

INTERNATIONAL ASSOCIATION
FOR MATHEMATICAL GEOLOGY



NEWSLETTER

OCTOBER 1991 ISSUE NO. 43

THIS NEWSLETTER IS A BIENNIAL PUBLICATION OF IAMG
AND IS A SERVICE TO THE MEMBERS

INTERNATIONAL ASSOCIATION FOR MATHEMATICAL
GEOLOGY
Council Members and Officers, 1989 - 1992

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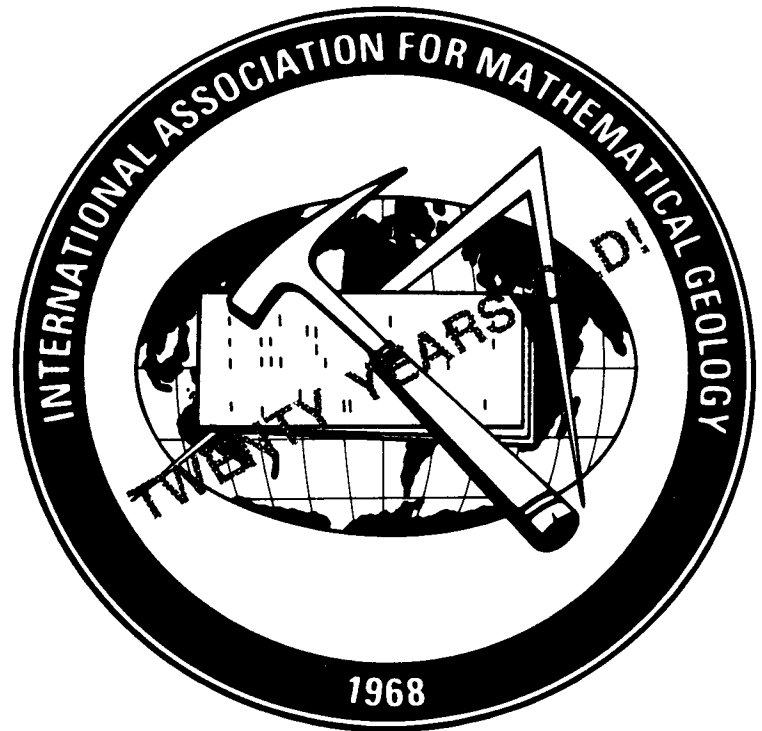
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CONTENTS, IAMG NEWSLETTER ISSUE NO. 43

1. KRUMBEIN MEDALIST: **Dr. Andre Journal**
2. NEVADA MEDALIST: **Dr. Benoit Mandelbrot**
3. 1988 PRESIDENT'S PRIZE: **Dr. Andrew Solow**
4. Newsletter Publication Deadlines
5. ASA Section on Statistics and Environment
6. Symposium on Data Analysis and Computer Tech.
7. Nominations Requested
8. Report and Notes from Western Treasurer
9. Articles for 1st Issue of New Journal
10. Short Course on GIS
11. A Survey to be Completed
12. Student Travel Awards
13. Attention: Respond to Merriam
14. Forthcoming Articles
15. IAMG Signs new Contract
16. IAMG President Appoints Organizing Committee
17. Travel Grant for IGC
18. Editorial: Adventures in the Carpal Tunnel

Attachments:

1. Excerpt from 2nd Circular, 29th IGC
2. Avoiding Carpal Tunnel Syndrome
3. Geoscience Information Group Constitution
4. Excerpt from 1991 Upcoming Pribram
5. First Circ., Symp. on Data An. and Comp. Tech.
6. GIS Short Course Info.
7. SIAM Conferences
8. Gibbs Associates Announcements
9. International Mineralogical Assoc. Survey

1989 KRUMBEIN MEDALIST

DR. ANDRE G. JOURNEL



Andre G. Journel

Dr. Andre G. Journel is the recipient of the 1989 Krumbein Medal, awarded by the International Association for Mathematical Geology. In his letter to Andre notifying him of his selection for the award, IAMG President, **Richard B. McCammon** wrote, "After your long association with the development and growth of geostatistics worldwide and your sustained outstanding contributions in this field, it is indeed fitting and proper that you have been selected as the Krumbein Medalist for 1989. It is both a personal pleasure and privilege for me to notify you of this honor, and to be the first to congratulate you."

