



IAMG

Newsletter

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Official Newsletter of the International Association for Mathematical Geosciences

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Changing Communications! At the beginning of this year we unveiled the new IAMG website designed by Dragonfly, an IT consulting firm in Kingston, Ontario, that had already done work for the IAMG office on the membership data base. The old website originally designed in Alberta was no longer supported by the design firm and was too difficult to maintain, which was reflected in its appearance and content.

From the Editor
From the Editor
From the Editor

The new design of the website was originally based on the structure of the old website. In the process of redesign it was adapted and reoriented to our new needs. After the migration of

data we did a lot of work regrouping information in more logical ways, eliminating duplicate or unneeded pages and information, and bringing in missing data and updates. At this point most of the improvements are finished but some areas need more work. You can help us by pointing out errors, inconsistencies and missing features or data (and supplying data if you have them). The membership data base has been updated and is now functioning properly to look up information on individual members.

We have also attempted to renew a Forum in which members can communicate observations, questions and concerns. It's not quite Twitter or Facebook but could help to tie together the community of mathematical geoscientists. The last Forum never got off the ground - so let us know how you feel about this feature. A separate Forum has been established for communication among the Board members and for documentation and archiving of official correspondence.

Many people have helped with the new website. I would like to specifically thank Frits Agterberg for getting the project going and moving along, Ricardo Olea, Eric Grunsky and Eric Pirard for advice and suggestions, and Roussos Dimitrakopoulos for access to data.

As Vera describes in the President's Forum (p. 3) the Board has decided on a change of Newsletter distribution. Due to financial constraints in the economic recession that has also affected the budget of IAMG, the Newsletter will not be sent out as hardcopy by mail, except to those members who specifically request it. Instead it will be available as download from the IAMG website (iamg.org) and all members will be notified by e-mail. This takes us back to a period from 2002 to 2004 when we first went to electronic distribution of the Newsletter. Frits Agterberg reinstated hardcopy mail-outs in December 2004, and we started printing in color. We hope that with our improved website and with faster internet download speeds, electronic distribution will be easier and more successful this time around than it was six years ago. Let us know what you think.

Harald S. Poelchau

2010 IAMG AWARDS

PLEASE RESPOND !!!

The Association invites nominations for the following awards:
John Cedric Griffiths Teaching Award

The John Cedric Griffiths Teaching Award shall be presented to honor outstanding teaching, with preference for teaching that involves application of mathematics or informatics to the Earth's nonrenewable natural resources or to sedimentary geology. Age or academic status are not conditions for the award. (IAMG By-Law 14)

William Christian Krumbein Medal

The William Christian Krumbein Medal is the highest award given by the Association and the recipient shall be so honored and acknowledged. The Krumbein Medal is awarded to senior scientists for career achievement, which includes (a) distinction in application of mathematics or informatics in the earth sciences, (b) service to the IAMG, and (c) support to professions involved in the earth sciences. There is no stipulated preference for fields of application within the earth sciences. (IAMG By-Law 12)

Membership in IAMG is not a requirement for nomination. For further information on both awards, please visit <http://iamg.org>

The deadline for nominations is **31st January 2010** - but please don't wait until the last minute !

Please send nominations and supporting documents to:
Dr Stephen Henley - Chairman, IAMG Awards Committee
Resources Computing International Ltd
185 Starkholmes Road, Matlock DE4 5JA, Derbyshire, UK

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PRESIDENT'S FORUM

Last August, during the 33rd International Geological Congress, the new Council took over. For health reasons I was not able to attend. It was a difficult time and I would like to use this opportunity to acknowledge the work done by all the Executive and Council members and the support I have received, especially from the Executive Vice-President, Qiuming Cheng, who served as acting president until I had recovered enough in December to assume my duties, and from our Past President, Frits Agterberg, who has been always there when there was a need.

One of the first steps taken after my comeback was to begin implementing the new structure of the Council as ratified during the General Assembly in Oslo. Articles 4 and 10 of our Statutes now state the following:

Article 4. ... The President or a Council Member designated by the President shall be a non-voting member ex officio of any commission or committee.



Article 10. The Council consists of not more than sixteen (16) members: the President, three (3) Vice Presidents, the Secretary General, the Treasurer, the immediate Past President, four (4) Ordinary Members, one (1) representative from the host country for the next International Geological Congress, three (3) Editors-in-Chief appointed by the Council - one (1) per journal, and one (1) Website Editor appointed by the Council. The three (3) Vice Presidents shall be assigned duties by the President in consultation with the Council. The Vice President who will be selected to be a member of the Executive Committee is hereafter referred to as the Executive Vice President.

Following these articles, I designated as members ex officio of the existing IAMG committees the following members of the Executive: Vice-President Qiuming Cheng of the Distinguished Lecturer and Matheron Lecturer committees, Secretary General Dan Tetzlaff of the Student Affairs and the Awards committees; Past President Frits Agterberg is an ex officio member of the Publications committee. The specific duties they were assigned were to establish a direct link between the corresponding committees and the Council, and to proceed with the renovation of the committees whenever necessary.

During the General Assembly the annual budget for August 2008 – August 2009 was also approved. Since then, a worldwide financial crisis has become evident. Due to it, the value of most shares has collapsed and, on paper, IAMG has lost a large amount of money. This created a situation characterized by a lack of cash. To avoid realisation of this loss the following measures, suggested by our Treasurer, were adopted:

1. Chayes account: stop reinvesting new dividends back into the Franklin Templeton Income Fund and set them aside in a money market account to start building cash with the idea to have money to pay for the Chayes award in 2011. The amount of the award will be determined by the amount accumulated. In the meantime, the shares will not be touched. A money market account pays some interest which fluctuates with the market. This implies that the Chayes Prize could only have been awarded with no or less money in 2009.
2. IAMG General account: stop reinvesting new dividends back into the Franklin Templeton Income Fund. Set them aside in a money market account to start building a cash contingency fund in the event that the sale of journals, and therefore our revenue from royalties, declines. This allows us to continue to operate without selling any of the shares.
3. Extend the Distinguished Lecturer period over two years (2009 and 2010) instead of one year, with reduced funding.
4. Publish the next two issues of the Newsletter electronically. Members without connection to the internet will still receive it on paper.

