

# IAMG

No. 52 April 1996

# Newsletter

Official Newsletter of the International Association for Mathematical Geology

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## Meetings!

Meetings, conventions, conferences, Tagungen, workshops, seminars, symposia, congresses, chautauquas.... We have moaned about having too many of them for a long time, and they still seem to proliferate. Just take a look at the list of potentially interesting meetings inside.

We try to go to as many as possible but don't make it to a lot. The problem for most of us is lack of time and money.

What I find especially frustrating, aside from lack of money and time, is the apparent competition of so many smaller get-togethers on similar topics, all of them more or less interesting and important. There are so many conferences that I feel I should, or would like to, attend but simply cannot manage, for the above mentioned reasons.

Now, admittedly, the large number of smaller, local meetings are good for two reasons: they reduce the cost of travel for the local folks so that more people have a chance to attend, and they strengthen the activities going on at the local/regional level. This is what membership committee chairman Jan Harff discusses in this Newsletter issue and what Vaclav Nemeč emphasizes in his letter to the editor.

Getting together with your fellow scientists to exchange views and catch up on news is an important aspect of scientific work which can not entirely be substituted by long distance means, be it literature, mail, fax, phone, or electronic communications. However, one aspect of many meetings, the immediacy of information exchange, is being made possible these days by the proliferation of fast and inexpensive electronic communication vehicles.

More than 90% of this newsletter, for instance, consists of items moved within minutes through the internet via e-mail or from various web sites or newsgroups. I have a hard time imagining how I could accomplish this editing task otherwise.

Electronic publishing is another one of those items that could increase the speed of information dissemination. Abstracts are available from many sources already. You can get the latest Explorer off the AAPG web site (although I must confess that I still prefer to flip through the hard copy instead of waiting for the page to build up on the screen). Eric Grunsky is considering putting this newsletter on the IAMG web site; that way it could reach a lot more people. But this brings up the other side of the coin in electronic publishing: what about copyright, freeloading and similar misuses?

And finally, are we ready to conduct some of our meetings and conferences over the net?

Harald S. Poelchau

## Calls for Nominations

Each year the IAMG awards the **President's Prize** to an individual who is 35 years old or younger. The recipient is awarded the prize based on an original and/or outstanding contribution to the application of mathematics to the geological sciences.

Nominations for the **1995** award are now being accepted. Each nomination must be received before June 30th, 1996 and must include the following information:

1) At least one letter of recommendation outlining why the nominee is a suitable candidate, with reference to the nominee's publications. 2) A complete curriculum vitae, including the nominee's date of birth. Nominations will only be accepted for candidates born in 1960 or later.

Please send nominations to the chairman of the 1995 President's Prize Committee:

Dr. Eric Grunsky  
Geological Survey Branch, Ministry of Energy, Mines and Petroleum Resources, 1810 Blanshard St., Victoria, BC, CANADA V8V 1X4, Fax: 1 604 952 0381, email: egrunsky@mp.gsb.empr.gov.bc.ca

The **Krumbein Medal** Committee is seeking nominations for the next medalist. "The award is made each year to an individual for exceptional contributions in the field of mathematical geology. Conditions for the medal include: (1) original contributions to the science, (2) service to the profession, and (3) support of the Association." The conditions are not necessarily weighted equally. Persons nominating candidates for the Krumbein should be prepared to help provide some supporting documentation about the achievements and contributions of the candidate. The committee will appreciate receiving suggestions and formal nominations as soon as possible. Suggestions can be sent to any member of the committee, which consists of:

John C. Davis (Chairman)  
Kansas Geological Survey  
1930 Constant Ave.  
Lawrence, KS 66047  
USA

Dra. Vera Pawlowsky  
E.T.S. d'Eng. de C.C. i P.  
Univ. Politècnica de Barcelona  
Jordi Girona Salgado 31  
E-08034 Barcelona  
SPAIN

continued on p. 3

From the Editor  
From the Editor  
From the Editor

**International Association for Mathematical Geology  
Council Members and Officers, 1992-1996**

**President:** Michael Ed. Hohn, West Virginia Geological and Economic Survey, P.O. Box 879, Morgantown, WV 26507-0879

**Past President:** Richard B. McCammon, U.S. Geological Survey, National Center 920, Reston, VA 22092

**Vice President:** Chang-Jo F. Chung, Geological Survey of Canada, Booth Street, Ottawa, Ontario K1A 0E8, Canada.

**Secretary General:** Ricardo A. Olea, Kansas Geological Survey, 1930 Constant Avenue, Campus West, Lawrence, KS 66047-2598, E-mail: olea@kgs.ukans.edu

**Eastern Treasurer:** Václav Nemec, K rybnícku m 17, 100 00 Praha 10 - Strasznice, Czech Republic, e-mail: nemcoval@nb.vse.cz

**Western Treasurer:** John O. Kork, U.S. Geological Survey, Mail Stop 937, Box 25046, Denver Federal Center, Denver, CO 80225-0046, E-mail: jkork@rgborafsa.er.usgs.gov

Council Members:

Vera Pawlowsky Departament de Matematica Aplicada III, E.T.S. d'Enginyers de Camins, Canals i Ports, Universitat Politècnica de Catalunya, Gran Capitan, s/n, 08034 Barcelona, Spain

Georges Verly B.P. Research Center, Chertsey Road, Sunbury-on-Thames, Middlesex TW 167 LN, England

John C. Tipper Geologisches Institut der Albert-Ludwigs-Universität, Albertstrasse 23B, D-79104 Freiburg, Germany

Eric C. Grunsky Geological Survey Branch, Ministry of Energy, Mines and Petroleum Resources, 1810 Blanshard St., Victoria, B.C., Canada, V8V 1X4

Zhou, Di South China Sea Institute of Oceanology, Chinese Academy of Sciences, 164 West Xingang Rd., Guangzhou 510301, Peoples Republic of China

Marco Alfaro CODELCO-CHILE, Division Chuquicamata, Plantification Mina CHUCHICAMATA, Chile

Special Councilor for the 30th IGC:

Zhao Pengda China University of Geosciences, Yuiashan, Wuhan, Hubei Prov., 430074, Peoples Republic of China