Andre received his Baccalaureate degree in mathematics in 1961 from Lycee Ampere, Lyon-France; in 1967, he earned his degree in Civil Mining Engineering from Nancy Mining and Metallurgical School, France. In 1974, he was awarded an Engineer Doctorate in economic geology from the University of Nancy, France. Later, he earned a Docteur-es-Sciences in Applied Mathematics in 1977 from the University of Nancy, France; from the work toward this degree emerged his book: Mining Geostatistics, published in 1978 by Academic Press, the best and most comprehensive book written to date on geostatistics [editor's opinion].

Andre joined Stanford University, California (USA) in 1978, as an associate professor in the Department of Applied Earth Sciences; there, he developed an extremely successful graduate and research program in geostatistics. In 1986, he was promoted to full professor and coincidentally appointed chair of the department. In 1988, the Stanford Center for Reservoir Forecasting, a program supported by 24 oil-related companies, was formed and Andre was appointed its director. His career is one of astonishing success.

In the past two decades, Andre has been the unquestioned leader in research expanding our knowledge on applied geostatistics and development of nonparametric geostatistical methods. Perhaps most importantly, he never hesitates to help individuals with problems involving geostatistics, either in practice or in research.

1991 NEVADA MEDALIST

DR. BENOIT B. MANDELBROT



Dr. Benoit B. Mandelbrot

On March 20, 1991, **Dr. Benoit B. Mandelbrot** became the fourth recipient of the Nevada Medal. This medal is sponsored by Nevada Bell and includes a \$5,000 prize. It is awarded annually in recognition of outstanding achievements in science and engineering. Nominations are received nationwide from universities, industrial research groups, government agencies and individuals. Mandelbrot received the silver medallion from Nevada governor, **Robert Miller**, Desert Research Institute (DRI) President, **Dr. James V. Taranik**, and Nevada Bell President, **Robert Blanz**, in formal ceremonies held in Reno, Nevada (USA).

Mandelbrot gave two presentations in association with his receipt of the Nevada Medal, one at the University of Nevada, Las Vegas, the other at the University of Nevada, Reno, each entitled, "Fractals: For the Pleasure of the Eye and the Pleasure of the Mind." A luncheon was held for Mandelbrot on the UNR campus, attended by UNR President, **Dr. Joseph Crowley**, DRI President, **Dr. James Taranik**, UNR Vice President for Research, **Dr. Kenneth Hunter**, DRI Vice President for Research, **Dr. William Bishop**, UNR Acting Vice President for Academic Affairs, **Dr. William Cathey**, and IAMG Newsletter Editor, **Dr. James Carr**.

1988 PRESIDENT'S PRIZE

DR. ANDREW R. SOLOW

In the last issue of the *Newsletter*, a feature on **Dr. Andrew Solow**, 1988 recipient of the IAMG President's Prize, was promised. It is fitting that a tribute be made to Dr. Solow in this issue because his Ph. D. advisor was **Dr. Andre Journel**, who is featured in this issue as the recipient of the 1989 Krumbein Medal.

Dr. Solow earned his Bachelor of Arts degree in economics from Harvard University (Cambridge, Massachusetts, USA) in 1977. Subsequent to this degree, he earned a Master of Science in geomathematics from Stanford University in 1981. Later, he earned his Ph. D. in geostatistics from Stanford University in 1985 with the dissertation, Kriging Under a Mixture Model.

In recent years, **Dr. Solow** has been highly active in research related to global climate change. He is a member of the **Climate Trends Panel**, established by the National Climate Program Office. He is also a member of the Scientific Working Group of the **Intergovernmental Panel on Climate Change** established by the United Nations Environmental Program and the World Meteorological Organization.

Since earning his doctorate in 1985, **Dr. Solow** has published more than thirty articles in peer-reviewed journals, a phenomenal publication record. These journals include Mathematical Geology, Journal of Climate, Climatic Change, and Journal of Mathematical Biology. **Dr. Andrew Solow** is currently a statistician with Woods Hole Oceanographic Institution, Woods Hole, Massachusetts (USA).

NEWSLETTER PUBLICATION DEADLINES

The IAMG Newsletter is published biannually, with target mailing dates in October and March. To assure publication in a particular issue of the Newsletter, please send material to me by the following deadlines:

For the October issue: August 15

For the March issue: February 1

To help me in preparing each issue, if you word process your submission, please send me a diskette if your file is MS-DOS compatible and WordPerfect 5.1 compatible. I am always grateful for information for the Newsletter [editor's comment].

