

International Association of Seismology and Physics of the Earth's Interior

PRESIDENT

Prof. Stephan Mueller
Institut fuer Geophysik
ETH - Hoenggerberg
CH-8093 Zurich
SWITZERLAND

FIRST VICE-PRESIDENT

Prof. A.V. Nikolaev
Institute of Physics of the Earth
Academy of Sciences of USSR
Bolshaya Gruzinskaya, 10
Moscow 123242
U.S.S.R.

SECOND VICE-PRESIDENT

Dr. E.R. Engdahl
U.S. Geological Survey
Denver Federal Center
P.O. Box 25046, Mail Stop 967
Denver, CO. 80225
U.S.A.

SECRETARY-GENERAL

Dr. R.D. Adams
International Seismological Centre
Pipers Lane, Thatcham
Newbury, Berks.,
UNITED KINGDOM RG13 4NS

Telephone: National (0635) 61022
International +44 635 61022
Telex: 849303 SEISMO G

NEWSLETTER NO.26 MAY 1990

To: National Correspondents, Officers and Representatives of the
Association and related organisations.

This Newsletter gives further detailed information about our General Assembly to be held with IUGG in Vienna next year. As well as our formal series of symposia, an interesting programme of workshops and specialised meetings is being set up. These additional meetings reflect the growing activity of our Commissions, which form the working basis of our Association. As is usual at major Assemblies, there will be a reappraisal of Commission structure at Vienna.

The detailed programme for the Regional Seismological Assembly at Nairobi this year is now being worked out and this too promises to be a most rewarding meeting.

Robin Adams

R D Adams
Secretary-General

COMMISSION ON EARTHQUAKE HAZARD AND PREDICTION

Dr M J Berry has had to relinquish his position as Chairman of this Commission to take up other duties. The Bureau has appointed Prof. G A Sobolev of USSR to succeed Dr Berry.

Dr Berry has guided the Commission through a difficult period of reorganization and has set it up well to play a leading role in the International Decade of Natural Disaster Reduction. We thank him most sincerely for his past services and wish Prof. Sobolev well in his new position.

INTERUNION COMMISSION FOR THE LITHOSPHERE (ICL)

The major offices of ICL are rotated every five years and in April 1990 it is time for the President (Prof. K Fuchs) and Secretary-General (Prof. H Zwart) to retire. They are being replaced by Prof. A Bally (USA) and Dr M J Berry (Canada) respectively. Dr Berry, of course, has had a long association with IASPEI, and we look forward to continuing to work closely with him in his new role.

We have had great co-operation from ICL under the previous officers and we are most grateful for their help. We have had many joint ventures, including sessions at Assemblies, and more recently joint involvement in the Working Group for Seismology and Related Sciences in Africa, and the forthcoming Regional Seismological Assembly in Africa.

REGIONAL SEISMOLOGICAL ASSEMBLY, NAIROBI, 22-29 AUGUST 1990

Final arrangements for this Assembly are now being made. Those wishing to attend who have not already registered with the Local Organizing Committee should do so immediately:-

Mr J D Obel
Regional Seismological Assembly
Survey of Kenya, PO Box 30046
Nairobi, Kenya

Registration fee is now US \$170, \$140 for accompanying people and \$110 for students.

Full details of sessions and convenors have been given in previous Newsletters. The main themes are:

1. Earthquake Disaster Assessment and Mitigation in Africa
2. Africa From Above and Below - Satellite Imagery and Lithosphere Probing
3. African Rift Systems - Structure and Tectonics
4. Induced Seismicity - Mining and Reservoir
5. Geothermal Studies and Heat Flow
6. Volcanism and Associated Seismicity in Africa
7. Seismological Instrumentation and Data Analysis in Africa
8. Global Geoscience Transects in Africa

In addition to the technical sessions, there is a choice of two excursions on 25 August to either Lake Magadi or the Olkaria Geothermal site. (Cost US \$50). Two post-Assembly excursions are also available.

