

International Association of Geochemistry and Cosmochemistry

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NEWSLETTER

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FEBRUARY 1984

Treasurer

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I.TOKYO COUNCIL MEETING

This meeting was held in Japan before and during the 4th International Symposium on Water-Rock Interaction, August 29 to September 8, 1983. The following members were present: BARSUKOV Valery (USSR) President, HITCHON Brian (Canada), Vice-President, WETHERILL George (USA) Past-President, ANGINO Ernest (USA), Treasurer, BARNES Ivan (USA), KOGARKO Liya (USSR), MASUDA Akimasa (Japan), TARDY Yves (France), Council members, DEUTSCH Sarah (Belgium), Secretary.

Mr Georgio FERRAR, representative of the Italian National Committee of Geochemistry and co-organizor of the meeting in 1985 on "Potassic Volcanism in different Geotectonic Settings", which will be sponsored by IAGC and IAVEI, was present at the meetings.

1. Report of the President V.L. BARSUKOV (verbatim)

"First of all my duties as a President included presentation of the annual report to the IUGS General Secretary - Dr. C.C. WEBER. The report was considered and approved by IUG\$ and consequently IAGC was allocated with \$ 500.

Besides, I have concentrated much attention to the organization of the "Geochemistry and Cosmochemistry" section at the 27 th International Geological Congress in Moscow, August 4-14, 1984. After thorough examinations of all replies to the 1st circular, it turned out that themes C.11.1.7 "Geochemistry of Extraterrestrial Matter" and C.11.1.8 "Geochemistry and Mineralogy of Meteorites" were not quite enough represented by scientists. We have decided to combine these two themes into one : "Geochemistry of Extraterrestrial Matter":

Petrochemistry, mineralogy and geochemistry of lunar and meteoritic matter, Chemical fractionation during various stages of planetary evolution, Geochemistry of the lithosphere and atmosphere of Venus and Mars.

Chairmen: V.L. BARSUKOV (USSR), D. LAL (In), E. SABO (Hu), R. TAYLOR (Au), A.A. YAVNEL (USSR) This alteration will appear in the third circular.

All precongress communications will be published in two volumes (in Russian and English) in Holland (the negotiations on printing are taking place now). Each theme will present 3 papers for publication - 2 from foreign scientists and 1 from the Soviet Union. But unfortunately, some foreign scientists have not submitted to present papers. Other papers have already been translated into Russian and are now in the process of editing. Russian papers are being translated into English.

Prof. G. WETHERILL was elected as a representative of "Geochemistry and Cosmochemistry" section to the Programme Commission which will meet in Moscow, in November 1983. The Commission will review the full programme of the section based on the abstracts received. Deadline for sending abstracts is September 1, 1983.

We are negotiating on the possibility of inviting foreign scientists as guests of the Academy of Sciences of the USSR - probably we could invite 4--6 persons.

Two meetings of IAGC Council and General Assembly are going to be held during the Congress.

Much was done in the organization of the 10th International General Exploration Symposium and the 3rd Symposium on Methods of General Prospecting in Helsinki. The Soviet side took an active part to its organization in particular in the post-session trip to Soviet Farelia and Leningrad.

IAGC with UNESCO support of \$8000 interests to

convene a consultative meeting of experts in Applied Geochemistry on problems of international cooperation in the field of "applied geochemistry and international geochemical teaching" on August 31, 1983. After my meeting with Prof. J. GONI in Moscow and speaking with him on this matter, he will chair this meeting. Experts in applied geochemistry from different countries are invited to this meeting. They will discuss 1) the questions on organization of the new Working Group "International geochemical teaching", 2) election of its chairman, and 3) its convocation in Ethiopia or Brazil.

I have also managed to get UNESCO support of \$6000 for the WRI-4 symposium and \$5000 for the symposium "From asteroids to meteorites", and as I have already mentioned for the Helsinki symposium (\$8000). Besides, 4000 roubles were allocated for publication of the Rostov-on-Don symposium proceedings and the Editorial Board was also organized.

2. Report of the Secretary S. DEUTSCH

a) Newsletter

Besides editing the Newsletter, the secretary tried to make this publication more widely known. A circular was sent to the corporate members and to chairmen of W.G., drawing their attention to the need of widely circulating copies of the N.L. which they receive, and asking for addresses of members to be reached directly who may help to distribute the N.L..