In addition to the aforementioned measures, we planned to cut down expenditures and to prepare the next budget accordingly. But at the same time I would like to call the attention of all our members to the donations account IAMG has. IAMG is one of the existing international associations with smallest annual dues, as these are only 10 US\$ per year. I think this amount is so small that I invite all our members to donate a small additional amount to help us overcome the present situation.

But my major concern is not our financial situation, but the lack of nominations for our awards. This year we ended up cancelling the Chayes award because there were no new nominations. Awards are important for the recipients, because their work is recognised publicly, but they are also important for the Association, as they illustrate its concern for the active lines of research which are covered under its umbrella, and also for the research groups involved, as they mean recognition and support. I know from experience that nominations require work: to collect the CV of each potential nominee, to write a nomination, and to write a laudatio if the candidate is selected. But this work is worthwhile if you realize that a committee of scientists will be aware of the work done by your candidate, that the scientific society will become aware that the research your candidate has performed is worth the award. It is similar to the importance of the recognition our journals have. We need our journals to enhance visibility of Mathematical Geosciences, to enhance visibility of new trends, like right now the impact of mathematical methods in the environmental sciences, to enhance visibility of scientists working in our field through high citation rates. The higher our activities — awards, journals, meetings — are ranked, the higher the field of Mathematical Geosciences will be regarded.

To finish, one word about a project initiated by the previous Council which has been completed now: the new IAMG website. It is taking its first steps right now, and still needs some polishing, but we want to continue with the purpose for which it was initiated. The new website should be a communication tool, a communication of IAMG with the rest of the scientific community, a communication within the IAMG, and between the members of the association. I hope you use it and you enjoy it!

Vera Pawlowsky-Glahn

Association Business

Member News

Distinguished Lecturer 2009-2010 adds remote lectures

Roussos Dimitrakopoulos has started up his 2009-2010 Distinguished Lecture tour with a lecture at the University of Chile in Santiago on “An Extended View of Mining Geostatistics: Integrating short- and long-term mine production forecasting under uncertainty and application in a major gold mine”, and continued with a ‘remote’ lecture at the University of Athens on “Stochastic simulation: Environmental applications”. Roussos has confirmed lectures in August at Stanford, September in Germany and Spain, and Vancouver in October. Other plans in the fall of this year include talks at University of Ottawa and possibly at University of Florida. For 2010, in addition to invitations from China, Roussos has plans for Brazil, Australia, Saudi Arabia, and Hungary in connection with IAMG’10.

NEW:

In addition to the traditional visits for lectures on site discussed above, the 2009-2010 Distinguished Lecturer has successfully tried a ‘remote lecture’ and would like to increase lecturing opportunities ‘remotely’. These require suitable teleconferencing facilities and started with the first lecture earlier this month, given from Montreal (McGill University) to Athens (University of Athens, graduate program in Environmental Geosciences).

Roussos is happy to do more lectures, particularly in North America, and could use help in finding suitable places. Interested parties can contact him at roussos.dimitrakopoulos@mcgill.ca or the Chairman of the DL Committee at samcken@sandia.gov.



Roussos Dimitrakopoulos on the screen from Montreal and the grad students in environmental geosciences at the University of Athens, after his recent lecture. On the top right, the second screen used for the presentation.

Jan Harff has moved to the University of Szczecin (NW Poland): “I am at Warnemünde only 1 day every 2nd week. I have started to teach - this semester a course on Marine Geology of Continental Margins. In the summer semester I will give a course on Modeling of Sedimentary Systems. Right now we are working on a new BSc program in Oceanography and a MSc program in Marine Geosciences. I am experiencing the “second unification” with great optimism: after the German one 20 years ago, now the European one. We enjoy Szczecin and its cultural and geological (coastal) environment.”

Don Singer has retired from the USGS in Menlo Park. He was Project Chief of the USGS Advanced Mineral Assessment Methods Project.



News from Freiberg

Christoph Ehrler (christoph.ehrler@dlr.de) completed his Diploma Thesis “Development of JAVA Tools for RockFlow Mesh and Parameter File Generation tailored to Coal Seam Fire Models” in partial fulfillment to obtain the degree “Diplom-Geoinformatiker” supervised by Dr. Irmgard Niemeyer (TU Bergakademie Freiberg), Dr. Andreas Hirner (Deutsches Zentrum für Luft- und Raumfahrt - DLR).

As of May 1, 2009, Christoph Ehrler has joined the Department of Environment and Security of the German Remote Sensing Data Center in the German Aerospace Center (DLR) at Wessling.

Abstract

The uncontrolled burning of underground coal seams triggered by spontaneous combustion is not merely destroying natural resources but also a risk for climate and environment of global impact.

The joint “Sino-German Coal Fire Research Initiative” attempts to make the extinction of coal seam fires tradeable in terms of the Clean Development Mechanism of the Kyoto Protocol. Therefore, a comprehensive understanding of the relevant physical and chemical processes of coal combustion is necessary, from which a baseline estimation of carbon dioxide emission is possible.

One major topic, various German partners of the research initiative work on, is to numerically simulate the coal fire with its coupled thermal, chemical and hydraulic processes.

The goal of this diploma thesis is to develop a web application that allows the user to rapidly create customised coal seam fire models, trigger their calculation by the finite element software RockFlow and give access to result analysis/visualisation tools. Furthermore, the quality of the simulation result is to be evaluated by investigating its stability and sensitivity.

Special emphasis has been laid on the implementation of a flexible mesh generator capable of creating a wide variety of coal fire models and a powerful simulation result analysis tool collection.

The outcome is a user-friendly all-in-one solution, that brings the coal fire simulation from the limited scientific project member area to the public of non-professional users in applied research and industry.

As a result of the sensitivity investigation, numerical stability issues were revealed that need to be resolved in the future.

