several notable events, clearly designed to enhance and promote what the University deemed to be its own best interests. Three such events that have marked the distinction attendant on the burgeoning success over the years are:

1. Arbitrary removal by the Department Chair of all space for my research group of 14 graduate students when I was out of town, without my knowledge or approval; a truly unique honor.
2. Attempted removal by the Department administration of my personal office space when I went on sabbatical- and I also enjoy the unique distinction of being the only faculty member to whom this has ever occurred;
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IAMG 2002 – BERLIN

The Annual Conference of IAMG was held in Berlin, Germany Sept. 15 – 20, 2002. It was a well managed and very successful meeting which attracted 260 participants from 35 countries (see chart).

Organized and chaired by Heinz Burger & Wolf-Dietrich Skala assisted by Agnes Schumann, the conference was co-sponsored by Free University of Berlin (FUB) and German Research Foundation (DFG). DFG also provided financial support to 21 participants from Eastern Europe.

Digital copies of all contributions will be available from the IAMG office; a limited number of printed copies can be ordered by e-mail (hburger@zedat.fu-berlin.de). Costs will be €40 (plus €5 for shipment outside Germany).

Snapshots from sessions, icebreaker party and banquet can be downloaded from www.fu-berlin.de/IAMG2002/addendum.htm.

See the following pages for a selection of pictures.

In addition to the technical sessions, a geological fieldtrip was organized by Hannes Thiergärtner (center) to visit the Rüdersdorf limestone quarry, the biggest Muschelkalk quarry in Germany and an interesting historical site.
Sunday Icebreaker

Council Meeting

L to R: Roy Kouda, Codine Agterberg, Harald Poelchau, Frits Agterberg, Mike Hohn, John Cubitt, Gert Jan Weltje, Vera Pawlowsky, Heinz Burger, Carol Gotway Crawford, Graeme Bonham-Carter, Maria-Theresa Schafmeister, Ed Sharp
Presentation of awards to Ian Lerche (L) and Mike Hohn (R) and laudatio by Tim Cross (C)
Reyment receives certificate

Four of the oldest living founders: Thiergärtner, Merriam, Reyment and Agterberg

Agnes Schumann with bouquet

Conference dinner in the Botanical Gardens

Goulash soup supper before the evening 3D lecture
Investigation of Geologic Reasoning as a New Objective of Geoscience and Geohazard Assessment

Cyril A. Pshenichny

Petrography Dept., Faculty of Geology, St. Petersburg State Univ., Universitetskaya Naberezhnaya 79, 199034 St. Petersburg, Russia. pshenich@kp1306.spb.edu

Conventional understanding of the evolution of a natural science is (i) accumulation of facts and data, (ii) their transformation, and (iii) the development of conceptual models which are used then to interpret new data. However, is this the end of the story?

Concepts accumulate, swirl, merge or repeat one another, or come to contradict each other, at times explicitly but often such contradictions are hidden by natural language, and thus eventually form a space one can hardly navigate. This is exactly the case in modern geology. Similar objects or data sets meet a number of diverse interpretations, and even a specialist in a narrow field can hardly encompass the ideas put forth in this very field. The choice of concepts becomes purely a matter of the scientist’s intuition, taste or competence.

This problem becomes urgent in hazard assessment, when non-professionals expect to state your point as formally (i.e., make it as independent of certain circum-
stances, which led to it) as possible – and do not be afraid that your ideas may be 'half-baked'. Any contribution is appreciated, whether you are a modeler, a theoretician, or a field geologist never concerned with any formal methods, or a student ready to give us your first understanding of the science. We are at the very beginning, and the idea for now is not to exhibit our results to each other, but to state your point as formally (i.e., make it as independent of certain circumstances, which led to it) as possible – and do not be afraid that your ideas may be 'half-baked'. Any contribution is appreciated, whether you are a modeler, a theoretician, or a field geologist never concerned with any formal methods, or a student ready to give us your first understanding of the science. We are at the very beginning, and the idea for now is not to exhibit our results to each other, but to share them and discuss our approaches. As another 'end-member', in the author's view, may be linguistics with the form and not with the contents of statements. Meanwhile, the technologies in their

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Conference Reports

Recent Developments in Geostatistics

During the Joint Statistical Meetings (JSM 2002) in New York City, Frits Agterberg had organized an Invited Paper Session on “Recent Developments in Geostatistics” on Monday afternoon, August 12th, 2002. Carol Gotway Crawford chaired this meeting. The four invited speakers were:

1. André Journel - Multiple-point Geostatistics: A New Challenge
2. George Christakos - The Emergence of Parmenidean Knowledge Synthesis in Spatiotemporal Modeling
3. Timothy Haas - Monte Carlo Space-Time Statistical Analysis in JavaSpaces

André Journel pointed out that traditional two-point statistics (co-)variance cannot model the complexity of geological structures. Curvilinear patterns require multiple-point (MP) statistics involving the joint variability at three or more points over a given geometric template. The MP statistics are obtained from training images depicting expected geological patterns. A 3D case history study was presented for illustration.