**Editors**

Mathematical Geology: Daniel F. Merriam (Acting) Kansas Geological Survey, 1930 Constant Avenue, University of Kansas, Lawrence, KS 66047-2598, e-mail: dan\_merriam@msmail.kgs.ukans.edu

Computers and Geosciences: Graeme F. Bonham-Carter Geological Survey of Canada, 601 Booth St., Ottawa, Ontario K1A 0E8, Canada, Phone: (613) 996-3387, FAX: (613) 996-3726, e-mail: bonham-carter@gsc.emr.ca

Nonrenewable Resources: Richard B. McCammon U.S. Geological Survey, National Center 920, Reston, VA 22092, e-mail: mccammon@usgsresv

IAMG Newsletter: Harald S. Poelchau Research Center Juelich, KFA ICG-4, Postfach 1913, D-52425 Jülich, Germany, e-mail: h.poelchau@kfa-juelich.de

**Forthcoming Election of New IAMG Officers**

New officers and Council members of the IAMG are elected in years when an International Geological Congress is held. The new Council takes office at the time of the General Assembly that is held with the IGC. The nominations committee has nearly completed its work of selecting candidates for regular membership on the Council.

The following individuals have agreed to run for the offices of President, Vice President, Secretary General, and Treasurer; biographies are provided below as a service to our members.

Because of the work required of the Treasurer, candidates for this position traditionally have been given the courtesy of running unopposed. No candidate for Eastern Treasurer is being proposed.

IAMG members will receive ballots in the coming weeks.

**CANDIDATES FOR PRESIDENT**

**Ricardo A. Olea**

Ricardo A. Olea was born in Santiago, Chile, 1942; holds degrees in Mining Engineering from Universidad de Chile, MS. in Computer Science from the University of Kansas, and Doctor of Engineering in Chemical and Petroleum Engineering from the University of Kansas; and is recipient of the Universidad de Chile Juan Bruggen Distinguished Graduating Student Award, 1966; American Society of Civil Engineers Task Committee Excellence Award, 1990; and Journal of Mathematical Geology Best Paper Award, 1993. He is a senior scientist in the Mathematical Geology Section of the Kansas Geological Survey and is currently serving as Secretary General of the IAMG and vice-chairman of the IAMG'97 organization committee chaired by Vera Pawlowsky.

He has served the organization as member of the Editorial Advisory Board, Computer & Geosciences, 1975-80; Editorial Correspondent, Journal of Mathematical Geology, 1977-80; Chairman of the Committee on Geostatistics that published the IAMG Monograph "Geostatistical Glossary and Multilingual Dictionary", 1985-89; Council Member, 1989-92; Chairman of the Membership Committee, 1989-92; Guest Editor, Mathematical Geology, 1995. He has also served as convener and ad hoc committee member on several occasions.

**C. John Mann**

John Mann has been Professor of geology at the University of Illinois since 1965. He received his B.S. in Geological Engineering in 1953 and M.S. in Geology in 1957 from the University of Kansas, and the Ph.D. in Geology in 1961 from the University of Wisconsin.

Dr. Mann is a Charter Member of the IAMG, and has served on numerous IAMG committees, including Education Committee, Publications, Student Award, and Travel Awards. He has been Editorial Collaborator, Deputy Editor, and Editor-in-Chief of "Mathematical Geology," has served on the editorial board for the IAMG Monograph Series, and co-edited the fourth monograph in that series. He was program chairman for the MGUS 87 conference, and convener of the 11th Geochautauqua in 1982. Among his many publications are papers in IAMG's journals and monographs; he won the award for best paper in "Mathematical Geology" in 1977. He was president of the Mathematical Geologists of the U.S. Dr. Mann is a fellow of the AAAS and the Geological Society of America.

**CANDIDATES FOR VICE PRESIDENT**

**John H. Schuenemeyer**

John Schuenemeyer is Professor of Statistics at the University of Delaware. He has more than 25 years professional experience in the development and application of statistical

methods to problems in the earth sciences, especially in oil and gas resource estimation. He has authored over 40 research papers.

He is a former vice president of the Mathematical Geologists of the U.S., former chair of the U.S. Committee for Mathematical Geology, and has organized several technical sessions and a conference sponsored by IAMG. He is a fellow of the American Statistical Association (ASA) and a past chair of the ASA Committee on Energy Statistics. Dr. Schuenemeyer received his Ph.D. in statistics from the University of Georgia in 1975.

**Carol A. Gotway**

Carol A. Gotway received her B.S. degrees in mathematics and geology from Bradley University in Peoria, IL. She continued her interest in mathematical geology at Iowa State University, earning both her M.S. and Ph.D. in statistics with an emphasis in spatial statistics. As a post-doctoral research associate at the Centre de Geostatistique in Fontainebleau, France, she broadened her background in geostatistics. As a statistical consultant at Sandia National Laboratories in Albuquerque, New Mexico, she provided statistical and geostatistical expertise in support of several Department of Energy nuclear waste disposal projects.

Dr. Gotway is currently an assistant professor in the Department of Biometry at the University of Nebraska-Lincoln. Her research interests are in the application of spatial statistics, and geostatistics in particular, to problems in agronomy, ecology, entomology, environmental engineering, forestry, geology, and hydrology. These interests have led to publication in a variety of journals including Computers and Geosciences, Water Resources Research, Technometrics, Soil Science Society of America Journal, and Journal of Agricultural, Biological, and Environmental Statistics.

**CANDIDATES FOR SECRETARY GENERAL**

**Thomas A. Jones**

Thomas Jones is Research Advisor with Exxon Production Research Company. He has authored over 40 technical publications. He is co-author of the book: "Contouring Geologic Surfaces with the Computer," and co-edited "Computer Modeling of Geologic Surfaces and Volumes."

Dr. Jones is a charter member of the IAMG, and has served as Associate Editor, Book Review Editor, and Editor-in-Chief of "Mathematical Geology," Co-editor of the IAMG Monograph Series. He has worked on Education and President's Prize Committees for the IAMG. He has also served as Secretary of the Mathematical Geologists of the U.S.

Dr. Jones received B.S. and M.S. degrees in mathematical statistics from Colorado State University, and M.S. and Ph.D. degrees in geology from Northwestern University.