Starting Oct 1, 2009, Technische Universität Bergakademie Freiberg will offer two new Master programmes leading to a “Master of Geoscience Informatics” or a “Master of Geophysics”. The curricula are designed as consecutive with respect to the joint Bachelor programme “Geoscience Informatics and Geophysics”. The English versions of the contents of both curricula will soon be published on Bergakademie’s web page. The programmes replace the traditional Diploma programmes for Geophysics or Geoscience Informatics.

Helmut Schaeben



Wordle of President's Forum

Student Affairs

New Student Affairs Guidelines

The preliminary guidelines for Student Affairs (research and travel grants, starting a student chapter) have now been replaced with new guidelines developed by Dan Tetzlaff in consultation with the Executive Committee and the Chair of the Student Affairs Committee and approved by the IAMG Council. See the website iamg.org.

New IAMG Student Chapters

Two new student chapters have been approved, one at the Ecole Nationale Supérieure de Géologie (ENSG), Nancy, France, and the other one at University of Colorado, Boulder, USA.

University of Colorado at Boulder

The chapter is comprised of students from the engineering, applied mathematics, and geography departments, and is chaired by Dr. Ute Herzfeld. The foremost mission of the chapter is to unify and engage undergraduate and graduate students who have an interest in geosciences. Regularly scheduled seminars will provide a forum for students from different disciplines to discuss their ongoing research efforts and to learn from each other's specific area of study. Group activities and outings will capitalize on Colorado's spectacular setting to study an array of geologic phenomena while enjoying each other's company.

Thus far, the CU chapter has held several meetings to discuss events and seminars. Ongoing and future activities include a seminar series, where students and senior scientist present topics relevant to their research, and visits to companies who are generally involved in the field of geomathematics. There are also plans for a number of field outings, such as geologic excursions, data collection experiments with UA, and snow geophysical data collection. Of course, these events will include hiking, camping, skiing and snowshoeing "on the side" to promote group camaraderie while reveling in the beauty of the natural world.

CU IAMG chapter officers:

Ian Crocker, president (crockerr@colorado.edu)

Bruce Wallin, secretary (broose33@gmail.com)

Ling Shen, treasurer (lingbnu@gmail.com)

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ENSG-Nancy University

The Gocad Research Group IAMG Student Chapter (aka ENSG - Nancy Université Student Chapter; aka Numerical Geology of Nancy Student Chapter) currently consists of eleven MS and PhD students, plus three faculty members. The student chapter is based in Nancy, France, at the CRPG and the ENSG (National School of Geology). All the members are currently working in the Gocad Research Group, in different fields, such as software development for geological applications, visualization, geomodeling, and geostatistics.

The purpose of the Student Chapter is to foster the members' interest to widen their scope and enrich their creative thinking in geosciences, especially in mathematical geology, quantitative modeling of geological processes, and geoinformatics; to disseminate the latest progress in geological mathematics research; to carry out the academic communication and activities with

researchers working in the same field both at the national and international scales. Several activities are envisaged in the frame of this Student Chapter: hold academic seminars, either informal brainstorming or more formal short courses; invite IAMG distinguished lecturers to give lectures at Nancy-University; develop and maintain a website to disseminate news; promote participation in IAMG annual conferences among members and the local geoscience community; promote the IAMG among other students of the ENSG.

Organization: President is **Pauline**

Durand-Riard; - Treasurer and Webmaster is **Thomas Viard**;
- Secretary is **Vincent Henrion**.

Three faculty members are co-supervising the different projects:
- **Guillaume Caumon** is a "maitre de conférence" (associate professor) at the Institut National Polytechnique de Lorraine, Ecole Nationale Supérieure de Géologie and heads the Gocad Research Group. - **Pauline Collon-Drouaillet** is also a "maitre de conférence" at the INpL, ENSG. - **Jean-Jacques Royer** is a CNRS researcher, who teaches geostatistics at the ENSG as well and supervises several PhD students in the Gocad Research Group

<http://www.gocad.org/www/studentchapter>

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Durand-Riard



New Book(s)

Fundamentals of Basin and Petroleum Systems Modeling

by Thomas Hantschel & Armin I.Kauerauf

2009, 476 p. 347 illus., 30 in color.,

Hardcover;

ISBN: 978-3-540-72317-2, \$169.00

<http://www.springer.com/earth+sciences/book/978-3-540-72317-2>

This book written by members of the team that developed the IES system of basin modeling under D. H. Welte contains a comprehensive

presentation of methods and algorithms used in basin modeling. It provides geoscientists with an extensive in-depth view of the theory behind the models. Heat flow analysis, chemical kinetics of petroleum generation, pressure analysis, PVT modeling and several fluid flow models are discussed in detail. Advanced topics such as probabilistic methods for risk assessment or new approaches such as modeling of migration with invasion percolation are also included. Comprehensive lists of rock and fluid properties and parameters of geochemical kinetics make the book a unique reference in geological process modeling.



Conference Reports

Successful International Geostatistics Congress held in Santiago, Chile

The Eighth International Geostatistics Congress was held in Santiago, Chile, December 1st to 5th, 2008. Throughout its 33 year history, this was the first time that an international Geostatistics Congress took place in Latin America. The event was organized by the Mining Engineering Department at the University of Chile and chaired by Profs. Julián Ortiz and Xavier Emery. Chile has a longstanding tradition in geostatistics and pioneered applications in the mining industry at the end of the 1960s and beginning of the '70s, when a Center of Geostatistics was created at the University of Chile under the guidance of Prof. Alain Maréchal.

A total of 255 abstracts were submitted in early 2008 and reviewed by a local committee, who selected the works accepted for oral presentations (102) or posters (60). All oral presentations and about half of the posters were accompanied by a paper that was peer-reviewed prior to acceptance and publication in the congress proceedings. They provide an overview of the state-of-the-art, tendencies and challenges in geostatistical research and practice, and covered a variety of fields, including geology, mining, petroleum reservoir modeling, hydrology, environment, soil science, fishery and forestry, as well as theoretical contributions.