Although this is not a full General Assembly of IASPEI, the opportunity will be taken to hold Plenary Sessions with the opening and closing ceremonies. National Correspondents and others are invited to raise formal business if they wish, but no major decisions can be taken until the 1991 General Assembly.

IASPEI SOFTWARE LIBRARY

Volume 1, 'Toolbox for Data Acquisition, Processing and Analysis', is selling well and about 25 seismic systems based on it are in operation world-wide.

Volume 2, 'Toolbox for Plotting Seismic and Other Data' was scheduled for publication late in 1989 but various factors including the impact of the Loma Prieta earthquake have resulted in publication now being scheduled for July 1990. About 220 copies have been ordered already.

Volume 3, 'Digital Seismogram Analysis and Seismic Moment Inversion' is being written by Anthony Lomax and Robert Uhrhammer of the University of California, and should be published towards the end of 1990.

The next volume, Volume 4, will contain programs for handling seismological literature and is scheduled to appear in 1991.

This venture has resulted almost entirely from the efforts of Dr W.H.K.Lee, who has devoted much time and energy to its development. The Seismological Society of Japan is now helping to sponsor the project, which we hope is now firmly established.

Queries should be addressed to IASPEI Working Group on PC, PO Box "I", Menlo Park, CA 94026, USA.

22nd GENERAL ASSEMBLY OF IASPEI, VIENNA, AUGUST 11-24 1991

The scientific programme for the Vienna Assembly is now taking shape. Session titles will be included in the Second Circular, due to be issued from Vienna in the middle of 1990, and the Third Circular, due towards the end of 1990 will contain full details of sessions, lists of convenors and instructions for submitting papers. Those wishing to receive these Circulars should request them from:

Local Organising Committee IUGG 91
ZAMG
Hohe Warte 38
A-1190 Vienna
Austria

The following IUGG Symposia have IASPEI involvement:

1. Interrelation between geophysical structures
3. Major puzzling problems or paradoxes in contemporary geophysics
4. Non-linear dynamics and predictability of critical geophysical phenomena (IDNDR)
5. Application of gravimetry and space techniques to geodynamics and ocean dynamics
6. Dynamics of the Earth's deep interior and Earth rotation
8. Water and ice as geophysical agents
10. The application of topographic data bases to geodynamic prediction and interpretation
11. Structure beneath marginal sea basins
12. Chemical evolution of the Earth and planets

IASPEI Symposia will be held on the following topics. The title of Symposium 11 will be decided by the IUGG Tsunami Commission. The likely principal convenors are also given.

1. Earthquake hazard and risk (P W Basham, Canada)
2. Progress in the seismic interpretation of complex structures (B L N Kennett, Australia)
3. Plate tectonic signatures in the continental lithosphere (A G Green, Canada) [Joint with ICL]
4. Shear waves and shear-wave splitting (J-P Montagner, France)
5. Earthquake sources (J L Nabelek, USA)
6. Lateral heterogeneity and earthquake location (D Giardini, Italy)
7. Applications of strong motion records to seismological problems (B A Bolt, USA)
8. Heat flow, rock mechanics and seismicity (G Ranalli, Canada)
9. Physical processes in the deformation of the lithosphere: observations, laboratory and numerical modelling (B Hagar, USA) [Joint with ICL]
10. Physical properties of the Earth's interior (T J Ahrens, USA)
11. Tsunamis

Two joint IAGA/IASPEI Workshops are being held:

- Electrical and seismic properties of the lithosphere and their interpretation in terms of physical state and petrology (I S Sacks, USA)
- Electromagnetic methods of natural disaster warning (M Gokhberg, USSR)

IASPEI Workshops are planned as follows:

- . Practice:
 - Global and local geophysical networks (A V Nikolaev, USSR)
 - Regional data centres (J Bonnin, France)
 - Estimating earthquake size (S J Duda, FRG)
 - Routine processing of digital seismograms (A Plesinger, Czechoslovakia)
 - Personal Computers (W H K Lee, USA)
- . Heat Flow:
 - Interpretation of geothermal data sets (A E Beck, Canada)
 - Climate change recorded in subsurface temperatures (H N Pollack, USA)
- . Hazard and Prediction. Workshops or meetings may be held on the following topics:
 - Effects of surficial geology
 - Assessment techniques
 - Earthquake risk
 - Modelling the earthquake process
 - Earthquake prediction case histories
 - Time-dependent earthquake hazard
 - Seismicity patterns
 - Crustal deformation
 - Earthquake alarms based on combined parameters

More precise information will be given in circulars from Vienna and later Newsletters.

In addition, there will be meetings of all IASPEI Commissions and Working Groups.

OBITUARY - MR J-M (Theo) VAN GILS

We are sad to learn of the death of 'Theo' Van Gils of Belgium, who for many years was actively involved in the European Seismological Commission. From 1956 he was Titular Member for Belgium and after a four year appointment as Adjunct Secretary, he became Secretary-General in 1968, a post which he kept until 1986.

He identified himself totally with the ESC and used his unique ability to communicate in a very personal way to bring together in friendship seismologists from Eastern and Western Europe. His work was helped greatly by his tremendous talent for languages. Originally a Flemish speaker, he became totally fluent, not only in French but also in German and English. From 1946 until his retirement in 1984 he was employed at the Belgium Royal Observatory, where he was involved in the daily operation as well as installation of new stations, and compilation and evaluation of earthquake catalogues. After his retirement Theo worked extensively for the Commission of European Communities on problems of hazard assessment.

We shall miss him sorely as a friend and colleague.

E Peterschmitt/R D Adams

PUBLICATIONS

"Anatomy of Seismograms" edited by O Kulhanek, for the IASPEI/Unesco Working Group on "Manual of Seismogram Interpretation" has now been published by Elsevier, at a cost of US \$87.25. As well as a collection of 55 plates of a carefully selected assortment of seismograms, there is an extensive introductory section with a well illustrated explanation of types of earthquake waves and their propagation. Records are taken from a wide spread of stations, and this book will benefit greatly all those involved in the practice or teaching of seismogram interpretation.

The Working Group has already started collecting material for an additional manual on "Advanced Seismogram Interpretation".

Further special issues of journals containing proceedings of IASPEI Symposia at the 1987 Vancouver Assembly have now appeared. These are:

- Seismological Instrumentation and Data Analysis in Developing Countries. H K Gupta, Editor. Physics of the Earth and Planetary Interiors, Vol.58, No.1, 1989.
- Earthquake Hazard and Prediction : Time Variable Earthquake Hazard. F F Evison, Editor. Tectonophysics, Vol. 169, No. 1-3, pp 153-206, 1989.
- Earthquake Source Processes. S Das and M Ohnaka, Editors. Tectonophysics Vol. 175, No.1-3, 1990.

We are grateful to the editors of these special issues for the work they have done in bringing out these volumes. Proceeds from their sales will help future Association activities.

Elsevier are making changes to their procedures in the editing and production of future special issues, to ensure speedier production.

OCEAN SEISMIC NETWORK

A steering committee jointly chaired by Prof. G M Purdy of Woods Hole Oceanographic Institution and Prof. A M Dziewonski of Harvard University, has been set up to further plans for a network of up to 20 globally distributed seismological recording stations at sites in the deep ocean. Such a network would help to provide uniform global coverage of recorders, and sample wave propagation in typical deep sea floor, as distinct from that near oceanic islands, which by definition is anomalous.

Initially it would be desirable to carry out a pilot experiment to evaluate recording techniques and the relative merits of placing seismometers on the surface, buried in sediment, or in boreholes in the basement. A suitable site is about 270 km north-east of Oahu, from where recordings could be compared with those made on land by the Hawaii Institute of Geophysics.