**Vera Pawlowsky**

Vera Pawlowsky was born in Barcelona, Spain, in 1951. She holds a degree in Mathematics from Universitat de Barcelona (Spain) and a Doctor rerum naturam from Freie Universität Berlin (Germany). She has been vice-chancellor for Student Affairs

*continued from p. 1 - Nominations*

Dr. Richard B. McCammon Eastern Minerals Team U.S. Geological Survey, MS-954 Case Offic. No. 1 12201 Sunrise Valley Drive Reston, VA 22092 USA	Dr. J. J. Royer C.R.P.G, 15 rue ND des Pauvres Case Offic. No. 1 Vandoeuvre les Nancy 54 520 FRANCE
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Dr. Wolfdietrich Skala  
Freie Universität Berlin  
Institut für Geologie-Math. Geol.  
Malteserstrass 74-100 (Haus D)  
D-1000 Berlin 46  
GERMANY

(1990-93) and for Studies (1993-94) at the Universitat Politècnica de Catalunya. She is recipient of the silver medal from the Universitat Politècnica de Catalunya for dedication to the institution (May, 1994.) She is presently Profesora Titular de Universidad (equivalent to associate professor) at the Applied Mathematics Department at the School of Civil Engineering in Barcelona.

Dr. Pawlowsky is currently a Council Member of the IAMG, Associate Editor of Mathematical Geology, and chair of the organization committee of IAMG'97. Among the many papers she has published is one in "Mathematical Geology" that won the best paper award in 1993. She has served the organization on several ad-hoc committees both as a member and as chair.

**CANDIDATE FOR WESTERN TREASURER**

**Daniel Tetzlaff**

Daniel M. (Dan) Tetzlaff holds M.S. and Ph.D. degrees in Applied Earth Sciences at Stanford University, where he specialized in three-dimensional mathematical models of sedimentary processes. In 1987, he joined Western Atlas, taking a leading role in the development of various log-analysis and geostatistical computer programs. Between 1990 and 1994, he worked for Texaco, developing integrated sedimentary and structural models as well as quantitative risk-assessment models. In 1994, he returned to Western Atlas to lead the development of borehole-image analysis and integrated geoscience software. He is the author of a book ("Simulating Clastic Sedimentation") and numerous papers on sedimentology and log analysis. He has been a member of IAMG for two years, and is also a member of the AAPG, SPE, SPWLA, and SIAM.

**Letter(s) to the Editor**

Dear Colleague,

I have been very impressed by your Editorial in the No. 51. It is probably necessary to visit Russia or other Eastern countries to believe... I was in Moscow in late October - it seems to me that the roughly \$200 monthly salary is there valid perhaps only for some people in the oil industry, for many highly educated people it is no more than \$100. In Ukraine the situation is worse / perhaps only about \$30 per month.

You ask for other ideas. I am trying to continue in organizing our traditional meetings (as part of the Mining Pribram Symposia), since 1993 in Prague. Our last meeting in October 1995 was visited by 87 guests from abroad, the representation of Russia and Ukraine was really very good (the Russians came from 8 localities but represented about 15 various institutions). We try to keep a financial policy which makes our meetings relatively well accessible. By the way, a grant from the IAMG for \$ 2500 made it possible to cover registration fees and living expenses for altogether about 20 colleagues (no support for travel costs). I am afraid that any meeting in the West cannot really host so many colleagues from the East. Therefore our next session in Prague (OCTOBER 6 - 10, 1997) will not be any "danger" but only a useful complementation of the IAMG'97 in Barcelona. I also offer to organize the IAMG'99 in Prague again. Should it be as part of the Mining Pribram Symposium I am sure it will bring together more people under one umbrella than in 1993.

With best regards,

Dr. Václav Nežmec



# Upcoming Meetings

WORKSHOP ON INVERSE PROBLEMS IN RESERVOIR EVALUATION, Norwegian Univ. of Science and Technology - NTNU, Trondheim, Norway (until 1996 the University of Trondheim and the Norwegian Institute of Technology), **28-30 May 1996**. Register by email: [inv.prob@imf.unit.no](mailto:inv.prob@imf.unit.no). Alfhild Lien Eide, ph.: + 47 73 59 35 20 (Direct line + 47 73 59 35 39), fax: + 47 73 59 35 24  
URL:<http://www.imf.unit.no/conferences/invprob/>

Fifth International Symposium on the Application of MATHEMATICAL METHODS AND COMPUTERS IN GEOLOGY, MINING AND METALLURGY, Dubna (120 km from Moscow), Russia, **4-7 June 1996**. Organizers: VNIIGeosystem Institute, Varshavskoye shosse 8, 113105 Moscow, Russia, fax (+7095) 958-3711 or 954-0031, e-mail: [misha@dep12.geosys.msk.ru](mailto:misha@dep12.geosys.msk.ru)

Fourth International Workshop "HEAT FLOW AND THE STRUCTURE OF THE LITHOSPHERE", Castle of Trzest, Czech Republic, **9-15 June 1996**. Vladimir Cermak, Geophysical Institute, Czech Acad.Sci., 141-31 Praha 4, ph. +42-2-764539, fax +42-2-761549, e-mail [cermak@ig.cas.cz](mailto:cermak@ig.cas.cz)

V Workshop of INFORMATICS APPLIED TO THE EARTH SCIENCES, San Sepolcro (near Arezzo, Tuscany), Italy, **11-13 June 1996** (statistical analysis of data, image analysis, GIS, expert systems). Antonella Buccianti, Department of Earth Sciences, University of Florence, Florence, Italy, phone: 39-55-2757496, fax: 39-55-284571, e-mail: [BUCCIANTI@CESIT1.UNIFI.IT](mailto:BUCCIANTI@CESIT1.UNIFI.IT) or <http://dindy.sci.uniroma1.it/geoinfo.html>

INT'L SOCIETY FOR PHOTOGRAMMETRY AND REMOTE SENSING. Vienna, Austria, **9-19 July 1996**. Lawrence Fritz, 301/460-9046, fax: 301/460-0021.