The congress gathered 320 delegates, over 50% more than in the previous venues (Banff, Cape Town, Wollongong, Tróia, Avignon, Lake Tahoe and Rome). Chile, USA, France, Canada, Australia and Brazil concentrated more than two thirds of the delegates, although we had the pleasure to welcome people from all the continents.

Two candidates were willing to host the next venue: the Spanish group led by Jaime Gómez-Hernández, and the Norwegian group led by Petter Abrahamsen and Henning Omre. Voting took place during the general assembly held on Thursday, December 4, in which each delegate had the opportunity to take part in the ballot. The result was 89 votes for Spain and 123 for Norway.

Our thanks are due to the delegates, authors, reviewers, industry sponsors, committees, and also to the Gecamin team for their impeccable planning, professionalism and commitment to making the Congress a success.

See you in Oslo 2012!

*Julián Ortiz and Xavier Emery,
Geostats 2008 chairmen*

Letter to the Editor

Sometimes I think broadly about the role of the IAMG, and reflect on the opportunities in which it might serve society. Mind you, the IAMG does serve society as a professional organization; its role up to now has been mostly focused on applications of mathematical methodology in the geological sciences. This is a useful role, and I don't question its merit. On the other hand, there may be opportunities to serve society more broadly.

Some of these ideas became more crystalline when I attended a discussion recently at which Kenneth Arrow, an economist at Stanford with a distinguished career, touched on his work on the economic aspects of providing health care in Third World countries. After all, there are economic aspects in virtually any undertaking that serves society, whether charitable or commercial.

That leads to the issue of the IAMG's broader societal role. Consider the myriad interdependencies between the Earth's resources, both renewable and non-renewable, that affect society and the quality of life. For example, deficiencies versus abundances in the chemical and mineral properties of soils are partly geological matters that have large societal influences. Geostatistical tools have demonstrated usefulness in this context. What I am leading up to is the suggestion that perhaps the IAMG should consider a formal role in providing tools that are more or less directly applicable to societal issues.

*John Harbaugh
Emeritus Professor, Stanford University*

IAMG Booth at American Geophysical Union Fall Meeting 2008

Our association was present at the American Geophysical Union (AGU) Fall Meeting 2008 with an exhibit booth. The AGU Fall Meeting is the largest international meeting (though nominally a national meeting) in the field, with about 15000 meeting attendants and many hundreds of sessions in all areas of geophysics. Through the exhibit booth, we increase visibility of IAMG, introduce our three journals *Mathematical Geosciences*, *Computers & Geosciences* and *Natural Resources Research* to the AGU community, discuss the work of IAMG and its opportunities for members, in particular student members, renew memberships, For 2008, we had a great

new display, designed by Ian Jackson and Gina Ross, and already presented in Oslo at the IGC, and a good spot in the large exhibit hall (thanks to our good relationship with AGU), which is important for attracting lots of visitors to the booth. Topics most frequently discussed were software published by IAMG, how to submit a paper to our journals, publishing in color, and, of course, membership. We had several new members join on the spot and a couple renewals. The Silver CD remains a good feature which increases membership interest. The number of scientists who actually submit their work to C&G after talking to me at the booth is a bit harder to track for certain, with the current continuing increase in publications and an increase of interdisciplinary work in mathematical geosciences and computation, people are looking for advice on journals and their orientation, and we shall see a continuation of increase in paper submissions. Thanks are due Ian Jackson and his staff at the British Geological Survey and to IAMG Treasurer Gina Ross for designing and creating the new exhibit display and to Helmut Mayer for helping me transport and set up the booth and spending many hours at the booth for the sake of IAMG.



Matthias Urs drawing the winner of the free subscription

*Ute Herzfeld
CIRES and Dept. of Applied Mathematics
University of Colorado Boulder
ute.herzfeld@colorado.edu*



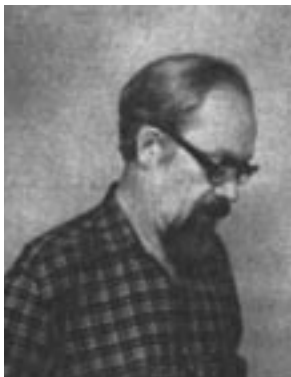
IAMG past-Presidents - Where are they now?

Daniel F. Merriam

The International Association for Mathematical Geology has had a short but distinguished history. Founded during the ill-fated IGC meeting in Prague in 1968 the 10th Anniversary was celebrated in 1978 by a special publication (Merriam, 1978). The 25th celebration was held in 1993, again in but this time a peaceful Prague. The Association can look back with a pride on four decades of progress and at least part of the accomplishments can be attributed to the pioneers in the subject (Merriam, and Howarth, 2004) and the presidents for success of the IAMG.

Ten presidents of the Association have served during the first four decades of IAMG. Each have contributed their expertise to the programs of the Association. Several were founding members of the IAMG having attended the organizational meeting at the ill-fated IGC in Prague and several have been awarded the highest honor the Association can confer, the William Christian Krumbein Medal, and two now have been made honorary members. Where are they now and what are they doing since their term in office as president?

(*founding member; +Krumbein Medal recipient; #honorary member)



*+**Andrew Boris Vistelius** (USSR) - 1968-1972 - 23rd IGC Prague - Andrei Borisovich Vistelius was Richard Reymont's choice for first President of IAMG. He had met and worked on mathematical problems with Vistelius in Leningrad and was impressed with his knowledge and abilities. Because of the Iron Curtain at the time, Vistelius was isolated from the rest of the world, and Reymont as first secretary of the IAMG did most of the Association's work. Vistelius died in 1995 (Merriam, 2001; Whitten, 2004).