George Christakos stated that a Parmenidean framework throws light on challenging theoretical and interpretive questions of knowledge synthesis (KS) by combining epistemic ideals with random field theory. KS generates space-time maps and multi-point distributions using conditionalization and information principles. No restrictions are imposed on shapes of distributions or forms of the predictors.

Tim Haas explained that coarse-grained parallel computing has the potential for allowing a variety of computationally intensive spatio-temporal statistical calculations to be performed by anyone with access to a network of 50 or more PCs. These calculations include robust estimation of nonlinear trend models, Monte Carlo assessment of model goodness-of-fit and parameter estimate reliability, and optimal random field prediction at many locations.

Finally, Noel Cressie pointed out that, as technology progresses, the availability of massive environmental datasets with global spatial coverage has become quite common. An example is Total Column Ozone (TCO), remotely sensed from a satellite. The speaker proposed a sequential aggregation method for detecting large-scale spatial trend at a given time point, producing different levels of coarser spatial resolution while preserving both the local information content and the locations of the raw data.

The Joint Statistical Meetings (JSM) is the largest gathering of North American statisticians (about 5,000 in 2002). Its main sponsor is the American Statistical Association. The general theme of JSM 2002 was “Statistics in an Era of Technological Change.” The IAMG had been invited to participate in a plenary session between many organizations with statistical orientation and won its invited paper session spot on the JSM program because of the quality of the four research papers and importance of spatial statistics. This well-attended session held in Royal Ballroom B at the Sheraton New York Hotel led to animated floor discussions.

IAMG-ISI joint meeting in Berlin, August 2003

The IAMG has been invited and accepted to organize, as a Guest Society, an invited paper meeting at the 54th Session of the ISI to be held in Berlin, Germany, August 13-20, 2003. This Invited Paper Meeting (IPM) is entitled: IPM 77 “Recent Statistical Advances in Geological and Environmental Applications”.

The three invited speakers with tentative topics are:

Paul Switzer, Stanford University - Statistics and Stratigraphy
Felix Gradstein, University of Oslo - Quantitative Biostratigraphy and Numerical Time Scales

This joint IAMG-IPM is organized by Frits Agterberg. The two invited discussants for ISI 2003 IPM 77 are Heinz Burger, Mathematische Geologie, Freie Universität Berlin, and Nicholas Fisher, ValueMetrics Australia.

Frits Agterberg

New Paper in “Studies for Students” Series

The fourth paper in the Studies for Students Series, sponsored by IAMG in association with the European Journal of Soil Science has appeared in print. The full list of papers in the series is:


The abstracts of these papers are on the IAMG Home Page. The series owes its existence mainly to John Tippner, former Chair of the IAMG Education Committee, and Richard Webster, Editor in Chief of the European Journal of Soil Science. Anyone interested in contributing more papers to the series (in non-IAMG geography journals), please contact Graeme Bonham-Carter.

Journal Contents - continued from p. 6

C&G Volume 28, Issue 5 (June 2002)

Computer modelling of trace metal ion speciation: practical implementation of a linear continuous function for complication by natural organic matter, Christophe Huber, Montserrat Fillela and Raewyn M. Town

MiguelCimage: a silicate melt–H2O–CO2 solution model written in Visual Basic for excel, Sally Newman and Jacob B. Lowenstern

ArArCALC—software for 40Ar/39Ar age calculations, Anthony A. P. Koppers

TRACER: an EXCEL workbook to calculate mean residence time in groundwater by use of tracers CFC-11, CFC-12 and tritium, Serdar Bayari

A GIS method for reconstruction of late Quaternary landscapes from isobase data and modern topography, David W. Leverington, James T. Teller and Jason D. Mann

Vario functions of higher order — definition and application to characterization of snow surface roughness, Ute Christina Herzfeld

Erosion database interface (EDI): a computer program for georeferenced application of erosion prediction models, Simone Beatriz Lima Ranieri, Quirijn de Jong van Lier, Gerd Sparovek and Dennis C. Flanagan