SIAM Annual Mtg (Soc. for Industrial and Applied Math.), Kansas City, MO, **22-26 July 1996**. Organizer: David Levermore, U. Arizona. SIAM, 3600 University City Science Center, Philadelphia, PA 19104-2688, phone: 215-382-9800, fax: 215-386-7999, e-mail: [meetings@siam.org](mailto:meetings@siam.org),  
URL: <http://www.siam.org/meetings/an96/an96home.htm>

First Trabzon International ENERGY AND ENVIRONMENT Symposium, Karadeniz Technical University, Trabzon, TURKEY, **29-31 July 1996**. Prof. Dr. Teoman Ayhan, Tel: (462) 325-3223, Fax: (462) 325-7405, e-mail: [energy96@rise01.bim.ktu.edu.tr](mailto:energy96@rise01.bim.ktu.edu.tr) or Prof. Dr. Sadik Dost (Canada), Tel: (604) 721-8898, Fax: (604) 721-6051, e-mail: [idincer@me.uvic.ca](mailto:idincer@me.uvic.ca)

QUANTITATIVE PREDICTION OF PETROLEUM RESOURCES AND EVALUATION OF EXPLORATION RISK, University of Petroleum, Beijing, China, **2-3 August 1996**. Dr. Zhuoheng Chen, Department of Geosciences, University of Petroleum, Changping, 102200, Beijing, P.R.China, e-mail: [basinect@mimi.cnc.ac.cn](mailto:basinect@mimi.cnc.ac.cn), Fax: 86 10 9743646, Tel: 86 10 974364. Abstract deadline: May 1, 1996.

30th INTERNATIONAL GEOLOGICAL CONGRESS and IAMG'96, Beijing, **4-14 August 1996**. Symposium 19-5 is on the general subject of mathematical and statistical methods in geology. It is intended for those wanting to present a paper for which there is no specialized symposium. Chang-Jo Chung and Mike Hohn are co-chairing this session along with Yu Jinsheng of China.

ISME-IV'96 Fourth International Symposium on MINERAL EXPLORATION: Deposits Modeling and Advanced GIS for

Exploration, International Center of Scientific Exchange, China University of Geosciences, Beijing, China, **10-11 August 1996**. Registration deadline July 15, 1996, abstract deadline May 31, 1996. Yang Hongqing, Mineral Exploration Section, China University of Geosciences, Beijing 100083, People's Republic of China, FAX: +86-10-201-4874, or Ryoichi Kouda, Geological Survey of Japan, 1-1-3, Higashi, Tsukuba, Ibaraki 305, Japan, FAX: +81-298-54-3637, e-mail: [roy@gsj.go.jp](mailto:roy@gsj.go.jp)

15th Int'l Conference on GROUND CONTROL IN MINING. Colorado School of Mines. Golden, Colorado - CSM Campus. **13-15 August 1996**. Melody Francisco, Phone: 303/273-3321, Fax: 303/273-3314, e-mail: [jproud@mines.edu](mailto:jproud@mines.edu).

William T. Pecora Memorial Remote Sensing Symposium HUMAN INTERACTION WITH THE ENVIRONMENT -- PRESPECTIVES FROM SPACE. Sioux Falls, SD, USA, **20-22 August 1996**. (mapping, monitoring, biosphere, remote sensing, global change, data archive, GIS). Gary Johnson at [pecora13@edcserver1.cr.usgs.gov](mailto:pecora13@edcserver1.cr.usgs.gov).  
URL: <http://edcwww.cr.usgs.gov/pecora13.html>.

IV Int'l Conference "PROBLEMS OF SPACE, TIME, GRAVITATION", St. Petersburg, Russia, **2-8 September 1996** (tentative). Sponsored by: Russian Academy of Sciences, The International Slavic Academy of Sciences, and The St. Petersburg Branch of Institute of History of Science and Technology. Occasion: Celebrating the JUBILEES of 400th anniversary of Descartes, and the 350th anniversary of Leibnitz. Neil E. Munch (USA) Phone: 301-926-3728, e-mail: [munchn@cpcug.org](mailto:munchn@cpcug.org) or [70047.2123@compuserve.com](mailto:70047.2123@compuserve.com)

ALLUVIAL BASINS: Sediment Transfer Rates and Budgets for Cenozoic Basins, Giens, near Toulon, France, **13-18 September 1996**. Progress in the quantitative analysis of sediment supply, sediment transfer, deposition, compaction and basin kinetics. Chairman: P.F. Friend (Cambridge). Info: Dr Josip Hendekovic, European Science Foundation, Strasbourg, e-mail [euresco@esf.org](mailto:euresco@esf.org), phone (33) (88) 76 71 35; fax (33) (88) 36 69 87

SPACE-TIME MODELLING OF BOUNDED NATURAL DOMAINS: Intelligent Tools for 3D-Interpolation and Correlation, Canterbury, UK, **13 - 18 September 1996**. H. H. Voss, Hannover, convenor. Info: Valerie Allspach, European Science Foundation, Strasbourg, e-mail [euresco@esf.org](mailto:euresco@esf.org)

Fifth International GEOSTATISTICS CONGRESS, Wollongong, NSW, Australia, **22-27 September 1996**. Contact: Ernest Baafi, Department of Civil & Mining Engineering, University of Wollongong, Wollongong, NSW, Australia 2522, Fax: 61 42 21 3238, Tel: 61 42 21 3031

COMPUTERIZED MODELING OF SEDIMENTARY SYSTEMS, Güstrow, **8-11 October 1996**. J. Harff, Baltic Sea Research Institute, Seestr. 15, 0119 Rostock, Germany (cosponsored by IAMG)

The Mining Problems Symposium - GEOETHICS, Prague, Czech Republic, **14 - 16 October, 1996**. Dr. Václav Nemec/Dr. Lidmila Nemcová, K rybníckému 17, 100 00 Praha 10 - Strahov, Czech Republic, ph. 0042 (2) 7811801, fax 0042 (306) 23169, e-mail [nemcoval@vse.cz](mailto:nemcoval@vse.cz)

AAPG/EAGE Research Symposium on COMPARTMENTALIZED RESERVOIRS: Their Detection, Characterization and Management, The Woodlands, Texas, **20-23 October 1996**. AAPG Education Department, phone (918) 560-2630, Fax (918) 560-2678, e-mail [educate@aapg.org](mailto:educate@aapg.org).