*+**Richard Arthur Reymont** (Sweden) - 1972-1976 - 24th IGC Montreal - Richard was the driving force behind organizing the IAMG and was the Association's first Secretary (1968-72). An Australian with Swedish roots, he became Professor of Geology and Paleontology at the Paleontological Institute at Uppsala University. He retired in 1991 from Uppsala University where he lives with his wife Eva, but remains active in research (Whitten, 1979; Merriam, 2004). Richard is a prolific international scientist (some 350 publications) and author of numerous books (eleven), working in Australia, Africa, Europe, and North America; he now spends much of his time on biometry and quantitative genetics of living and fossil invertebrates. His list of publications shows that he has worked in many fields - hardrock geology, palaeontology, stochastic processes, history of geology, and molecular biology. One of his special interests is in language and he continues that interest analyzing dialects, origin of words, and the relation of languages. His address is: eva.reymont@telia.com



*+**Daniel Francis Merriam** (USA) - 1976-1980 - 25th IGC Sidney - He retired from the Kansas Geological Survey and Wichita State University with emeritus status in 1997 but continues to be active (Davis, 1982). He founded two of the Association's journals, *Journal Mathematical Geology* and *Computers & Geosciences*, and enlarged the subject matter as reflected in the title change for a third, *Natural Resources Research*. He currently is Historian for the Association, the KU Department of Geology and the KGS. He recently authored two books - a biography of his mentor Raymond C. Moore, the

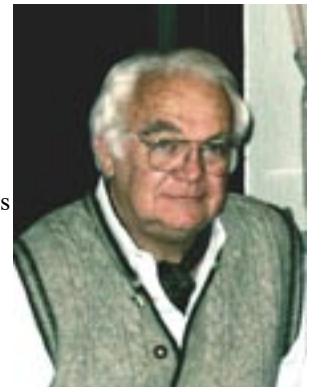
geogiant stratigrapher/paleontologist of the 20th Century, and the KU Department of Geology; he now is working on a history of the KGS. He maintains an office at the KGS and his research has been concerned with meteor impact structures in Kansas, geothermal history of cratonic basins, and using Zipf's Law to understand of future geological events. His address is: dmerriam@kgs.ku.edu



*+**Eric Harold Timothy Whitten** (USA) - 1980-1984 - 26th IGC Paris - Tim was born and raised in England. He was educated in London and was on the academic staff of the university there for ten years. He immigrated to the U.S. in 1958 and was on the geology faculty for 23 years and chairman of the department for nine at Northwestern University along with Bill Krumbein, Larry Sloss, and Ed Dapples, a formidable quantitative-oriented, internationally known group. He joined the faculty at Michigan

Tech in Houghton, Michigan and retired as Provost and Vice President of Academic Affairs. On retirement he moved back to England and is enjoying his retirement but active in local affairs and currently is the immediate past Commodore of the Royal Western Yacht Club of England (Harbaugh, 1990). He still rejoices in the amities of his homeland on Lower Bonehill Farm where he lives with his wife, Cleo. His address is: ehtwhitten@ehtw.demon.co.uk

+**John Clements Davis** (USA) - 1984-1989 - 27th IGC Moscow - John is a KU graduate with a PhD from the University of Wyoming. Prior to joining the Kansas Geological Survey in 1966 he taught at the University of Idaho. He retired from Kansas Geological Survey with emeritus status in 2003 after a long and distinguished career at KU and then joined the faculty at the University of Leoben in Austria. Concurrently, he was chief geologist for the Austrian Heinemann Oil GmbH, where he is now active in evaluating petroleum prospects in Libya among other places. His recent work has been involved with description, evaluation, and prediction of geologic features using mathematical and statistical approaches (Merriam, 1988). He lives in Baldwin, Kansas just south of Lawrence with his wife JoAnn deGraffenreid, who is editor of the Association's Monograph series. His address is: john.davis5@mchsi.com



*+**Richard B. McCammon** (USA) - 1989-1992 - 28th IGC Washington DC - Dick was Treasurer of IAMG (1980-1984) and responsible for getting the Association's tax exempt status. He was founder of *Nonrenewable Resources (Natural Resources Research)* in 1992, initiated the Griffiths teaching award, and under his leadership started the annual meetings. He retired from the U.S. Geological Survey in 1998 and moved to the West Coast where he and wife Helen enjoy year-round

moderate weather. Dick now has ample time for his love of stamp collecting and travel to the more remote parts of the planet. This travel has included trips to the High Arctic, Antarctica, the Sahara, and Western Australia, and the Kingdom of Bhutan to name a few. With his colleagues at the USGS, he developed methods for quantitative resource estimation and mineral resource assessments. His address is: mccammon@olypen.com



+Michael Edward Hohn (USA) - 1992-1996 - 29th IGC Kyoto - Mike has been busy since his presidency (Olea, 2003). He says: "About three years ago I was appointed Acting Director, and then Director and State Geologist for the West Virginia Geological Survey. Much of my time is spent working with budgets, setting goals and priorities, finding new outside funding, working with the state bureaucracy, writing legislation, and generally trying to look after the employees here. My service with the IAMG has served me well in this position." His address is: hohn@geosrv.wvnet.edu

+Ricardo Antonio Olea - (USA) 1996-2000 - 30th IGC Beijing Ricardo is a native Chilean who immigrated to the U.S. in 1985. He came to the U.S. as a visiting scientist with the Kansas Geological Survey and later was employed full-time by the Survey in the Mathematical Geology Section until he retired in 2003 with emeritus status. At the Survey he was responsible among other things for the creation of CORRELATOR, an automatic system for correlating wireline logs. For 3 1/2 years he was in temporary positions with the Germany Geological Survey, School of Public Health at the University of North Carolina, Baltic Sea Research Institute, and the Petroleum Engineering Department at Stanford University. In 2006 he joined the U.S. Geological Survey in Reston, Virginia as a Research Mathematical Statistician for the Eastern Energy Resources Team where he lives with his wife Lucila. His address is: ricardo@oleageostats.com