HIWPTAC: software for Hantush–Jacob analysis of variable-rate, multiple-extraction well pumping tests, Sean W. Fleming, Gregory J. Ruskaufl and Alison Adams

A linear analytical boundary element method (BEM) for 2D homogeneous potential problems, Jürgen Friedrich

Detecting differences in temporal distribution of small earthquakes before and after large events, T. Matcharashvili, T. Chelidze, Z. Jakavishvili and E. Ghionti

Display of Munsell color values, earthquakes, and other three- and four-parameter datasets in stereo 3D, Neil A. Wells

SINCLAS: standard igneous norm and volcanic rock classification system, Surendra P. Verma, Ignacio S. Torres-Alvarado and Zuilma T. Sotelo-Rodriguez


C&G Volume 28, Issue 6 (July 2002)

Parallel numerical modelling of the Antarctic Ice Sheet, Andrea Takeda, Simon Cox and Antony J. Payne

Probabilistic modeling of uncertainties in earthquake-induced landslide hazard assessment, Alberto Refice and Domenico Capolongo

Geophysical: MATLAB-based software for the simulation, display and processing of near-surface geophysical data, Alan Witten

Rapid extraction of image texture by co-occurrence using a hybrid data structure, David A. Clausi and Yongping Zhao

DIPSILP: a QuickBasic stress inversion program for analysing sets of faults without slip lineations, Tobore Orife, Luis Arlegui and Richard J. Lisle

The status of digital geological mapping in Europe: The results of a census of the digital mapping coverage, approaches and standards of 29 European geological survey organisations in the year 2000, Ian Jackson and Kristine Asch

<>
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Professor's Signature ___________________________

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The Workshop on Compositional Data is intended as a forum for discussion of hot topics related to the statistical treatment and modelling, as well as applications and interpretation, of compositional data. The goal of such discussions is to get some insight into the most appealing future lines of research in the field.

In order to attain this general but clear goal, the Network on Compositional Data, headed by the Girona Compositional Data Group, tries to meet with a significant number of specialists, users and interested people to collect critical contributions and facilitate stimulating brainstorming.

The contributions and discussions are intended to center around the following:

- Geometry and statistics in the simplex
- Design of teaching and computing tools
- Applications to archaeology
- Applications to geology and environment
- Other fields of application

The workshop will consist of 2 hour sessions on the above tentative themes. The chair of each session will present a summary of the contributions and will stimulate an open discussion on the concerned topics. Written contributions on these topics, and particularly on applications, are welcome (see abstract submission).

**IMPORTANT DATES**
- January 31, 2003 Abstracts due
- February 28, 2003 Author notification
- May 18, 2003 Electronic papers due
- June 30, 2003 Early registration

**ABSTRACT SUBMISSION**

The Organising Committee welcomes abstracts of contributions on the workshop topics. The abstract should include:

- The title of the proposed paper
- Sufficient detail (200-400 words) to allow the Scientific Committee to judge the contents of the proposed paper.
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**FINAL VERSIONS**

Final versions of contributed papers will be sent in electronic format. They will be published in the CoDaWork’03 CD (with ISBN) and will be available in the sessions of the workshop.

http://ima.udg.es/Activitats/CoDaWork03/

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**Upcoming Meetings**

**SIAM Conf. on Mathematical and Computational Issues in the GEOSCIENCES (GS03), Austin, Texas, 17-20 March 2003. meetings@siam.org**


**34th LUNAR AND PLANETARY SCIENCE Conference, League City, TX, 17-21 March 2003. Paula Walley, Meeting Coordinator, LPI Education and Program Services Department, 3600 Bay Area Blvd., Houston, TX 77058-1113, Phone: 281/486-2144, EMail: walley@lpi.usra.edu**

**2003.  ASA, 1429 Duke St., Alexandria, VA 22314-3415; (703) 684-1221, E-Mail: debbi@aapg.org; Web: www.aapg.org/education/hedberg/london/index.html**

**P. O. Box 979, Tulsa, OK 74101-0979; Fax: +1-918 560 2678; E-mail: ence), London, UK, Phone: +44 151 794 5141, EMail: hodgson@liv.ac.uk, Web: http://www.slope2003.net**

**COMPOSITIONAL DATA ANALYSIS WORKSHOP CodAwk’03 OCTOBER 15-17, 2003 GIRONA, SPAIN**

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http://ima.udg.es/Activitats/CoDaWork03/
Laudatio for Michael E. Hohn

2002 William Christian Krumbein Medal

Mike developed a fascination with geology at an early age. While a ninth grader, he had to take an earth science course. During the first day of class, the teacher asked who had rock collections. Mike was the only student to raise his hand, which made him a favorite pupil. Unbeknownst to Mike, that Christmas the teacher called his parents to suggest that what Mike needed for the holidays was a collection of minerals. When Mike received it, with all labels removed, he had to identify them by himself. By that time, he knew he wanted to be a geologist.