The new group is co-operating with the Joint Oceanographic Institutions Inc. (JOI) and the Incorporated Research Institutions for Seismology (IRIS) in the USA, and will work closely with the Federation of Digital Broadband Seismograph Networks.

FEDERATION OF DIGITAL BROADBAND SEISMOGRAPH NETWORKS

This Federation, which is jointly affiliated with IASPEI and ICL, held its Annual Meeting during the IASPEI Assembly at Istanbul in August 1989. Fourteen representatives of adhering organizations were present, as well as about 30 observers.

Reports were received from the Chairmen of Working Groups on Siting, Data Collection and Data Centres, and a data exchange experiment was agreed for the month of September, 1989. An Executive Committee was set up with Prof. A M Dziewonski as Chairman, Y T Chen, E R Engdahl, H-P Harjes and B Romanowicz as members and D.Giardini as Secretary.

The Federation's Annual Meeting for 1990 will be held at Golden, Colorado, 1-3 August, 1990. Observers from organizations interested in Federation activities are welcome to attend. Further particulars are available from Prof. Dziewonski at Harvard University or Dr R P Masse at USGS, Golden.

INTERNATIONAL SEISMOLOGICAL OBSERVING PERIOD

An ISOP Workshop was held at the Istanbul Assembly on 30 August 1989, with support from Unesco. This project, sponsored by IASPEI, SEDI and ICL, is concerned with using precise travel-time observations to constrain determinations of the aspherical structure of the Earth, with particular emphasis on using a wide spread of events and stations, and later phases with complex wave paths. By making use of existing stations much can be accomplished at very little cost, but effort must be made to plan the work, designate selected events for study, and collect and analyse the results. The project is one to which small geographically isolated stations and networks can make a substantial contribution.

To guide the project further an ISOP Executive Committee was formed, with the following members appointed for two years: E R Engdahl (USA) - Chairman, J Berrocal (Peru), D Denham (Australia), D J Doornbos (Norway) and N V Kondorskaya (USSR). The Committee will meet at ISC, Newbury, UK in June 1990.

IASPEI ACCOUNTS 1989

During 1989 our main expenditure was related to the General Assembly, with more than \$80,000 being spent on supporting this and other meetings.

We received substantial grants, in particular \$30,000 from the US National Academy of Sciences for activities related to Unesco's Natural Hazards Programme. We also received contracts from Unesco totalling \$19,000. For the first time we received substantial income from the sale of publications, this being the 'Handbook of Algorithms'. Miscellaneous income is made up of bank interest.

Our final cash balance of \$19,699 is satisfactory for a year in which we have held a major Assembly.

INTERNATIONAL ASSOCIATION OF SEISMOLOGY AND PHYSICS OF THE EARTH'S INTERIOR

Financial Report for 1989

Amounts in US Dollars

Exchange rate £1 = US \$1.6125

RECEIPTS	IUGG	GRANTS & CONTRACTS	EXPENDITURE	IUGG	GRANTS & CONTRACTS
15 IUGG ALLOCATION	19 200.00		11 ADMINISTRATION	5 827.60	
3 OTHER GRANTS		41 000.00	12 PUBLICATIONS	32.25	7 000.00
4 CONTRACTS WITH UNESCO etc		19 000.00	13 ASSEMBLIES	27 283.46	20 000.00
5 SALE OF PUBLICATIONS	1 329.25		14 SYMPOSIA & SCIENTIFIC MEETINGS	527.61	33 000.00
6 MISCELLANEOUS	2 207.24		18 MISCELLANEOUS	158.59	
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7 TOTAL RECEIPTS	22 736.49	60 000.00	19 TOTAL EXPENDITURE	33 829.51	60 000.00
9 CASH IN BANK 1 JAN 89	30 792.79		20 CASH IN BANK 31 DEC 89	19 699.77	
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10 TOTAL	53 529.28	60 000.00	22 TOTAL	53 529.28	60 000.00
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	1 January 1989			31 December 1989	
23 ACCOUNTS RECEIVABLE		2 000.00			-
24 ACCOUNTS PAYABLE		732.36			1 169.90