+Graeme F. Bonham-Carter (Canada) - 2000-2004 - 31st IGC Rio - Graeme is an Englishman who immigrated to Canada for a PhD at Toronto after an undergraduate degree at Cambridge University. After a post-doc with John Harbaugh at Stanford, he joined the faculty at the University of Rochester in 1969. He returned to England to try his hand at farming before returning to Canada and a permanent position with the Geological Survey of Canada in Ottawa in 1980 where he retired in 2007 with emeritus status. He has made significant contributions

to the design and implementation of major multidisciplinary projects particularly in development of geographic information systems for mineral-potential mapping. He also pioneered the "weights of evidence" technology for pattern analysis and prediction (Harbaugh, 1999). He edited a Festschrift for Frits Agterberg published in 2008

by Springer and currently is the archivist for IAMG. Graeme and his wife Gwendy live in a house they built in Merrickville, Ontario south of Ottawa. His address is: gbonhamc@NRCan.gc.ca

***+Frederik Pieter Agterberg (Canada)** - 2004-2008 - 32nd IGC Florence - Frits Agterberg (Whitten, 1978) remains as an Emeritus Scientist at the Geological Survey of Canada after his retirement from that organization in 1996. He continues as Adjunct Professor at University of Ottawa and supervises or co-supervises graduate students at Chinese University of Geosciences in Wuhan and Beijing. From 1996 to 2004 he was active as a consultant to resource companies. In 2008 he was honored with the publication of the Festschrift "Progress in Geomathematics" edited by Graeme Bonham-Carter and Qiuming Cheng, celebrating his half-century of publication activity with contributions by 55 of his friends and colleagues. He has commenced writing a new Springer book tentatively entitled "Geomathematics -- Foundations and Future Developments." With his wife Codien he lives in Ottawa. During the past two years he goes on daily hikes in the forest with his dog Natasha. His address is: Frits.Agterberg@NRCan-RNCAN.gc.ca



For Further Reading

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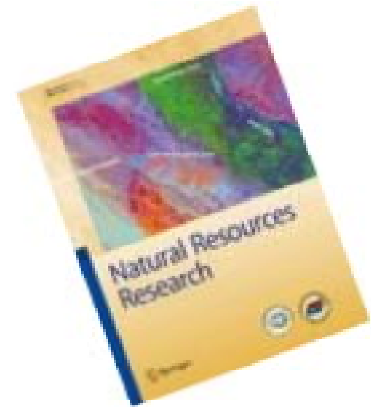


IAMG Journal Report



Report on Natural Resources Research

NRR has a new look! The cover for this year's four issues is a spiffy figure from Yousef's 2008 article on aggregate mapping in the desert. The cover for each year will be drawn from articles published during the preceding year. The June issue is already out, so you only have the September and December issues to get your paper published so that next year's cover might show one of your figures!



NRR is continuing to receive about three manuscripts a month. Since I started in July 2007, NRR has processed 51 manuscripts to completion and there are a further 8 currently in review. The final acceptance rate has decreased from around 90% last year to 79% this year, and typical review time is holding steady at about 3 to 4 months. So far, four articles are in process for September.

We are seeing a healthy range of topics for NRR. There is a good balance between hydrocarbon and non-hydrocarbon resource assessments and modelling. If you don't see your favorite topic in recent issues, however, just look in the mirror for the solution to that problem!

Jerry L. Jensen

JOURNAL CONTENTS

Mathematical Geosciences

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Using Sequential Self-Calibration Method to Identify Conductivity Distribution: Conditioning on Tracer Test data — Bill X. Hu and Changming He

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Extended Probability Perturbation Method for Calibrating Stochastic Reservoir Models — Lin Y. Hu

Application of Numerical Modeling for Groundwater Flow System Analysis in the Akaki Catchment, Central Ethiopia — Tenalem Ayenew, Molla Demlie and Stefan Wonnlich

A Direct Inverse Model to Determine Permeability Fields from Pressure and Flow Rate Measurements — Geert K. Brouwer, Peter A. Fokker, Frank Wilschut and Wouter Zijl

C. Lloyd: Local Models for Spatial Analysis, CRC Press, 2007, ISBN 0-415-31681-2 — Timothy C. Coburn

2007 Best Paper Award for Mathematical Geosciences

And the 2008 Krumbein Medalist of the IAMG is...

MG Volume 41, Number 1 January 2009

Constraining Surface Interpolations Using Elastic Plate Bending Solutions with Applications to Geologic Folding — J. Ole Kaven, Rafe Mazzeo and David D. Pollard

Estimation of Sill Matrices in the Linear Model of Coregionalization — Samuel D. Oman and Bella Vakulenko-Lagun

Application of Multiple Point Geostatistics to Non-stationary Images — Luis Manuel de Vries, Jesus Carrera, Oriol Falivene, Oscar Gratacós and Luit Jan Slooten

Temporal Variations of Submillennial Periodicities in Sedimentary Endogenic Calcite from Lake Edward (Central Africa) During the Late Holocene — Asok K. Sen

Strip Transect Sampling to Estimate Object Abundance in Homogeneous and Non-homogeneous Poisson Fields: a Simulation Study of the Effects of Changing Transect Width and Number — Timothy C. Coburn, Sean A. McKenna and Hirota Saito

Application of Fractal Models to Distinguish between Different Mineral Phases — Renguang Zuo, Qiuming Cheng, Qinglin Xia and F. P. Agterberg

Integrated Interpretation of Interwell Connectivity Using Injection and Production Fluctuations — Ali A. Yousef, Jerry L. Jensen and Larry W. Lake

Olga Waelder: Mathematical Methods for Engineers and Geoscientists, Springer, 2008, 176 pages — Bernard Giroux

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A Blocking Markov Chain Monte Carlo Method for Inverse Stochastic Hydrogeological Modeling — Jianlin Fu and J. Jaime Gómez-Hernández

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Anisotropic Mean Traveltime Curves: A Method to Estimate Anisotropic Parameters from 2D Transmission Tomographic Data — Juan L. Fernández Martínez and Luis M. Pedruelo González

Simpson's Paradox in Natural Resource Evaluation — Y. Zee Ma

Block Simulation of Multiple Correlated Variables — Alexandre Boucher and Roussos Dimitrakopoulos

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Special Issue on Geostatistics for Environmental Applications — Amílcar Soares

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Sub-pixel Mapping of Coarse Satellite Remote Sensing Images with Stochastic Simulations from Training Images — Alexandre Boucher