Mike is the oldest of four siblings. Both of his parents had some post-high school education and concentrated efforts on teaching their children broad principles, such as the importance of a good education, to have an inquisitive mind, and be conscience about the environment. While attending the University of Connecticut, Mike became familiar with mathematical geology, particularly with the techniques of cluster and factor analysis. His first computer program was a cluster analysis program that he created to study soil assemblages. His dissertation entitled “Fatty acids: taxonomic an evolutionary significance in recent and fossil seeds” is an interesting application of quantitative method to address paleontological issues.

Mike was not satisfied with the completion of a doctoral degree. He went to the University of Bristol, England, as Leverhulme Visiting Scholar. Curiously, this is the place where the previous medalist—Richard Howarth—earned his undergraduate degree. In his free time, Mike developed an interest in geostatistics and a passion for mining engineering. Mike had reached such a level of proficiency in geostatistics that Mike accepted the challenge to write a book at the request of Dan Merriam, editor of the Series of Geostatistics. Mike thought that what would be useful was a geostatistics book written from the perspective of a petroleum geologist. The result was Geostatistics and Petroleum Geology, published by Van Nostrand Reinhold in 1988 as the seventh title in the series. The book was such a success that it saw a second edition in 1992.

In 1989, Mike was promoted to Senior Research Geologist, in which capacity he initiated and completed research projects funded at the state level or from outside sources. Projects include several on the gas resources of Devonian shales in West Virginia; reservoir characterization of oil fields, mapping coal quality in West Virginia; coal avoid landfills; and water quality in streams of the United States. Mike has been a member of the U.S. Department of Agriculture-funded projects utilizing geostatistics. Current projects include study of an Upper Devonian strand-plain oil field, and analysis of uncertainty in coal bed thicknesses used in property assessment for tax purposes.

Mike is the West Virginia Survey’s coordinator of the STATEMAP program, funded by the U.S. Geological Survey. At WVGS, Mike has demonstrated excellent skills in analyzing and building solutions to the agency’s problems. During the Desert Storm military operation in Kuwait, the WVGS Deputy Director was recalled to active duty and Mike was asked to take over the job in the emergency. He performed with such a resolve and insight that he received a Commendation of Thanks from the Military Sealift Command South West Asia. More recently the WVGS had a legislative performance audit as part of the sunset legislation process. The auditor found a number of areas of concern. Mike was able to respond with a report and action plan to deal with the performance audit issues. The final product convinced both the West Virginia House and Senate that the WVGS could make the requisite changes promptly and properly. His mobilization of a working team of WVGS senior staff made the agency strong. In 2002, Acting Director Carl J. Smith promoted Mike to Acting Director of the West Virginia Geological and Economic Survey, recognizing his quality service to WVGS.

In 1983, Mike was invited to teach a course on quantitative methods at the Department of Geology and Geography of the University of West Virginia, where he is an adjunct professor. Such connection has proved to be rewarding for Mike. After teaching at the university for the last four years, Mike has had the chance to chair departmental committees of several students, and to take care of the quantitative analyses in papers in which the main author is a professor at the Department. The Department was also instrumental in making him a collaborator of A. M. Sandy Liebold with the U.S. Department of Agriculture Forest Service. Together they have done extensive research and written several papers on tracking the invasion of the gypsy moth, an insect causing the defoliation of trees in eastern United States.

Mike joined IAMG immediately after being hired by the West Virginia Geological and Economic Survey. He had his first personal acquaintance with IAMG members and other mathematical geologists when he attended the 1986 Annual Meeting of IAMG in Tennessee. He became converted to IAMG and its mission as an immediate fit as he has been in every organization that he has joined. Five years later, he was elected Western Treasurer and was organizing the Thirtieth Geochautauqua in Morgantown, West Virginia, on “Big Programs in Small Meetings” as the last of the three meetings organized by Mike. IAMG has never had a President who is the most recent one out of only three members who has been elected to serve as Treasurer, Secretary General, and President. The other two are John A. Lowman and Richard Howarth. Mike has distinguished himself by additionally serving as Deputy Editor of Nonrenewable Resources and Editor-in-Chief of our flagship journal Mathematical Geology, let alone serving countless times as reviewer, convener, speaker, chairman, and person in charge of bringing the IAMG booth to numerous congresses. He is currently Chair- man of the Publications Committee and Book Review Editor of Natural Resources Research.