AMERICAN STATISTICAL ASSOCIATION'S SECTION ON STATISTICS AND ENVIRONMENT

Because of the interest of many societies and associations in environmental issues, there have often been special sessions devoted to this important topic at a wide variety of regional and national conferences. The ASA's section on Statistics and the Environment would welcome the opportunity of co-organizing conference sessions on environmental issues or interacting in other professional ways with the IAMG. For more information, please contact ASA representative:

Noel Cressie
Department of Statistics
Iowa State University
Ames, IA 50011 USA
Phone: (515)-294-3440
FAX: (515)-294-4040
e-mail: S1.NAC@ISUMVS.BITNET

FIRST CIRCULAR

SYMPOSIUM ON DATA ANALYSIS AND COMPUTER TECHNOLOGY AND THEIR APPLICATION FOR GEOCHEMISTRY AND GEOENVIRONMENTAL RESEARCH

Toward the end of this Newsletter (please see the Table of Contents), please find the complete circular for this meeting. I apologize for not retyping this circular (please see my Editorial). If this circular is illegible, please contact the following address:

SYMPOSIUM ORGANIZING COMMITTEE
Naukova str. 3a,
290053,
Lviv - 53, Ukraine

NOMINATIONS REQUESTED

It's time once again to select a slate of Officers and Council members for IAMG. Richard B. McCammon, IAMG President, has appointed a Nominating Committee consisting of J.H. Schuenemeyer, Chair, R.M. Renner, and W.E. Sharp to prepare a list of candidates for the Offices of President, Vice-President, Secretary General, Eastern Treasurer, Western Treasurer, and six Councillors. Please send your nominations to:

Jack Schuenemeyer
Department of Mathematical Sciences
University of Delaware
Newark, DE 19716 (USA)
e-mail: jacks@brahms.udel.edu

Please send nominations by **December 15, 1991**. Ballots will be sent to IAMG members by March, 1992. Voting can be by mail (prior to August, 1992), or in person at the International Geologic Congress in Kyoto, Japan, where the election will be held.

REPORT FROM THE WESTERN TREASURER

John Kork has prepared the following report:

International Association for
Mathematical Geology

STATEMENT OF REVENUE AND EXPENSES -- CASH BASIS

	<u>Year Ended December 31</u>	
	<u>1990</u>	<u>1989</u>
GROSS REVENUE		
Membership dues/books	\$34,530	26,337
Royalties from Pub.	71,211	9,397
Interest Income		
Checking/Money Mark.	4,011	2,164
U.S. Treasury Notes	815	---
Short-term world income funds	716	---
GNMA-series E, J and accumulation trust	357	340
Dividend income - U.S. government securities	<u>4,002</u>	<u>3,667</u>
Total gross revenue	<u>115,642</u>	<u>41,905</u>
GENERAL AND ADMINISTRATIVE EXPENSES		
Journal subscriptions	28,484	28,018
Books for members	5,814	---
Convention booth exp.	---	6,950
Travel expenses	2,106	3,509
Meetings	4,421	794
Membership promotion	2,876	---
Postage	995	707
I.A.M.G. stickers	---	462
Supplies and printing	898	178
Newsletter	6,010	195
Legal and accounting	510	165
Investment expenses and bank charges	318	30
Application fee - tax exemption	300	--
Miscellaneous	104	--
Total gen. and admin. expenses	<u>52,836</u>	<u>41,008</u>
EXCESS REVENUE OVER EXP.	<u>62,806</u>	<u>897</u>

BALANCE SHEET -- CASH BASIS

	<u>December 31</u>	
	<u>1990</u>	<u>1989</u>
ASSETS		
CURRENT ASSETS		
Cash in checking	\$ 723	\$ 37,904
Cash in money market	<u>47,120</u>	<u>188</u>
OTHER ASSETS		
Investments - at market value:		
U.S. govt. secur.	51,702	48,287
Short-term world income funds	30,306	---
U.S. Treas. Notes	20,700	---
GNMA unit trust accum.	2,161	1,890
GNMA series E	776	909
GNMA series J	<u>432</u>	<u>456</u>
Total, other assets	<u>106,077</u>	<u>51,542</u>
TOTAL ASSETS	<u>153,920</u>	<u>89,634</u>

LIABILITIES AND FUND BALANCE

LIABILITIES	---	---
FUND BALANCE		
Balance at beginning of year	89,634	86,238
Net unrealized gain (loss) during the year on non-current invest. see accompanying note	1,480	2,499
Excess of revenue over expenses, for year	<u>62,806</u>	<u>897</u>
Balance at end of year	<u>153,920</u>	<u>89,634</u>
TOTAL LIABILITIES AND FUND BALANCE	<u>153,920</u>	<u>89,634</u>