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Conditional Probability Density Functions of Concentrations for Mixing-Controlled Reactive Transport in Heterogeneous Aquifers — X. Sanchez-Vila, A. Guadagnini and D. Fernández-García

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Hierarchical Annealing for Synthesis of Binary Images — Simon K. Alexander, Paul Fieguth, Marios A. Ioannidis and Edward R. Vrscay

Optimal Interpolation of Gravity Maps Using a Modified Neural Network — O. Sarzeaud, M.-F. LeQuentrec-Lalancette and D. Rouxel

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Stationarity Scores on Training Images for Multipoint Geostatistics — Piotr W. Mirowski, Daniel M. Tetzlaff, Roy C. Davies, David S. McCormick, Nneka Williams and Claude Signer

Stability of Kerogen Classification with Regard to Image Segmentation — J. J. Charles, L. I. Kuncheva, B. Wells and I. S. Lim

R. Webster, M.A. Oliver: Geostatistics for Environmental Scientists, 2nd Edition. Wiley, Chichester (2007). Print ISBN: 9780470028582, Online ISBN: 9780470517277, \$130USD — Gerard B. M. Heuvelink

Computers & Geosciences

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Special Volume: 3D Modeling in Geology

— Edited by Andrea Zanchi, Mauro De Donatis, Alan Gibbs and Jean-Lauren Mallet

Reprint of 3D geological modelling from boreholes, cross-sections and geological maps, application over former natural gas storages in coal mines [Comput. Geosci. 34 (2008) 278-290] — Olivier Kaufmann, Thierry Martin

3D model of a sector of the South Scotia Ridge (Antarctica) — Sara Susini, Mauro De Donatis

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Three-dimensional reconstruction of the Carrara Syncline (Apuane Alps, Italy): An approach to reconstruct and control a geological model using only field survey data — Andrea Tonini, Enrico Guastaldi, Marco Meccheri

3D reconstruction of complex geological bodies: Examples from the Alps — Andrea Zanchi, Salvi Francesca, Zanchetta Stefano, Sterlacchini Simone, Guerra Graziano

Reprint of “3D geological modelling from boreholes, cross-sections and geological maps, application over former natural gas storages in coal mines” [Comput. Geosci. 34 (2008) 278–290] — Olivier Kaufmann, Thierry Martin

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Database development and 3D modeling of textural variations in heterogeneous, unconsolidated aquifer media: Application to the Milan plain — Tullia Bonomi

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High-resolution 3D spatial modelling of complex geological structures for an environmental risk assessment of abundant mining and industrial megasites — P. Wycisk, T. Hubert, W. Gossel, Ch. Neumann

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Model dissection from earthquake time series: A comparative analysis using modern non-linear forecasting and artificial neural network approaches — S. Sri Lakshmi, R.K. Tiwari

The MarineGrid project in Ireland with Webcam — Martin Kenirons, Oisín Curran, John Cunniffe, Jenny Ryan, Paul Ryan, Andrew Shearer

Spatial analysis and delineation of ecological landtype phases for the Hoosier National Forest, Indiana, USA — Andriy V. Zhalnin, George R. Parker

Efficient gravity data inversion for 3D topography of a contact surface with application to the Hellenic subduction zone — I. Prutkin, U. Casten

Singularity analysis of ore-mineral and toxic trace elements in stream sediments — Qiuming Cheng, Frederik P. Agterberg

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FWT2D: A massively parallel program for frequency-domain full-waveform tomography of wide-aperture seismic data Part 2: Numerical examples and scalability analysis — Florent Sourbier, Stéphane Operto, Jean Virieux, Patrick Amestoy, Jean-Yves L. Excellent

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A knowledge-oriented meta-framework for integrating sensor network infrastructures — Nafaâ Jabeur, James D. McCarthy, Xitao Xing, Phil A. Graniero

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Charting taxonomic knowledge through ontologies and ranking algorithms — Robert Huber, Jens Klump

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Special Issue 2006 in Computers and Geosciences on Modelling and simulation of dangerous phenomena, and innovative techniques for hazard mapping and mitigation — Giulio G.R. Iovine, Michael F. Sheridan

An intelligent simulation system for earthquake disaster assessment — Aiping Tang, Aihua Wen

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A distributed framework for multi-risk assessment of natural hazards used to model the effects of forest fire on hydrology and sediment yield

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Research Articles

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CHEPROO: A Fortran 90 object-oriented module to solve chemical processes in Earth Science models — S.A. Bea, J. Carrera, C. Ayora, F. Batlle, M.W. Saaltink

A web-based package for ray tracing the neutral atmosphere radiometric path delay — Reza Ghoddousi-Fard, Peter Dare, Richard B. Langley

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Meeting of the Association of European Geological Societies, Geology for society: education and cultural heritage. Cluj-Napoca, Romania, **9-13 July 2009**. <http://bioge.ubbcluj.ro/maegs16/>

IEEE 2009 International Geoscience and Remote Sensing Symposium (IGARSS 2009). IEEE. Cape Town, South Africa, **13 - 17 July 2009**. email: publicity@igarss09.org, www.igarss09.org/default.asp

2009 JOINT STATISTICAL MEETINGS, Washington, DC, USA, **01 - 06 August 2009**. Elaine Powell, Phone: 703-684-1221, Fax: 703-684-8069, Email: elaine@amstat.org, www.amstat.org/meetings/

18th USENIX Security Symposium (USENIX Security '09). USENIX. Montreal, Canada, **12 - 14 August 2009**. phone 510-528-8649, fax: 510-548-5738, email: conference@usenix.org, www.usenix.org/events/sec09/

INTERNATIONAL STATISTICAL INSTITUTE 57th Biennial Session Durban, South Africa, **16 - 22 August 2009**. Shabani Mehta Phone: +31-70-3375737, Fax: +31-70-3860025, Email: isi@cbs.nl, www.cbs.nl/isi/. Includes the Invited Paper Session IPM98: "Issues in the analysis of multivariate data in the spatial domain" sponsored by IAMG