International Symposium on data analysis and computer technology and their application for GEOCHEMISTRY AND GEOENVIRONMENTAL RESEARCH, Lviv, Ukraine, **October**

1996. Acad. Prof. V. Zabigaylo, Inst. of Geol. and Geochemistry of Combustible Materials, Naukova 3a, 290 053 Lviv, Ukraine, fax +38 00322 632209

geoENV96 - First European Conference on GEOSTATISTICS FOR ENVIRONMENTAL APPLICATIONS, Lisbon, Portugal, **20-22 November 1996**. Instituto Superior Técnico, Av. Rovisco Pais, 1096 Lisboa Codex, Portugal. Phone +351 1 841 7247, Fax +351 1 841 7442, e-mail geostat@alfa.ist.utl.pt

FUNDAMENTAL GEOLOGICAL PROCESSES - Geol. Vereinigung Annual Meeting, Jülich, Germany, **17-19 February 1997**. U. Mann, KFA ICG-4, Research Center Jülich, D-52425 Jülich, Germany, e-mail: u.mann@kfa-juelich.de (cosponsored by IAMG)

GEOFLUIDS II - Second International Conference on fluid evolution and interaction in sedimentary basins and orogenic belts, Waterfront Hall, Belfast, **March 10-14 1997**. Dept. of Geology, Queen's University, Belfast BT7 1NN or email: J.Parnell@qub.ac.uk

EUG 9 (European Union of Geosciences), Strasbourg, France, **23-27 March 1997**. EUG 9 Office, EOPG, 5 rue René Descartes, F-67084 Strasbourg Cedex, France, tel. +33 88 416393 or 450191, fax: +33 88 603887, e-mail: eug@eopg.u-strasbg.fr

FRACTALS IN THE NATURAL AND APPLIED SCIENCES. 4th Int'l Multidisciplinary Working Conf., Denver, CO, USA, **8-11 April 1997**. Dr. Miroslav Novak, Kingston Univ., England, +44-181-547-2000, fax +44-181-547-7562, e-mail: novak@kingston.ac.uk, URL: [http://www.kingston.ac.uk/~ap\\_s412](http://www.kingston.ac.uk/~ap_s412).

4th SIAM Conference on GEOSCIENCES, Albuquerque, NM, **16-18 June 1997** (tentative). Org.: Clint Dawson (Rice and U. Texas, Austin). SIAM, 3600 University City Science Center, Philadelphia, PA 19104-2688, phone: 215-382-9800, Fax: 215-386-7999, e-mail: meetings@siam.org

NUMOG VI. Computers & Geotechnics, Montreal, Canada, **4-6 September 1997**. (Civil Engineering, Geotechnical Engineering, Computer modelling). Gyan Pande, Phone: +44 1792 29 55 17, Fax: +44 1792 29 56 76, e-mail: g.n.pande@swansea.ac.uk.

IAMG Annual Conference - STATISTICAL ANALYSIS OF COMPOSITIONAL DATA, Barcelona, Spain, **22-27 September 1997**. Vera Pawlowsky, IAMG '97- Conference Secretariat, CIMNE- Campus Nord (Edifici C1) UPC, S.Eulàlia d'Anzizu, s/n, E- 08034 Barcelona (Spain), Tel: 34 - 3 - 401 60 37, Fax.: 34 - 3 - 401 65 17, e-mail: iamg97@ma3.upc.es

The Mining Præbræam Symposium "MATHEMATICAL METHODS IN GEOLOGY", Prague, Czech Republic, **6 - 10 October, 1997**. Dr. Václav Nemec, K rybníku 17, 100 00 Praha 10 - Stranice, Czech Republic, ph. 0042 (2) 7811801, fax 0042 (306) 23169, e-mail nemcoval@vse.cz

WORLD PETROLEUM CONGRESS 1997, Beijing, **12-16 October 1997**

## IAMG Sponsored Symposia at the International Geological Congress 1996 in Beijing, China

Zhou Di and Frits Agterberg are setting up a **stratigraphic correlation workshop**.

IUGS-UNESCO **Deposit Modeling Programme** being presented as **Symposium K-10** at the 30th IGC in Beijing, August 4-14, 1996, organized by Mao Jingwen (China), Gabor Gaal (Hungary), and Richard McCammon (USA). The papers to be presented **orally** are: McCammon, R.B., Gaal, G., and Jingwen, M., The IUGS-UNESCO Deposit Modeling Program--Past, Present, and Future Nayak, V.K. and Roychoudhury, S.K., Modelling of Some Industrial Mineral Deposit Types, India--A Geological Synopsis

Jenchuraeva, R., Gold and Gold-Contained Deposits, Models and Metallogeny (Tien Shan, Kyrgyz Part)  
Bekzhanov, G.R. and Bugaets, A.N., Research on Descriptive Models of Gold Deposits using Non-metric Scaling  
Chen, Wenming, Metallogenic Model of Dongchuan-style Sedimentary Copper Deposits  
Mao, Jingwen and Chengsi, B.I., Granite-related Tungsten Deposits in China: Systems and Models  
Veto-Akos, E., Island-Arc Associated Polymetallic Gold and Sulfide Deposits in the Carpatho-Balkan Region  
Berger, B.R. and Gaal, G., Mineral-deposit Models: A Basis for Assessing Risks in Mineral-Potential Estimation, Minerals Exploration, and Environmental Impacts  
Ladeira, E.A. and Thorman, C.H., The Experience of the IUGS-UNESCO Deposit Modeling Workshops in Brazil  
Kirkham, R.V., Stratabound Copper Deposits  
Schcheglov, A.D., Genetic Model for Witwatersrand Deposits and Problems of Gold-bearing Conglomerates

The **poster** presentations are:

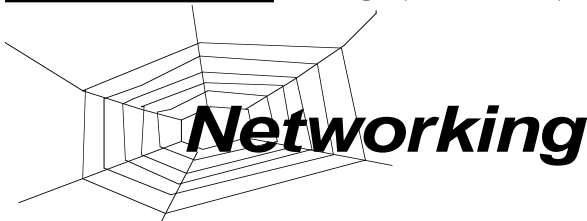
Panov, B.S., Geological-genetic Model for Gold-bearing Shale Formations  
Yan, Shenghao and Li, Hongyang, Crust-mantle Alkali-metasomatism and Metallogenic Mechanism of Linglong Superlarge Gold Ore Deposit in Jiaodong, China  
Qi, Jianzhong, Wrench Fault Zone and Fault Network Control of the Gold Ore Deposits in Southeast China  
Wang, Xuncheng and Zhang, Chenghuh, Geological Characteristics and Origin of Shizishan Supersized Cu-Au Deposit, Tongling, China  
Jia, Bin, The Gold Mineralization Series in Late Paleozoic Volcanic Basin of Tulasu, Yining District, Xinjiang  
Zou, Guanghua, Geophysical Features of Gold Deposits in China  
Bojtsov, V.E., Ivanov, P.A., and Pilipenko, G.N., A Geologic-Genetic Model for the Formation of Uranium-gold Deposits  
Li, Renshu, On Metallogenic System Network and System Structure  
Li, Jianzhong, Qinling-type Lead-zinc Deposits in China  
Zhuang, Xinguo, Fluids and Metallogenesis in Basins--Micro Disseminated Gold Deposits in Northwestern Guangxi, China  
Wang, Yutian, Liu, Chao, and Wang, Shicheng, A Quantitative Dual-scale Model to Predict Locations of Whole Minerogenetic Series and Individual Deposits: Concepts, Methodology, and Application

### Symposium 19-1

The papers selected for **oral** presentation are as follows:  
Wang, Shicheng, Yu, Xianchuan, Chen, Yongqing, Xiao, Keyan, and Zhang, Xiaohua, Quantitative Appraisal for Mineral Resources with Integrated Information  
Vladimirov, V. and Le Loc'h, G., Geostatistical Study of Petrophysical Conditions or Ore Mobilization and Remobilization in Chelopech Gold-copper Ore Deposit, Bulgaria  
Wei, Min and Zhao, Pengda, Orderly Rule of Spatial Distribution of Mineralization and Location of Orebodies  
Lu, Ping and Latham, J.-P., Estimation of Discontinuity Size-numerical Approach  
Xu, Daoyi, The Informational Ordered Process--A New Category of Orderliness for Study of Severe Catastrophes  
Agrawal, S., Replacing Visually-fitted Field Boundaries in Geochemical Tectonomagmatic Discrimination Diagrams with Probabilistic Based Classifiers  
Zhang, Juming, Liu, Chengzuo, and Huiwen, Sun, Three Dimensional Mathematical Models of Geological Bodies and Their Graphical Display

Crisci, G.M., Di Gregorio, S., Nicoletta, F., Rongo, R., and Sorriso-Valvo, M., Geological Risk Forecasting by Cellular Automata: Application to Lava and Debris Flow  
Chen, Yongqing and Zhao, Pengda, The Procedures of Extracting Deep Levels of Geoinformation and Establishing High Precision Prospecting Patterns  
Tsyganov, V.A., Reliability Methods in Geologic-Exploration Systems and Some Results of their Realization  
Gavrishin, A.I. and Coradini, A., Multivariate Method of Classification and its Application in Geology  
Shoji, T., Evaluation of Geoscience Information  
Derjagin, A. and Timokhin, A., Geological Models for Assessing Orebodies Using Computer Methods

*continued on p. 8 ... IGC Program*



### Free books from Samizdat Press

Samizdat Press is devoted to the free distribution of books, lecture notes and software. Visit our WWW page at <http://landau.mines.edu/~samizdat>. Here is what's new.

The figures have now been incorporated into Brian Kennett's Lecture Notes for a Course on Continuum Mechanics. You can download a single postscript file with the text and figures.

A Genetic Algorithm Tutorial, by Darrell Whitley, Computer Science Department, Colorado State University, is now available for downloading. This tutorial covers the canonical genetic algorithm as well as more experimental forms of genetic algorithms, including parallel island models and parallel cellular genetic algorithms. The tutorial also illustrates genetic search by hyperplane sampling. The theoretical foundations of genetic algorithms are reviewed, including the schema theorem as well as recently developed exact models of the canonical genetic algorithm.

John Scales email: [jscales@dix.mines.edu](mailto:jscales@dix.mines.edu) phone: 303-273-3408, Center for Wave Phenomena, Colorado School of Mines  
<http://landau.mines.edu/~samizdat>



### Interesting web sites:

<http://dindy.sci.uniroma1.it/geoinfo.html>

Dipartimento di Scienze della Terra, Universita' di Roma "La Sapienza"

Sito WWW - per informazioni su GEOINFORMATICA

### IAMG FTP SITE UPDATE

Source code files of programs published in Computers & Geosciences are available to download from the Association's ftp site "iamg.org". The following is the updated inventory as of April 1996. The programs are listed by volume, issue number, and article number (of each issue). There are two or three versions for different computer operating systems in each case, identified by the number in parentheses, e.g. (9), which is the sum of the code numbers of each version, as follows:

1 zip (MS DOS/Windows)

2 tar.z (Unix)

4 sea.hqx (MacOS)

8 tar (Unix)

The newest additions since the last update in this Newsletter are indicated by bold type.

volume	number-article #
6	1-5(7)
10	2-11(9)
12	6-3(9)
13	<b>2-4(9)</b> ; 3-1, 5(7)
14	1-1, 3(7); <b>2-3(9)</b> ; 5-5(7)
15	1-5, 9(7), <b>11(3)</b> ; 3-5, 6, 11; 4-2, 3(7); 5-4, 9(7), <b>10(3)</b> ; <b>8-4(3)</b>
16	1-5; 2-2(7), <b>11(3)</b> ; 3-8; 4-7; 5-6, 7(7)
17	1-2; 2-4; 3-5, 6(7); <b>5-1(3)</b> , 3; 7-5; 9-4; 10-6(7)
18	1-5(13), 9(7); 2-2(13); 7-2, 4; 9-3(7)
19	1-7; 3-1; 5-1(7); 6-6(3); 8-5(7), 9(3); 9-8; 10-2, 4, 5(7)
20	1-1(7), <b>5(3)</b> ; 3-6(7); 5-3(3), 6, 7, 10; 6-6; 7-2(7); <b>9-4</b> ; <b>104(3)</b>
21	1-2(9), <b>3(3)</b> , 6, 8(9), <b>9</b> , <b>10(3)</b> ; 2-2, 9; 3-1(9); <b>4-7(3)</b> ; 5-2(9), <b>6(3)</b> , 7(9); <b>7-2(3)</b> , <b>5(11)</b> , <b>8</b> ; <b>9-5(3)</b> ; <b>10-2(9)</b> , <b>6(3)</b> , <b>7(11)</b>
<b>22</b>	1-3, 8; 2-1(3), 2(9), 4, 5, 7(3); 3-2, 5(3), 10(9)