Few answers were received.

b) W.G. on International standards

Contact, including a visit to the 'Centre de Recherches Pétrographiques et Géochimiques' in Vandeouvre-Nancy (France), was established between Dr GOVINDARAJU and Dr de la ROCHE, editor and President of the Geostandards Newsletter and Dr H. WÄNKE and S. DEUTSCH for IAGC.

A first step was accomplished toward cooperation by the acceptance of H. WÄNKE and Dr BELYAEV (Moscow) on the editorial board of Geostandards N.L. as suggested by Dr GOVINDARAJU, more than one year before. The constitution of a scientific "Coordination Group on International Standards" was seen as a necessity. But it was decided to postpone the creation of this coordination group until the following steps were realized.

The five members will constitute the nucleus of the coordination group. They are charged with the publication, before Summer 1984, of a special issue of Geostandards N.L. on available standards with the values given by the institute which made them available. Dr. GOVINDARAJU agreed to be responsable for the list of standards in the laboratories of the Western countries and Dr BELYAEV for those of the Eastern countries.

Financial support will be sought by President BARSUKOV. In a second phase, the "Coordination Group" will be constituted. It would be appropriate for it to organize a special symposium sponsored by IAGC on international standards during a scientific meeting in Geochemistry or Geology. The possibility that Geostandards N.L. be adopted as an official journal of IAGC was offered by H. de la ROCHE and K. GOVINDARAJU.

3. Report of the Treasurer E.E. ANGINO

The financial report was presented by Treasurer E. ANGINO and approved by the Council He indicated that the changes proposed last year in the IAGC statutes were necessary so that the Association is in conformance with U.S. tax law.

The number of individual members stays stable around 325. So are the corporate mem-

bers (19). Dues from Iran and Germany could not be collected last year.

The Treasurer suggested that before 1984 and the next General Assembly the books be checked by two independent IAGC members, Mrs ANGINO being the Public Accountant until now. The Council agreed upon this step.

IAGC REVENUE AND EXPENDITURE REPORT

FOR THE PERIOD OF JULY 1, 1982 TO JUNE 30, 1983

Fund Balance, June 30, 1982 Revenues:		\$13,332.20
Corporate Dues	\$3780.00	
Membership Dues Interestchecking account	2448.50 574.13	
InterestMoney Market Fund	460.60	
N.A.SIceland	1000.00	
IUGS Support IUPAC-Refund	500.00	
UNESCO (Mainz Meeting)	455.30 3700.00	
UNESCO (Misasa, Japan)	5500.00	18,418.53
		\$31,750.73
Expenditures:		
Bank charges	\$ 61.70	
Postage and Xeroxing	201.03	
Audit	75.00	
Legal Labels	382.80 29.66	
Newsletter	500.00	
Iceland Travel	1100.28	
Travel-Germany(from Tanzania)	1090.00	
Typing and Secretarial Services IUPAC (London)	143.93	h 30h h0
* # #	600,00	4,184,40
FUND BALANCE, JUNE 30, 1983		\$27.566.33
Check Book Balance 6/30/83	\$17,105.73	
Money Market Fund	10,460.60	
-	\$27.566.33	

Corporate Members Not Current In Dues--Therefore not voting members. Date in parenthesis is year of last payment as of June 30, 1983.

- 1. Germany (DDR) (1976)
- 2. Iran (1975)

I have examined the books and bank accounts maintained by Treasurer, E. E. Angino, and believe the accompanying financial statement for the period ending June 30, 1983 to be a true and correct record of the Association's financial affairs.

Margaret L. Angino

4. Reports of working groups

All reports received have been published in Newsletter N $^{\circ}$ 16. The one on Isotope Geochemistry received recently is summarized below.

For the W.G. on Health and Diseases, Dr I. THRONTON accepts to be Chairman.

5. New working groups

a) Geochemistry Teaching

Prof. BARSUKOV announced that according to action already taken last year, a special consultative meeting on "International Cooperation on Applied Geochemistry and International Geochemistry Teaching" was convened by J. GONI on August 1983 at ESPOO (Helsinki, Finland) during the 10th IGES - 3rd SMPG Symposium, with UNESCO support. Two countries are candidates to host such a school: Ethiopia in 1984 and Brazil in 1985.