IAMG2009, International Association for Mathematical Geology Annual Conference, Stanford University, California, **23-28 August 2009**. Jef Caers, chairman. <http://iamg09.stanford.edu/>

Geomodel 2009, Gelendzhik, Russia, **7-10 September 2009**. www.eage.ru/ru/conferences/detail.php?id=22

Geoanalysis 2009. International Association of Geoanalysts. Drakensburg Region, South Africa, **7 - 11 September 2009**. phone +27 11 463 5085, fax: +27 11 463 3265, email: jo@soafrica.com, www.geoanalysis2009.org.za

AEG•2009, Lake Tahoe, CA, USA, **21-26 Sep 2009**. Association of Environmental & Engineering Geologists. Becky Roland, PO Box 460518, Denver, CO 80246, Phone: 303-757-2926, FAX: 303-757-2969, Email: aeg@aegweb.org, Web: <http://www.aegweb.org>

SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, USA, **4 - 7 Oct 2009**. <http://www.spe.org/atce/2009/>

2nd International Symposium on the Geology of the Black Sea. Ankara, Turkey, **5 - 9 October 2009**. ISGB Secretary General Directorate of Mineral Research & Exploration, 06520 Ankara, Telephone: 90-312-287 91 93, Fax: 90-312-287 91 93, Email: isgb@mta.gov.tr

The Mining Příbram Symposium 2009 - Geoethics, Conveners: Václav Nemeč, Lidmila Nemečová, Příbram, Czech Republic, **12-16 October 2009**. Dr. Vaclav Nemeč, K rybnickum 17, 100 00 Praha 10 - Strasnice, Czech Republic, or/and The Mining Příbram Symposium, P.O. Box 41, 261 92 Příbram, Czech Republic, fax: (+420) 318623169, e-mail: lidmila.nemcova@quick.cz (conveners) and marcinikova@diamo.cz (secretary).

Geological Society of America (Annual Meeting), Portland, Oregon, USA, **18-21 October 2009**. GSA Meetings Dept., P.O. Box 9140, Boulder, CO, 80301-9140, USA, Phone: +1 303 447 2020, Fax: +1 303 447 1133, E-mail: meetings@geosociety.org, <http://www.geosociety.org/meetings/index.htm>

Geological Society of America 2009 Annual Meeting, "From Volcanoes to Vineyards: Living with Dynamic Landscape". Portland, Oregon, **18-21 Oct 2009**. Pamela Fistell, 3300 Penrose Place, Phone: 3033571044, FAX: 3033571070, EMail: pfistell@geosociety.org, www.geosociety.org/meetings/2009/

Society of Exploration Geophysicists (SEG) Annual Meeting, Houston, TX, USA, **25 -30 October 2009**. E-mail: meetings@seg.org, <http://www.seg.org/>

AAPG Annual Convention and Exhibition, New Orleans, LA, USA. **18-21 April 2010**.

European Association of Geoscientists and Engineers (EAGE), Barcelona, Spain, **14-17 June 2010**.

JOINT STATISTICAL MEETING, American Statistical Association, Vancouver, British Columbia, Canada, **1 - 5 August 2010**. www.amstat.org/meetings

IAMG 2010, Eötvös Lóránd University, Budapest, Hungary, **29 August - 2 September 2010**

SPE Annual Technical Conference and Exhibition, Florence, Italy, **19 - 22 Sep 2010**.

SEG 2010 Conference, Keystone, Colorado, **2-5 Oct 2010**. Society of Economic Geologists, 7811 Shaffer Parkway, Littleton, CO 80127-3732, Phone: 720.981.7882, ext. 210, FAX: 720.981.7874, EMail: seg@segweb.org, www.seg2010.org

Geological Society of America (GSA), Denver, CO, USA, **31 October - 3 November 2010**. www.geosociety.org/meetings/2010/



China Mathematical Geosciences and Geoinformatics Conference 2009

June 27-30, 2009

Guangzhou, China

This China National Conference on Mathematical Geosciences (MG) and Geoinformatics will be held on Campus of Sun Yat-Sen University, Guangzhou, China from June 27 to 30, 2009. It will be another significant event for the Chinese Community of MG after the 12th IAMG Conference held in Beijing, 2007. For the past several years, the Chinese MG community not only actively participated in IAMG activities worldwide but also reactivated the momentum of MG in China. This year's conference will give testimony to the spirit of the Chinese Community especially from the young people. Theories, methods and techniques developed in mathematical geosciences and geoinformatics have been playing significant roles in solving problems of geo-resources, environment and hazards facing Chinese society, requiring effective solutions and approaches to efficiently and reliably estimate and predict mineral/energy resources, geological environment, and geological disasters. The state of the art of Mathematical Geosciences (MG) and Geoinformatics provide an unprecedented opportunity to solve these issues. This conference will serve as a platform for mathematical geoscientists and geoinformatics researchers to present their novel approaches and to share academic ideas. One of the objectives of the conference is to identify potential challenges in the development of MG in China and the collaboration with other communities of geosciences.

This meeting will focus on the new ideas and disciplines of Mathematical Geosciences and Geoinformatics. Invited presentations covers non-linear processes in geosciences, quantitative remote sensing, simulation in GIS, current geostatistics for mining and mineral exploration, computational geochemistry, quantitative mineral resources assessment etc.

Invited plenary lecturers include:

Dr. Frits Agterberg, Geological Survey of Canada
 Dr. Katsuaki Koike, Kumamoto University of Japan
 Dr. Pengda Zhao, China University of Geosciences
 Dr. Guocheng Pan, Hankang Group, China
 Dr. Li Xia, Sun Yat-Sen University, China
 Dr. Duan Zhenhao, Chinese Academy of Sciences, China
 Wang Shicheng, Jilin University
 Dr. Yan Guangsheng, China Geological Survey

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Scientific Committee Chair: **Pengda Zhao**, China University of Geosciences
 Conference Chair: **Qiuming Cheng**, China University of Geosciences, China, York University, Canada
 Secretary-General: **Yongchang Zhou**, Sun Yat-Sen University, China

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