### Recent Books of Interest

HIGH RESOLUTION STRATIGRAPHY Innovations and Applications,

Edited by J.A. Howell (University of Liverpool, UK) and J.F. Aitken (Oxford Brookes University, UK) Geological Society Special Publication No. 104

The book contains papers which address recent advances in high resolution sequence stratigraphy in both siliciclastic and carbonate depositional environments. It is particularly aimed at recognition of significant sequence stratigraphic elements in the subsurface. This is achieved through both conceptual papers and individual case studies, from outcrop, well log and core databases. The book is aimed primarily at research workers and lecturers active in sequence stratigraphic research, as well as professional geologists, predominantly in the hydrocarbon industry, who routinely use sequence stratigraphy in day-to-day exploration and production of hydrocarbons. The well-balanced content should prove particularly attractive for anyone requiring an update on current progress in sequence stratigraphic research.

In addition, the book will appeal to professional geologists in other extractive industries where lithology prediction is a prerequisite, and to students taking advanced courses in sedimentology and stratigraphy.

COMPUTING RISK FOR OIL PROSPECTS: PRINCIPLES AND PROGRAMS, Harbaugh, John W., Davis, John C., and Wendebourg, Johannes, Pergamon Press, Oxford, 467 pages plus two diskettes, ISBN 0 08 041890 2, \$190 (1995)

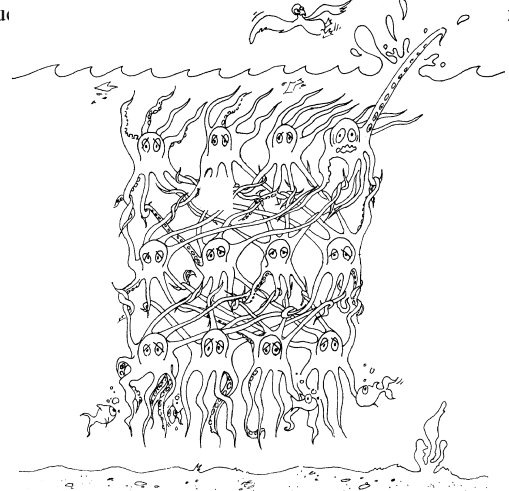
A 30% discount is available to all Elsevier Science book and journal contributors on all books except multi-volume reference works. To claim your discount full payment is required with your order which must be sent directly to the publisher.

OIL & GAS ON THE INTERNET -- 1996, ed. William Crowley, Gulf Publishing, ISBN 0-88415-155-7, \$49 (\$61 outside N. America).

This new directory contains more than 650 individual sites pertaining to the oil and gas industry. The free accompanying disk has a hotlist file with these sites, plus 100 more in HTTP hypertext for a total of over 750 oil and gas sites, ready for your world wide web browser to take you there.

DETERMINATION OF OIL & GAS RESERVES, Petroleum Society of CIN Monograph, Gulf Publishing Co., 362 pp., £ 42.00

The estimation, classification and reporting of oil and gas reserves and related substances has always been a vital part of the oil and gas industry. In spite of a need for consistent methods of reserve determination and terminology, no standardised definitions exist. This book has been compiled to address this need. It covers all aspects of reserve determination, reviewing methodologies associated with calculating hydrocarbons in place, recovery factors and production forecasting and also focuses on other influ



A computational network, as hungry octopi might design it. From *Wet Mind*.

### In memory of A. B. Vistelius (1915-1995)

When the first visitor to our traditional "Pribram" meeting on mathematical geology arrived in Prague in October 1995, one of my first questions was: How is Andrei Borisovich, is he in good health? A very sad reply followed: Professor Vistelius died only a few weeks ago.

Andrei Borisovich (as we called him when speaking in the Russian language) or simply Andrew (as he was called by his American and English friends) was a remarkable personality. At the age of 24 he started to publish his first articles; he was 29 when in 1944 his first paper on mathematical geology appeared. At that time he used the term "analytical geology". With 32 he achieved already the D.Sc. degree (in the former USSR usually accessible only at the age of at least 50-55). In his fight for the existence of mathematical geology as a new scientific subdiscipline he had various adversaries - that was probably the reason why under the old Soviet regime he was never elected as a member of the USSR Academy of Sciences. In 1958 his first articles appeared outside the USSR, and since that year he started to extend a lot of scientific connections abroad. When we met in Prague in August 1968 at the 23rd International Geological Congress and at the foundation meeting of the IAMG, he was unanimously elected as the first president of the new association despite the fact that the tanks from his own country just one day earlier took all military power in Prague and the whole of Czechoslovakia and caused a complete collapse of the Congress.

I paid several visits to his office and to his home and met with him at various congresses (1971-Heidelberg, 1984-Moscow, 1989-Washington D.C.). I knew very well that during his long life he continued in deep studies of mathematics and at the same time he never forgot to be a geologist. He tried to make his mathematical interpretations by using his own geological experience and the samples taken by him in person in the field. He had very specific ideas what mathematical geology was, and what it was not, and many practical applications were beyond the sphere of his personal interest. I have belonged always to those more practically oriented people; despite these different points of view we always found some common interests (the prosperity of IAMG as the first one). From political points of view he always declared himself a democrat.

I had some long distance calls with him in 1992 and again in 1993. He was prepared to take part in the International Geological Congress in Kyoto and later in the IAMG Silver Jubilee in Prague. Unfortunately, the cost of his travel to Kyoto seemed to be very high, and his health in the days of the Prague meeting was too bad. He will remain in the memory of many colleagues, perhaps the way he looked in 1989 when he attended the ICG in Washington D.C.