The agenda of this meeting was as follows:

- Actual state of international co-operation on Geochemical Prospecting;
- 2. Applied Research and Training;
- 3. IAGC new working group on "Geochemical Teaching";
- 4. Analytical Chemical World Standard Exchange and Feasibility of Geochemical Data Base System and Publication of Practical Monographs
- 5. Role of the Centre International pour la Formation et les Echanges Géologiques (International Center for Training and Geological Exchange);
- 6. Conclusion and recommendations.

b) International Standards

Funds have been requested from UNESCO for financing the special issue of Geostandards with data on international standards (see above). The Council expressed the wish to have this issue ready for the next Geological Congress in Moscow, August 1984. It will be sent to different laboratories and Institutions especially in the developing countries and sold at the congress. 5,000 copies would be the appropriate number to print.

A symposium on international standards might be held at the Congress of Geochemistry which will be organized in the coming years (see below).

6. Official Journal of IAGC

Dr WETHERILL reported the negative position of the board of Geochimica and Cosmochimica Acta to the offer of IAGC. He agreed to inquire further about the possibilities with Chemical Geology. B. HITCHON was willing to discuss the problem with Dr FYFE at Misasa and also to contact the Journal of the Association of Exploration Geochemistry. Prof. BARSUKOV accepted to negotiate with Dr GOVINDARAJU the offer to adopt Geostandards Newsletter.

7. Report on International Geochemistry Research Center

Dr MASUDA developed his ideas about the possibility that a branch of Geochemistry will be organized at the United Nations University, which was established as an International University in Japan. A few geochemists could be appointed as research and teaching staff of UNU. His suggestion that the President of IAGC advance such a proposal was accepted and Prof BARSUKOV will send a report,

There are good chances that UNU might come to be interested in the IAGC proposal because of the International and Interdisciplinary nature of Geochemistry and Cosmochemistry and its bearing on global environments and natural resources. Moreover, the activity of the W.G. on International Geochemical Teaching of IAGC will have connections with UNU.

8. Preparations for IAGC sponsored technical sessions at the International Geological Congress, Moscow, USSR, 1984

See the Report of the President BARSUKOV $(n^{\circ} 1)$

- 9 . <u>New Busi</u>ness
 - a) Proposed reorganization of Commissions and W.G.

The proposition made by B. HITCHON was considered with great attention. After discussion, the Council agreed to change all the names of commissions to working groups to simplify the situation. The present situation is as follows:

- 1. W.G. on Geochemical Prospecting
- 2. W.G. on Water-Rock Interaction
- 3. W.G. on Interaction between Water and Living Matter
- 4. W.G. on Extraterrestrial Geochemistry
- 5. W.G. on Weathering, Sedimentary and Diagenesis Processes
- 6. W.G. on Isotope Geochemistry
- 7. W.G. on Thermodynamics in the Earth and Planetary Sciences
- 8. W.G. on Geochemistry of Health and Diseases

Proposed W.G.

- 1. International Teaching of Geochemistry
- 2. International Standards
- b) "Geochemistry of Weathering, Sedimentary and Diagenetic Processes"
 The creation of a working group, with the above modified title, proposed by Y. TARDY, was approved by the Council members with the understanding that it includes the former W.G. on Laterites and Laterization.

 President BARSUKOV will appoint the Chairman after consultation with

President BARSUKOV will appoint the Chairman after consultation with the proposers of the W.G.

- c) <u>Celebration of the 20th Anniversary of the creation of IAGC in 1987</u>
 Council members agreed with the possibility of celebrating the 20th anniversary on the occasion of the Geochemical Congress to be organized by Professor MELFI (from Sao Paulo University) in Sao Paulo, Brazil, in 1987. Prof. MELFI would have to submit a precise topic for this meeting at the next general assembly in Moscow (1984) where the final decision will be taken.
 - d) Symposium on Mediterranean volcanism in 1985

The Council is ready to sponsor the proposed symposium with IAVCEI. Contacts have been established by the secretary with the new officers of this organisation in order to organize a colloquium on the geochemical aspects of Mediterranean volcanism.

10. Report of Nominating Committee

Dr WETHERILL reported the suggestions of the Nominating Committee, which was composed as follows:

- Prof. G. EGLINGTON Chairman
- Organic Geochemistry Unit Cantock's Close Bristol ENGLAND BS8 ITS
- Prof. M. FORNAZERI
 - Instituto di Geochimica Citta Universitaria 00100 Roma ITALY
- Prof. G. WETHERILL

Director Department of Terrestrial Magnetism - Carnegie Institution of Washington - 5241 Broad Branck Road, NW - Washington DC 20015 - USA

- Prof. A. MASUDA
 - Dept of Chemistry Faculty of Sciences The University of Tokyo Bunkyo-Ku Tokyo 113 JAPAN
- Prof. I.L. KHODAKOVSKY

Vernadsky Institute of Geochemistry and Analytical Chemistry - Academy of Sciences of the USSR - Kosygin Street, 19 - Moscow 117334 - USSR

The proposed slate of nominations for IAGC Committe for 1984-1988 has been accepted by the Council.