NOTES FROM WESTERN TREASURER

1. Members are advised to use my full address on correspondence. The Denver Federal Center is a large facility, and mail can go astray without the proper address. In one case, a renewal notice was sent to the wrong mail stop, and was forwarded to me only after a four month long exchange of letters with the bank in Germany issuing the enclosed check. The full address is:

INTERNATIONAL ASSOCIATION FOR MATHEMATICAL GEOLOGY
Dr. John O. Kork, Western Treasurer
U.S. Geological Survey, Mail Stop 937
Box 25046, Denver Federal Center
Denver, CO 80225-0046 USA

2. The SWIFT (Telex) method of dues payment has not worked out very well. First, there are significant bank charges on both ends of the transaction which, because we only charge one dollar more for subscriptions than our cost, cause us to lose money on every subscription. In one instance, we received only \$17.00 from a \$30.00 payment. Second, I have received a number of cards indicating that a SWIFT transfer was being used, but no transfer ever arrived at my bank. In these cases, I must write to the senders to try to find out what happened, and in no case so far have I succeeded in finding out. Third, the Telex message accompanying some deposits does not identify who the sender was and I have to try to find out through the bank, often unsuccessfully. Unfortunately, the source countries and amounts of the unexplained deposits seldom match those of the cards without corresponding transfers.

3. The delivery of replacements for lost copies of *Mathematical Geology* has been, at best, erratic so far this year. **Plenum Publishing Company** recently moved its distribution center. The warehouse was closed for a few weeks and thus has been backlogged with shipments. Also, some of the new data entry operators seem to be poorly trained at present. Rather than send the replacement copies to the subscriber, they send them to me with no indication of which of my correspondence they are addressing. Hence, I have no idea to whom they are to go, and I just send them back and hope for the best. The publishers say to allow 4 to 6 weeks from the date of their notification for delivery of replacement copies, and I usually forward my notification to them within 2 weeks receipt. Please notify me promptly if your replacement copies have not been delivered.

4. I have received requests for missing copies of journals for as far back as one and one-half years from the date of issue. The publishing companies have so far accommodated these requests but have been advising me that they usually send replacement copies for only six months from the date of issue. Again, please notify me promptly if replacements are needed.

5. The 1990 IAMG financial statements as reviewed by the public accounting firm of Serr, Shanks, Stumm, & Mittelstaedt are printed in this Newsletter. I feel that the cash flow and assets are large enough to justify review by a professional accountant in order to verify that proper business procedures have been used in handling the money. The excess of income over expenses for 1990 is a one-time windfall because this year we received journal royalties for two previous years.

ARTICLES SET FOR FIRST ISSUE
OF NEW IAMG JOURNAL

The manuscripts for the first issue of IAMG's new journal on Nonrenewable Resources are now in hand. The contents of Volume 1, Number 1, to appear in February, 1992, follow:

Editor's Introduction
Directions

Prologue, L.J. Drew

Forum

Panel discussion on energy and mineral resource assessments -- How are they done? Who are they for? How effective are they?, by F.P. Agterberg, R. Eggert, J.C. Griffiths, T. Offield, S. Plotkin, and D.A. Singer

Articles

Combination of indicator patterns in weights of evidence modeling for resource evaluation, F.P. Agterberg

Review of resource analysis and related studies: Working group, Mathematical Geology, Freie Universitat Berlin, M. Shuman, H. Burger, C. Kliem, and W. Skala

A petroleum discovery rate forecast revisited--The problem of field growth, L.J. Drew and J.H. Schuenemeyer

A treatise on the use of geostatistics for the characterization of nonrenewable resources, J.R. Carr

Quantitative assessment of mineral resources with an application to petroleum geology, J. Harff, J.C. Davis, and R.A. Olea

A mineral potential classification that supports land-use policy decisions in British Columbia, Canada, G.P. McLaren

A generalized multivariate resource model, D.P. Harris

Book Reviews

Quantitative analysis of mineral and energy resources, by Chung, C.F., Fabbri, A.G., and Sinding-Larsen, R. (eds.), reviewed by J.H. Schuenemeyer

Economic evaluations in exploration, by Wellmer, F., reviewed by W. Szymanski

Mineral Resources Potential of Antarctica, by Spletstoesser, J.F. and Dreschoff, G.A.M. (eds.), reviewed by B.F. Molnia

IAMG members are encouraged to subscribe and to contribute to the new journal. Details about annual subscriptions will be included in this year's dues notice. Guidelines to contributors for the new journal were included in the March 1991 IAMG Newsletter. Anyone wishing to submit a manuscript should send it to:

Editor, Nonrenewable Resources
P.O. Box 34600
Bethesda, Maryland 20827 U.S.A.