During Mike’s term as president in 1992-93, the Association celebrated its 25 years with a memorable meeting in Prague. Mike and IAMG Vice President Chan-Jo Chung saw in this meeting the opportunity to upgrade the informal geochautauqua. After securing financial support from both the Geological Survey of Canada and the US Geological Survey, Mike and Chang-Jo decided to go ahead with the first IAMG Conference. The meeting took place in Mont Tremblant, Quebec, in 1994, thus starting the present system of major awards to include the one in honor of John Griffiths and the prize in honor of Felix Chappuis. Upon first IAMG President A. Vistelius’s request in 1995, the IAMG name was changed to reflect its worldwide scope and the Vistelius Award. The same year, Mike used his good contacts at the American Association of Petroleum Geologists (AAPG) to make IAMG Associate of AAPG.

In addition of being a distinguished scientific and generously serving the Association in various capacities, Mike has been a dedicated member of the Krumbein family. As a result, in 1995, he presented to the IAMG booth at SfE Congress in Mont Tremblant.

As a bonus, Mike is an exemplary family man who cares dearly for his wife, his two children and his community. For a while, he was involved in a film club that showed eclectic films once a month at the hospital auditorium. Mike had several film clubs that had never been; the movie was always the same week. Mike is a tolerant, understanding father, even allowing his son to dye his hair red and then green.

Mike balances his intellect and quick wit with a practical everyday side. He is flexible and surprising, for he may be solving some complex geostatistical problem one moment and the next he is tearing up his kitchen floor putting in a new floor. Mike balances being a respected man of the profession, where Mike has also excelled. Mike has been particularly active with AAPG, where he is currently President of the Eastern Section, after serving annual terms as Vice President and Secretary. Mike is also a member of the National Model Railroad Association (NMRA) as well as a member of the National Model Railroad Association (NMRA) as well as a member of Sigma Xi, for which he was President of the West Virginia University Chapter from 1983-86.

Mike and Kay also share an interest for antiques, which outfit much of their house. As newweds they attended an auction in rural West Virginia within weeks of their wedding. For a while this passion became a small business as Kay bought old locomotives and restored them. They were soon selling them at auctions.

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Announcements

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**GEOSTATISTICS**

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Applications should include curriculum vitae, academic transcripts and the names of at least two referees. Please forward to:

Prof. Roussos Dimitrakopoulos, Director
WH Bryan Mining Geology Research Centre
The University of Queensland
Brisbane, Qld, 4072, Australia.
Web: www.minmet.uq.edu.au/~bryan

Application date is open. Further information can be obtained from the BRC, Phone: 61 (0) 7 3365 3473; Fax: 61 (0) 7 3365 7028; Email: brc@uq.edu.au

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**Request for US- Russian Cooperation Projects**

Dear colleagues:

We have received information concerning an announcement of a new competition for Cooperative Grants Program provided by U.S. Civilian Research and Development Foundation (CRDF). "This program allows joint teams of U.S. and former Soviet Union (FSU) scientists and engineers to apply for one- to two-year support for cooperation in any area of civilian research and development in the natural sciences..." (see an attachment for details or <http://www.crdf.org/>).

It would be much appreciated if you could recommend any US scientists who would be interested in such a cooperation. Our present research interest concerns mainly the mathematical modelling of contrast layering formation in mafic-ultramafic intrusions on the basis of models of synergetics, where the conception of order and chaos is playing the leading role. But we would consider with enthusiasm any other offerings in the field of mathematical geology.

Sincerely yours,

Dr. Victor Dech, Dr. Sergey Kotov.

Institute of Mathematical Geology
Russian Academy of Natural Sciences
Institute of Precambrian Geology and Geochronology
Russian Academy of Sciences
Saint-Petersburg, Russia

agat@bp2956.spb.edu
kotov@gti.ru

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**Review**

'I reviewed that first edition ... with the following conclusion: “This is a highly recommendable book, a starter text for both students and practitioners, and a complementary text to more theory-oriented publications.” I would maintain in all points that recommendation for this long overdue second edition. ... it is easily accessible, it speaks common sense and articulates the theory around examples with real data backed with geological interpretation. I definitely would add Michael Hohn’s second edition of Geostatistics and Petroleum Geology to the list of required readings for any introductory class in geostatistics. The book delivers a global picture of the practice of geostatistics in clear, understandable terms. The examples are models of concision, the trademark of a good teacher.’