FORTHCOMING MEETINGS

The following is a selection of forthcoming meetings in the field of interest of the Association:

- 1990 Jul 2-6 4th INTERNATIONAL WORKSHOP ON SEISMIC ANISOTROPY
Edinburgh, U.K.
J Lovell, B.G.S., Murchison House, West Mains Road,
Edinburgh, EH9 3LA, U.K.
- 1990 Aug 5-11 REVERSALS, SECULAR VARIATION AND DYNAMO THEORY - SEDI
SYMPOSIUM
Santa Fe, New Mexico, USA
Dr G Glatzmaier, IGPP, Los Alamos National Laboratory,
Los Alamos, NM 87545, USA
- 1990 Aug 22-29 IASPEI/UNESCO/ICL REGIONAL SEISMOLOGICAL ASSEMBLY IN
AFRICA
Nairobi, Kenya
Mr J D Obel, C/O Survey of Kenya, P.O. Box 30046,
Nairobi, KENYA
- 1990 Sep 4-7 4th INTERNATIONAL SYMPOSIUM ON DEEP SEISMIC REFLECTION
PROFILING
Bayreuth, FRG
Mr C J Reichert, Geological Survey of Lower Saxony,
P.O. Box 51 01 53, D-3000 Hannover 51, FRG
- 1990 Sep 17-22 EUROPEAN SEISMOLOGICAL COMMISSION
Barcelona, Spain
Dr A Roca, Geological Survey of Catalunya, Diputacia 92,
08015 Barcelona, SPAIN
- 1990 Oct DYNAMIC EVOLUTION OF ACTIVE ZONES AND CASE-STUDY OF
EL ASNAM EARTHQUAKE
Algiers, ALGERIA
Dr M Bezzeghoud, CRAAG, BP 63, 16340 Bouzareah, ALGERIA
- 1990 Oct 20-25 GEODYNAMICS OF THE ARABIAN PLATE
Kuwait
Dr W E K Warsi, Dept. of Geology, University of Kuwait,
Box 5969, Safat 13060, KUWAIT
- 1990 Nov 19-22 EARTHQUAKE SOURCE PHYSICS AND EARTHQUAKE PRECURSORS,
Tokyo, Japan
Dr M Ohnaka, ERI, University of Tokyo, Yayoi, Bunkyo-ku,
Tokyo, 113, JAPAN
- 1990 Nov 26-30 ESC WORKSHOP : CHARACTERISTIC EARTHQUAKE AND SEISMIC
HAZARD
Liblice, Czechoslovakia
Geophysical Institute, Bocni II, cp 1401, 14131 Prague 4
Sporilov, CZECHOSLOVAKIA
- 1991 Apr 10-11 CAUSES AND CONSEQUENCES OF STRESS IN THE LITHOSPHERE
London, U.K.
Scientific Meetings Secretary, Royal Society, 6 Carlton
House Terrace, London SW1Y 5AG, U.K.
- 1991 Apr 21-27 GEOPHYSICAL HAZARDS IN DEVELOPING COUNTRIES AND THEIR
ENVIRONMENTAL IMPACTS
Cairo, Egypt
Dr T S Murty, Inst. of Ocean Sciences, Box 6000,
Sidney BC, CANADA V84 4B2
- 1991 Aug 11-24 XX GENERAL ASSEMBLY IUGG
Vienna, Austria
IUGG Committee, ZAMG, Hohe Warte 38, A-1190 Vienna,
AUSTRIA
- 1991 Aug 26-29 4th INTERNATIONAL CONFERENCE ON SEISMIC ZONATION
Stanford, California, USA
Dept. of Civil Engineering, Stanford University,
Stanford, CA. 94305-4020, USA