SHORT COURSE ON MINERAL POTENTIAL MAPPING WITH GIS

A 5-day Short Course entitled **Mineral Potential Mapping With GIS** will be offered at the University of Ottawa, November 11-15, 1991. The principal lecturers will be Drs. Graeme Bonham-Carter and Frits Agterberg from the Geological Survey of Canada, both Adjunct Professors in the Geology Department.

The course will cover methods of using Geographic Information Systems to integrate regional datasets for assessing mineral potential. The emphasis will be on the use of models for combining maps and the implementation of these models in a GIS environment.

Some of the approaches to be discussed include:

- Subjective weighting
- Bayesian weights of evidence
- Weighted logistic regression
- Prospector-type inference networks

An important feature of the course will be the computer exercises that will be interspersed with each lecture. SPANS GIS (Version 5) running on 386 and 486 PCs under OS/2 will be used, with no more than 4 participants assigned to each system. Applications will mainly be to gold mineralization in Nova Scotia and base-metals in Manitoba.

The principal focus will be metallic mineral assessment, of interest to managers, geologists, and computer specialists working in the field of mineral exploration or resource assessment. The methods may also be of interest for oil exploration, environmental impact and hazard assessment.

Participants are invited to bring digital datasets of their own. Although a background in digital mapping and quantitative methods will be an advantage, no prior GIS experience will be assumed. The course costs \$1,500 Canadian. For further information and registration, write to:

GIS Short Course
Department of Geology
University of Ottawa
770 King Edward
Ottawa, Ontario, K1N 6N5 Canada
phone: (613) 564-3480

FAX: (613) 564-9916.

Note: please find the photocopy of the complete brochure for this Short Course at the end of this Newsletter.

A Survey to be Completed

Toward the end of this Newsletter, a survey of computer software appears; this survey is prepared by the International Mineralogical Association, Working Group on Databases and Computer Applications. Even if you receive the Newsletter after the October 1 deadline for mailing the survey, please complete it and mail it anyway.

Also Toward the End of the Newsletter:

1. A listing of SIAM Conferences, Meetings, Symposia, Tutorials, and Workshops;
2. The program for the 1991 Pribram, Czechoslovakia meeting;
3. Information items from Betty Gibbs and Associates.

STUDENT TRAVEL AWARDS

Item Submitted and Written by Dr. C. John Mann

The International Association for Mathematical Geology is pleased to announce that an annual travel award has been established to assist students in attending an IAMG sponsored meeting at which they will present orally a scientific paper. The rules under which the award will be granted by the Student Award Committee are those stated below:

Rules

1. The Student Award shall be made to a student who has submitted, or will submit, a scientific paper for oral presentation, and its subsequent acceptance for presentation by the Technical Committee, for any IAMG sponsored meeting.

2. Candidates for an award will be students at recognized tertiary educational institutions (advanced undergraduates and graduate level), or who have graduated from such institutions not more than 12 months prior to the meeting at which the paper is being presented.

3. The Student Award Committee will use the following materials, submitted by each candidate, to select the winner(s):

a) written material that demonstrates originality and innovation in Mathematical Geology (not mathematics, computer science, geology, etc.);

b) at least one letter of recommendation from any member(s) of the scientific community involved in mathematical geology, stating why the candidate is worthy of the award; and

c) a curriculum vita (maximum of one page).

4. Written material submitted by the candidate should conform to the format of manuscripts submitted for publication to MATHEMATICAL GEOLOGY. Five copies should be submitted to the Chairman, Student Award Committee. [Currently, the Chairman is: Professor C. John Mann, Department of Geology, University of Illinois, Urbana, Illinois 61801 USA]. Submissions of material for Committee consideration should be made as early as possible before the meeting, but in no case later than nine months before the meeting; winners will receive notice at least three months before the meeting.

5. The award will be made for transportation expense only from the home of the winner to the location of the IAMG meeting. If the Award Committee wishes, two or more awards may be granted in one year; however, the total amount awarded each year will not exceed \$1,000 (US).

ATTENTION

This Newsletter contains considerable information about the 29 International Geological Congress. Papers are much needed for Symposium 2, Session 22-3 on Mathematical and Statistical Analysis of Geological Data, an IAMG Session. If you wish to submit a paper to this session, or plan to, please inform Dan Merriam as soon as possible:

Dan Merriam
Stratigraphic Studies Group
Box 153
Wichita State University
Wichita, KS 67208

FORTHCOMING ARTICLES

MATHEMATICAL GEOLOGY

&

COMPUTERS & GEOSCIENCES

In past issues of this Newsletter, sections entitled Forthcoming Articles, were presented for both Mathematical Geology and Computers & Geosciences.