This slate has been submitted by Nominating Committee, August 1983.

President: Dr. Mark H. Grünenfelder (Switzerland)

Vice President: Dr. Heinrich Wänke (FRG)

Treasurer: Dr. Ernest E. Angino¹ (USA) Secretary: Dr. Brian Hitchon (Canada)

Council Members (8 required): Dr. Ivan Barnes (USA), Dr. M. Carapezza (Italy), Prof. K. Kigoshi (Japan), Dr. L.N. Kogarko , (USSR), Prof. D. Lal (India), Dr. S. Moorbath (UK), Prof. F. Mrna (Czechoslovakia), Prof. H. Sorensen

(Denmark).

¹ Renomination

Preparation for the IAGC General Assembly to be held at IGC Moscow (1984)

The agenda will comprise:

- Report of the President Report of the Secretary Report of the Treasurer
- Proposed changes in statutes
 Information should be sent to the members before the G.A.
- Election of new officers
- Ratification of the action of the Council by the G.A.

12. New candidate as corporate member

Dr J.P. EBERHARD, President of SFMC (Société Française de Minéralogie et cristallographie) informed President BARSUKOV that the council of SFMC has agreed to the foundation of the "French group of Geochemistry and Cosmochemistry" inside this Society. SFMC makes application to IAGC as corporate member.

After discussion, the council agreed unanumously to SFMC becoming the national member of France, subject to satisfactory explanation of the number of geochemists this Society represents in France.

13. Financial support

a) The Council agreed to sponsor the "Second International Symposium on Hydrothermal Reactions" which will be organized by the W.G. on Thermodynamics of Natural Processes at Pennsylvania State University USA, August 1985. The financial request, up to 2,000 dollars, of this

- b) The Council agreed to support to the maximum of \$ 1,000, the request of B. HITCHON as assistance in publishing a world Directory of WRI Members, and their research fields.
- c) The 1982 report of IAGC sent by President BARSUKOV was adopted by the International Union of Geological Sciences (IUGS). From the minutes (p.20) of the XXVth Executive Committee Meeting of IUGS (Jan. 26-29, 1983, A.I.T., Bangkok, Thailand) the activities of IAGC were reported as follows:
- "C. WEBER (commentator) remarked that the report was very informative. The Association's 1982 activities include: 1) a Symposium on Geochemistry of Natural Waters held in Rostov, during which 5 plenary reports and 52 papers were presented and many resolutions adopted; 2) a Conference on Geochemistry of Isotopes held in Japan which brought out the high level of isotopic investigations and determined a new approach to geochronological investigations. Future activities include 1) a Symposium on Exploration Geochemistry to be held in Helsinki in 1983; 2) a Symposium on Laterites and Laterization to be held in Brazil and jointly organized with IGCP N° 129; 3) a Symposium on Extra terrestrial Geochemistry which will be held in Mainz (FRG) in September 1983.
- C. WEBER also indicated that 2 new working groups on International Standards and International Geochemistry Teaching and a new commission on Geochemistry of Natural Waters, with a meeting planned in Japan in 1983, had been proposed.

The Committee ADOPTED the Association's report and gave its congratulations on the quality of its presentation."

14. Proposal for changes of the statutes : by G. WETHERILL

- a) The Council agreed with G. WETHERILL's suggestions to try to gather into IAGC all existing Geochemical societies. He proposed to change the statutes to redefine corporate members, abolish this term and substitute for it the word "national members" and further introduce "affiliated societies".
- b) In the statutes, the following changes will be introduced Commissions will be named W.G.
 - In III.B. Council, line 7, the words "four years" will be deleted.

This suggestion results from the necessity to be "in phase" with next IUGS Congress which will be 1989 (not 1988).

These changes of statute will be submitted to vote at the next General Assembly in Moscow.

15. Meeting between IAGC Council members and Chairmen of Interest Groups of W.R.I. Working Group

Present for W.R.I. W.G. B. HITCHON (Canada) Chairman

T. PACES (Czechoslovakia) Vice-Chairman

J.A. BOON (Canada)

M.W. EDMUNDS (U.K.)