The IAMG was happy to have him as its first president and also among its Krumbein medalists. We shall perhaps never achieve his personal ideal concept of mathematical geology, but we have to take our hats off to his unforgettable personality.

Václav Nemeč

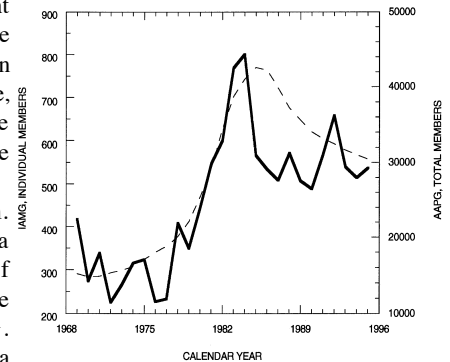
## Member News

**Ute C. Herzfeld**, previously winner of the IAMG President's prize, has taken a position as professor at the University of Trier, Germany. She is starting a new division for Geomathematics in the department of Geosciences.

## IAMG Membership and the Membership Committee

At the end of 1995 the IAMG had 555 members from 53 countries. The largest concentration is in the United States (245 members) followed by Canada (54 members), Germany (37), Australia (30), Spain (17).

The variability of the number of members of our Association provides some insight not only into the economic changes in our branch of science, but also into the attractivity of the Association's scientific program. Olea (1995) gave a first interpretation of the membership curve of the IAMG. Obviously there is a



correlation between the ups and downs in the exploration of mineral resources, in particular oil, and the increase and decrease of members in the 1980s (Fig. 1).

At the end of the eighties the membership committee started several actions to stop the decrease in membership. The latest ones were to increase activities at the local level. Now, the membership committee consists of national representatives who have detailed knowledge of persons and organisations active in those fields of interest to IAMG members. These colleagues will gather information on mathematics and computer application in geosciences within their countries, help to organize scientific events on a local level, and distribute information from the council to the scientists practicing mathematical geology within their countries.

An important task is to attract new young scientists. Johannes Wendebourg is taking care of the youth in our association. Another task is to attract members from developing countries. The new status of "corresponding member" is particularly used in China to participate in IAMG activities (23 corresponding members). In our view, the cooperation among regional IAMG groups would be very desirable. Positive examples are given here in particular by the Eastern European subgroup being active over years in organizing the Pribram Symposium (Czech Republic) under the chairmanship of Vaclav Nemeč.

Looking at the membership curve (Fig. 1), the big loss of members was stopped at the end of the eighties (in contrast to the AAPG), and a gentle increase can be observed. We assume that the activities of the membership committee have contributed to this development. But most likely the main reason is the flexibility in the scientific goals of our association. After the depression in mineral resource exploration the IAMG focussed its activities more on a new, attractive, and promising field of earth sciences: environmental geology.

Jan Harff, Chairman

**Committee Members:** H. Burger (Germany), I. Clark (South Africa), J. M. Cubitt (UK), D. Gill (Israel), E. Grunsky (Canada), O. Jaquet (Switzerland), Vaclav Nemeč (Czech Republic), N. Nishiwaki (Japan), U. Nordlund (Sweden), V. Pawlowsky (Spain), H. G. Pereira (Portugal), J. M. Yarus (USA), E. Wallbrecher (Austria), J. Wendebourg (France), Y. Zhou (P.R.China).

#### Reference

R. A. Olea (1995): Individual Membership.- Math. Geol., vol. 27, no. 2, 315-319

**Position available:**

GEOMATHEMATICS: Research and teaching position (half-time equivalent) from March 1, 1996, or later. Candidates are required to hold a Diploma, Masters, or equivalent degree in a geoscience, mathematics, or engineering, and will be expected to work towards a doctoral degree. Research interests in theoretical and applied geomathematics and geostatistics, remote sensing, glaciology, marine geology and geophysics, or study of polar environments preferable. The University of Trier offers Germany's largest geoscience department with more than 1400 students and a wide range of disciplines, including the new division of geomathematics.

Applications and inquiries to:

Prof. Dr. Ute C. Herzfeld, Quantitative Methoden in den Geowissenschaften, FB VI, Universität Trier, D-54286 Trier, Germany; e-mail: uch@denali.uni-trier.de, fax \*49-651-201-3815 (until March 31, 1996; late applicants and students interested in geomathematics in general may be considered).

**Contacts**

A. N. Bugaets in Almaty, Kazakhstan, is seeking US citizens to collaborate in applying computers in exploring for ore deposits. His address is:

Prof. A. N. Bugaets  
Bogenbay Batyr 115  
The Kazakh Scientific Research Institute of Mineral Resources  
480091 Almaty, Republic of Kazakhstan  
FAX 7 3272 61-82-18  
or 7 3272 61-68-49

*IGC Program continued from p. 5*

The papers selected for **poster** presentation are as follows:

- Ho, Chih-Hsiang, Smith, E.I., and Yogodzinski, G., Volcanic Hazard Assessment Incorporating Multiple-Expert Knowledge  
Wang, Xihua and Wang, Silong, Comprehensive Processing of Multiple Geological Data and Mineral Deposit Evaluation  
Chen, Zhuoheng, Ma, Xinghus, and Sinding-Larsen, R., Cross Validation of Petroleum Resource Assessment Results--Example from the Tertiary Play in the Dongpu Depression  
Koshelev, V.K., New Original Solution of Quantitative Prediction of Ore Deposits for the 21st Century  
Jin, Zium, Shbilman, B.I., and Wu, Shoucheng, A System for Quantitative Petroleum Resource Evaluation  
Tonkopyi, M.S., Mathematical Characteristics of Geological Bodies and Quantitative Prediction of Mineral Resource in Kazakhstan  
Hu, Ruilin, Li, Xiangquan, Liu, Changli, He, Bogan, and Guan Guolin, Principles and Techniques of Development of GHMBS  
Korobitsy, A.V., The Numerical Method for Gold Deposit Estimation  
Fu, Shuixing and Li, Gong, Application of Synthetic Analysis of Multi-geoscience Information to Studying Copper Deposits--Control Factors and their Spatial Distribution in Luwu Region  
Sun, HongJun, RCE: Composite Evaluation Toolkit of Regional Reservoirs--Implementation and Application

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