The purpose of these sections was to inform readers of journal content, acknowledging that not all IAMG members receive both journals.

Rather than informing you of forthcoming articles, beginning with the March, 1992 edition of the Newsletter, a list of articles for the entire previous year will be presented for both journals. In this way, you will have information for journal content for both journals.

On June 26, 1991, IAMG signed a contract with Oxford University Press to publish the 4th in IAMG's monograph series. The title of the monograph is "Techniques for Determining Probabilities of Geologic Events and Processes: A Review." The editors of the monograph are Regina Hunter, Sandia National Laboratories (USA), and C. John Mann, University of Illinois. The monograph is a review of much of the efforts of a large number of geoscientists from many disciplines who were contracted to study the problem of estimating probabilities associated with the long-term storage of radioactive materials in natural repositories. The monograph will be published in early 1992. The good news is that IAMG members will be able to order the monograph at reduced rates. The member's price will appear in this year's dues notice.

IAMG President McCammon Appoints Organizing Committee for 25th Anniversary Meeting in Prague

IAMG President Dick McCammon has appointed Vaclav Nemeč, Dan Merriam, Michael Hohn, John Kork, Fritz Agterberg and Peter Dowd to serve on the Organizing Committee for IAMG's 25th Anniversary Meeting to be held in 1993 in Prague, Czechoslovakia (where it all began in 1968). The Organizing Committee will get together at the upcoming Pribram meeting in October to begin planning the meeting in earnest. If you have ideas or suggestions you would like to offer about the meeting, please get in touch with one of the Committee members. Next to the IGC, this is a meeting every IAMG member should plan to attend.

A Reorganization for UK Geoscience Group

The IAMG affiliate in the United Kingdom has been known as the Geological Information Group. Because the word, "geological" was thought to be too limiting, the group changed its name to Geoscience Information Group. Their new constitution is reproduced toward the end of this Newsletter.

Travel Grant Program 29th IGC in Kyoto, Japan—1992

The Geological Society of America is accepting applications for the 29th International Geological Congress (IGC) Travel Grant Program.

This program was established as a final act of the Organizing Committee for the U.S.-hosted 28th IGC held in Washington D.C., in July 1989. Surplus funds available at the conclusion of the 28th IGC were transferred to the GSA Foundation with the stipulation that income from the fund be used to support the attendance of young geoscientists to future IGCs, until such time as the United States again hosts an IGC. Travel grants will consist of economy airfare to Japan and prepayment of the registration fee.

To be eligible, an applicant must be a resident or citizen of the United States (includes students); must have a birth date after August 31, 1952; and must have submitted an abstract for inclusion in the program of the 29th IGC.

Official application forms are available from the Grants Coordinator, GSA Headquarters, 3300 Penrose Place, P.O. Box 9140, Boulder, CO 80301. Along with the form, applicants must include a copy of the abstract that was submitted to the 29th IGC. Applications must be supported by two letters from current or recent supervisors. Students may use faculty members. **Qualifying applications and letters of support must be postmarked no later than October 31, 1991.** Applicants will be notified of results early in 1992.

As professionals involved with data analysis, we tend to spend considerable time on the computer. I once spent between five to seven hours per day working on the computer. Now, I cannot use the keyboard as much. Before, I never paid much attention to the movements my fingers were making on the keyboard. To this end, I never considered the keyboard to pose a health hazard. Alas, but it does!

Computer users face an affliction known as carpal tunnel syndrome. The carpal tunnel is formed by the bones of the wrist and a dense ligament which passes over them. The tendons, which flex the fingers, pass through this tunnel from the muscles located in the region of the forearm to the bones that form the fingers. The median nerve, which brings electrical impulses to the muscles at the base of the thumb and also carries the sensations from the thumb and first three fingers, likewise passes through this same structure. When overuse causes the tendons to become inflamed and swollen, they press on the nerve. The result: intense pain and numbness of the thumb and fingers. The cure: a minor case can be cured by discontinuing work on the computer for a time and taking minor pain medication (acetaminophen (Tylenol) is recommended because aspirin and ibuprofen can cause stomach trauma. A major case requires surgery, recovery from which can take six weeks. [The majority of this paragraph was taken directly from a nationally (USA) syndicated newspaper article by Allan H. Bruckheim, "Skidding Through the Mysterious Carpal Tunnel"].