Y.K. KHARAKA (USA)

E. MAZOR (Israel)

for IAGC

- V. BARSUKOV (USSR) President
- B. HITCHON (Canada) Vice-President
- L. KOGARKO (USSR)
- I. BARNES (USA)
- S. DEUTSCH (Belgium) Secretary

President BARSUKOV reported that at the last Council Meeting in Tokyo it was pointed out that W.R.I. W.G. was the most productive of the IAGC W.G.'s, due to the high activity of its chairman, B. HITCHON. He gave information about the organisation of two interesting sessions to W.R.I. Group at the International Geological Congress to be held in Moscow 4-14 August 1984:

- section C16 Hydrogeology
 Conveners : G. CASTANY (Fr), G.V. KULIKOS (USSR)
- section Cll Geochemistry and Cosmochemistry
 Conveners: V.L. BARSUKOV (USSR), M. GRUNENFELDER (CH), B. HITCHON
 See second circular of 27th IGC.

He asked the chairmen of Interests groups to increase their activity and participation at this congress by sending abstracts, dead line on the first of September - practically, the end of Sept. -.

The assembly discussed the opportunity to organize an International Geochemical Congress in Brazil (Sao Paolo) in 1987 as offered by Prof. MELFI (Sao Paolo University). It agreed to support the idea of having a major hydrogeochemistry session at this congress. Prof. MELFI would have to be helped by an International Organizing Committee for this Congress, in particular for the Hydrogeochemistry session. The final decision will be made at the next General Assembly of IAGC in Moscow (1984).

The problems of sponsoring and budget were discussed; Dr BOON agreed to create a list of possible organizations to be contacted by the President to get this support. The necessity to create scholarships to support travel expenses for scientists of developing countries was emphasized.

It was acknowledged that the President of IAGC, Prof. BARSUKOV, was excellent at obtaining good financial support from International Organisations

II. REPORT OF THE W.G. ON ISOTOPE GEOCHEMISTRY

(summary of the text of U.ASWATHANARAYANA)

This groupe is joined with the IAVCEI group on Radiogenic Isotopes and their geophysical applications. U. ASWATHANARAYANA was chosen as Chairman for the IAGC side and for the IAVCEI side, B. GRAUERT who could unfortunately not devote much time to the W.G. Nevertheless, a W.G. meeting was held in Hamburg in August 1983 during the XVIII General Assembly of IUGG. The interest of studying geophysical applications of radiogenic isotopes was reephasized. The agenda items were:

- Identification of areas which are likely to yield the most fruitful results in respect of the methodology, techniques, instrumentation, interpretation, applications, etc. pertaining to (a) Radiogenic isotopes, (b) Stable isotopes, (c) Cosmic-ray produced isotopes, (d) Radioactive Disequilibrium studies.
- 2. Isotope-Geochronology World Data Bank.

 The Chairman appraised the members of the details of the discussions the W.G. had with the World Data Centre regarding the storage and retrieval of the radiogenic isotope data. A note on International Data Exchange through the World Data Centres in respect of Geoisotopes (Appendix) and the format designed by the U.S. Geological Survey for the computerised filing of the radiometric age data were presented to the members. Reference was made to the excellent work done by ARMSTRONG (Canada) in the preparation of the Geochron file for the Canadian Cordillera. ARMSTRONG (who unfortunately could not be present) recommended that the W.G. should initiate a long-range programme of preparing the World Geochronological Atlas.

 Members agreed that it is desirable that isotope data are reported according to a standard format, so as to facilitate storage and retrieval.

- 3. Formulation, inter-laboratory calibration and dissemination of standards used/usable in isotope geochemical studies-possibilities of using some established geochemical standards as isotope geochemical standards.

 The members were informed that the list of standards washle in income.
 - The members were informed that the list of standards usable in isotope geochemical research are available with NBS (Washington, D.C.) and IAEA (Vienna), etc. It is a worthwhile idea to enlarge the usefulness of an established geochemical standard as an isotope geochemical standard as well.
- 4. World Directory of Isotope Geochemistry laboratories.