Last May, I was gravely concerned that I had a major case of carpal tunnel syndrome. Beginning one year ago, I began to notice a pain in my wrist which was manifested only when I attempted to put pressure on my hand, palm down on a surface (such as when doing push-ups). By last May, however, the pain was active. In early July, a short course on earth science for high school teachers began; I am the instructor for this course. I found on the first day of lecture that I was not able to hold the chalk. The next day, I visited my doctor. The affliction I had was not carpal tunnel syndrome; for instance, I did not have numbness in my thumb or fingers. The affliction was, instead, a metacarpal boss, a growth on one of the bones in my wrist. I was treated with an injection of steroids directly into the growth [You talk about pain!]. Within one week, most of the pain disappeared. I have noticed in working on this issue of the Newsletter, though, that I am susceptible to pain in the back of the hand, and I tire quickly, with a great deal of tension in the tendons of my right arm from my wrist to my elbow.

A metacarpal boss is also caused by working on the computer; the growth occurs because of the repeated trauma of the fingers banging at the keyboard when the arms and wrist are placed in an incorrect posture.

If you spend a considerable amount of time on the computer, please do the following:

- a. once per hour, stop work, raise your arms above your head, and flex your hands for several minutes;
- b. while working on the computer, your arms should be parallel with the floor; moreover, the base of your palms should be resting on a pad placed at the lower edge of the keyboard (below the space bar);
- c. if you notice any pain in your wrist, palm, or back of the hand, please see a doctor at once. If you notice any numbness, certainly see a doctor immediately; carpal tunnel syndrome, in the extreme, will cause a permanent loss of the use of a hand.
- d. please read the article included in this issue entitled, "Avoiding Carpal Tunnel Syndrome: a guide for computer keyboard users."

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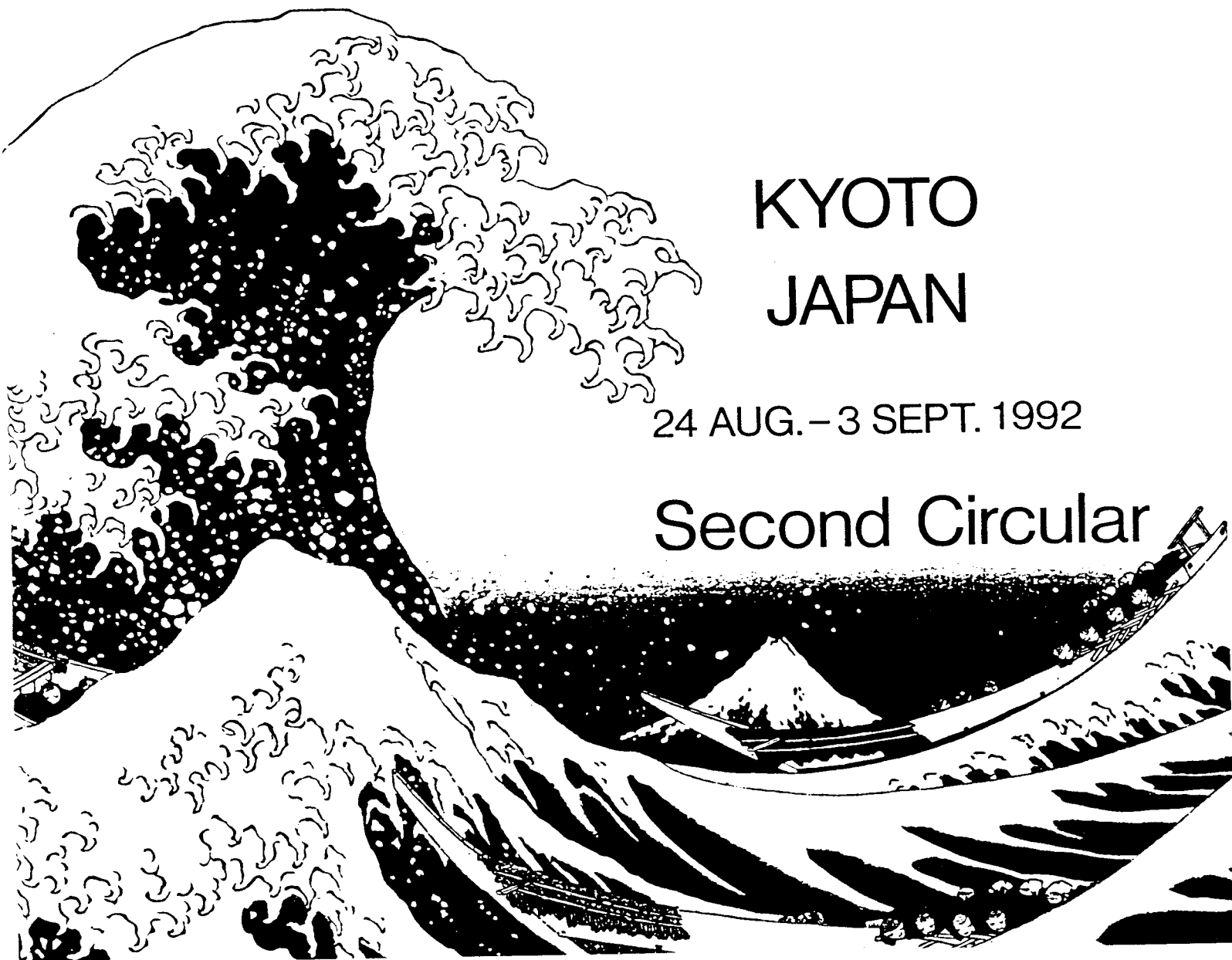
29th