 The Chairman gave an account of the history of preparation and publication in India, of the World Directory of isotope geochemistry laboratories (1977). It was a first attempt and since it was printed in India, it was inexpensive to produce it (about US 50 cents per copy). The coverage of laboratories ranged from almost 100% in the case of Japan to about 60% in the case of USA and null in the case of USSR, China, etc. It is proposed to bring out a new version of the Directory with the following improvements: (i) a write-up (about 50 words) on the principal areas of interest of a laboratory and (ii) better coverage of institutions and countries. It has been suggested by the members that the Directory be updated every four years and that the data be stored in a word processor.
- 5. Tentative suggestions for symposia were made.

Appendix

ICSU PANEL ON WORLD DATA CENTRES (Geophysical and Solar)
Guide to International Data Exchange through the WORLD DATA CENTRES
GEOISOTOPES

l. World Data Centres

- A. World Data Centre-A
 Environmental Data and Information Service
 National Oceanic and Atmospheric Administration
 325 Broadway Boulder, Colorado 80303, USA
- B. World Data Centre-B Molodezhnaya, 3 Moscow 117 296, USSR
- C. World Data Centre-C (Countries to be determined by offer of a National Committee)

Introduction

Data for both radioactive and stable isotopes in rocks and sediments are used for a variety of research purposes including geochronology, geothermography, paleoclimatology, origins and depositional and/or magmatic environments for sediments, ores, igneous rock masses and volcanics. The field is interdisciplinary involving data from the fields of geology, geophysics, geochemistry, and others. The WDC's are to provide a focus for information about isotope data and to provide services to promote data exchange generally.

3. Types of Observations

- 3.1 Compilations of geologic isotope data for whatever purpose with information on isotope concentrations or ratios, estimated accuracy, method of determination, location, sample types, date, reference, or available services and other essential information. Such compilations may be in printed form or on computer compatible forms.
- 3.2 Where compilations exist in a form which would be difficult to exchange, information on the contents of the compilations will be exchanged. This will include information on the nature of the files, formats, volume of holdings, extent, scope, purpose and available services.

3.3 Copies of publications involving isotope data, particularly compilations and bibliographies, are to be sent to each WDC.

4. Mechanisms of Data Exchange

- 4.1 The IAVCEI W.G. on Radiogenic Isotopes and the IAGC W.G. on Isotope Geochemistry and other international bodies will identify an initial list of research institutions, scientists and other sources of compilations of isotope data. This list will be updated by circulation among the compilers and committees regularly.
- 4.2 The WDC's will contact the compilers regularly at least every second year for updates to the holding and activities at the centers of compilation as called for in section 3.1, 3.2 and 3.3. They will issue catalogs of the information on isotope data bases which they have collected. Such catalogs will identify the source of each compilation, its scope, purpose, volume, extent and services available at that source. The catalog will also identify the data actually available at the WDC's, the publications accessed and the services available
- 4.3 The WDC's are encouraged to assist with the publication of collections of isotope data collected for specific purposes and to provide other services of data copying, searching, plotting, etc.

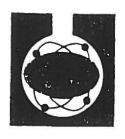
III. FORTH COMING MEETINGS

- 27th International Geological Congress Moscow, August 4-14, 1984 for receiving the last circular, write to Prof. V.L. BARSUKOV (see address on page 1.)
- First Brazilian-African Symposium on Exploration Geochemistry (1st BASEG) - Rio de Janeiro (Brazil), October 29-November 2, 1984 Principal themes are exploration geochemistry in 1) humid tropical regions
 arid and semi-arid tropical environments
 - 2) arid and semi-arid tropical environments Field excursions will be organized Organizing Committe

P.O. Box 2432

Rio de Janeiro - R.J. CEP 20.001

Braeil, South America - Tel. 021-2246528



International Association of Geochemistry and Cosmochemistry

Application for Membership Questionnaire d'Admission Anmeldungs formular

Date:
Name : (Nom, Name)
Address : (Adresse, Anschrift)
Employment Organization (Employé Organisation , Anstellung Organisation)
Address : (Adresse, Anschrift)
Title : (Titre, Titel)
Education Degree(s): (Diplômes universitaires, Akademische Grade)
Institution : (Institution, Erziehungsansalt)
Major Fields of Interest : (Domaines d'intérêts, Interessengebiete)
Membership in the Association is open to individuals who are interested in

any aspect of pure or applied geochemistry (Statutes of the Association, Section I.C.2).

Dues are \$10.00 U.S. per annum.

The application, together with \$10.00, or the equivalent, should be sent to the Treasurer:

Prof. E.E. ANGINO
Department of Geology
University of Kansas
210, Lindley Hall
Lawrence, Kansas 66045
U.S.A.