INTERNATIONAL GEOLOGICAL CONGRESS

KYOTO
JAPAN

24 AUG. - 3 SEPT. 1992

Second Circular



SCHEDULE

Date	Subject	Address for Correspondence
1991		
1 April	Distribution of Second Circular	29th IGC, P.O. Box 65, Tsukuba Ibaraki 305, Japan
1 October	Deadline for Geohost Application	
1 December	Deadline for Abstract	29th IGC, P.O. Box 65, Tsukuba Ibaraki 305, Japan
1992		
1 February	Deadline for Registration Form with Reduced Registration Fee Final Payment for Field Trips, Short Courses and Workshops	29th IGC, Kasho Bldg. 2F, 2-14-9 Nihonbashi, Chuo-ku, Tokyo 103, Japan
1 April	Distribution of Third Circular	

August 1992			
16, 17, 18, 19 20, 21, 22 23 (Sun)	Field Trips A		
	Commencement of Registration at Kyoto		Short Courses and Workshops
24 (Mon) 25 (Tue) 26 (Wed) 27 (Thu) 28 (Fri)	Opening Ceremony		Welcome Party Social and Accompanying Member Programs
	Sessions		
29 (Sat) 30 (Sun)	Field Trips B	Short Courses and Workshops	Social and Accompanying Member Programs
31 (Mon) September 1 (Tue) 2 (Wed) 3 (Thu)		Sessions	Social and Accompanying Member Programs Farewell Party Closing Ceremony
September 4, 5, 6, 7, 8 9, 10, 11	Field Trips C		Short Courses and Workshops

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The Organizing Committee of the 29th International Geological Congress shall observe the basic policy of non-discrimination and affirms the rights of scientists throughout the world to adhere to or associate with international scientific activity without restrictions based on nationality, race, color, age, religion, political philosophy, ethnic origin, citizenship, language, or sex, in accordance with the Statutes of the International Council of Scientific Union.

The Organizing Committee endorses the concept of the universality of science and records its belief that coherent scientific communities, located within definable geographic areas, should not be prevented from participation in scientific activities because of unresolved political issues.

Send registration form contained in this Second Circular, along with all payment due, to:

29th IGC
Kasho Bldg. 2F, 2-14-9
Nihonbashi, Chuo-ku, Tokyo 103 Japan

Telephone: 81-3-3272-7981
Telefax: 81-3-3273-2445

Correspondence: Abstract, all other inquiries and general correspondence concerning the Congress should be addressed to:

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P.O. Box 65
Tsukuba, Ibaraki 305 Japan

Telephone: 81-298-54-3627
Telefax: 81-298-54-3629
Telex: 3652511 GSJ J

SECOND CIRCULAR

GENERAL INFORMATION

Place and Date

The Organizing Committee of the 29th International Geological Congress (IGC), organized by the Science Council of Japan, in collaboration with and under sponsorship of the International Union of Geological Sciences (IUGS), has the honor of inviting you to participate in the

29th SESSION OF THE INTERNATIONAL GEOLOGICAL CONGRESS IN THE KYOTO INTERNATIONAL CONFERENCE HALL FROM 24 AUGUST TO 3 SEPTEMBER 1992

The Congress site, Kyoto International Conference Hall, is located in the northern part of Kyoto City, the ancient capital of Japan.

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