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NEWSLETTER No. 37

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21st General Assembly, IUGG 28th General Assembly, IASPEI Boulder, Colorado, U.S.A. 2-14 July 1995

The 21st General Assembly of IUGG and the 28th General Assembly of IASPEI were held at the University of Colorado, Boulder, Colorado, U.S.A., from 2-14 July 1995.

The IUGG General Assembly was attended by over 4,800 scientific participants, nearly 800 of whom were affiliated with IASPEI. About 7500 abstracts were submitted and more than 1100 of them were presented in oral and poster sessions at 38 IASPEI-led Symposia and Workshops.

Opening Plenary Session 3 July 1995

Present: Prof. A.V. Nikolaev (President) in the Chair and about 300 delegates and guests.

The President opened the meeting at 0830 and welcomed participants.

The President read aloud the following list of colleagues who have died since the last IASPEI General Assembly in 1994 and asked those present to take a few moments of silence in their memory.

Prof. Mikhail E. Artem'ev (Russia)
Dr. Mwita D. Iranga (Tanzania)
Dr. Vit Karnik (Czech Republic)
Prof. Igor L. Nersessov (Russia)
Dr. Cornelius Radu (Romania)
Prof. Mikhail A. Sadovsky (Russia)
Prof. Sergei L. Solov'ev (Russia)

The President then announced the composition of the Nominations, Resolutions, and Audit Committees as follows:

Nominating Committee: Prof. S. Mueller (Switzerland, Chair), B.A. Bolt (USA), and Y. Fukao (Japan)

Resolutions Committee: Dr. H.K. Gupta (India, Chair), Dr. S.A. Sipkin (USA), G.A. Sobolev (Russia)

Audit Committee: Dr. D. Denham (Australia, Chair), Prof. A. Beck (Canada)

The Secretary-General welcomed the delegates and presented several business items:

The location of the Association office was announced and procedures for payment of IASPEI grants and registration fees given.

Changes to the printed scientific program were noted and Principal Conveners were instructed on how to make changes to the scheduling of talks in their sessions.

A meeting of Principal Conveners (or appointed representatives) to discuss opportunities for the publication of the proceedings of IASPEI-led Symposia and Workshops was announced.

Also announced was an invitation to representatives of Asian and Southern Pacific nations to attend a meeting of the newly conceived Asian Seismological Commission as a continuation of the formative process.

To begin development of the scientific program for the 29th General Assembly of IASPEI, to be held in Thessaloniki, Greece,

18-29 August 1997, the Executive Committee will meet jointly with Commission Chairs to discuss proposals.

The Secretary-General introduced the retiring President, Prof. A.V. Nikolaev, who delivered his Presidential Address, "Signatures of XXI Century Geophysics". The full text of his address will be published in the IUGG Chronicle.

The President closed the meeting at 1000.

Scientific Program

Conveners' summaries for most of these sessions will be published in the IUGG Chronicle. Longer summaries of SEDI sponsored sessions will be published in Deep Earth Dialog.

Association Lectures

5 Jul, "The Underdetermined Earth (SL1), Lecturer: B.L.N. Kennett.

12 Jul, Geoid And Geodynamics; Certainties and Controversies (SL2), Lecturer: C. Froidevaux.

Inter-Association Symposia

6-7 Jul, Crustal Deformation Along Plate Boundaries (G JS1, Joint IAG, IASPEI), Convener: J-B Minster (USA).

7 Jul, Geodetic, Remote Sensing And Seismic Methods For Monitoring Of Volcanic Activities (G JS2, Joint IAG, IASPEI, IAVCEI), Conveners: C. Reigber (Germany), A. Hasegawa (Japan), A. Linde (USA).

10 Jul, Earth Rotation: An Interdisciplinary Approach To Earth System Science (G JS3, Joint IAG, IAMAS, IAPSO, IASPEI, IAGA, IAHS, SEDI), Conveners: M. Feissel (France), D. Cartwright (UK), R. Hide (UK), R. Sabadini (Italy), J. Wahr (USA).

13 Jul, Relating Geophysical Measurements to Lithospheric Processes Through Continental Drilling (GA JS1.02, Joint IAGA, IASPEI, ILP), Conveners: Volker Haak (Germany), J. Erzinger (Germany), J. Mutter (USA), D.R. Schmitt (Canada).

6 Jul, Geomagnetic Secular Variation And Core Flow Near The Core-Mantle Boundary (GA JS1.05/5.13, Joint IAGA, IASPEI, SEDI), Conveners: G. Hulot (France), R.A. Langel (USA).

8 Jul, Lithospheric Anisotropy: Observations And Interpretation (GA JS1.07, Joint IAGA, IASPEI, ILP), Conveners: Marianne Mareschal (Canada), Michael Bostock (Canada).

11 Jul, Geophysical Signatures Of Modern And Ancient Continental Margins (GA JS1.08, Joint IAGA, IASPEI, ILP), Conveners: John R. Booker (USA), M. Christina Pomposiello (Argentina).

5 Jul, Architecture Of The Continents: Interpretation Of Their Main Structural Elements From Magnetic Anomalies And Other Geophysical Data (GA JS5.18, Joint IAGA, IASPEI, ILP), Conveners: V. Shapiro (Russia), J. Broome (Canada); L. Antoine (South Africa).

3,5 Jul, Climatic Variability And Forcing Over The Past Millennium (M JS14, Joint IAMAS, IAVCEI, IASPEI, IAPSO), Conveners: M.C. MacCracken (USA), C. Folland (UK), P.D. Jones (UK), H. Pollack (USA), A. Robock (USA), S. Self (USA), R. Stevenson (USA), G. Zielinski (USA).

3-4 Jul, Tsunami Disaster Reduction (PS JS4, Joint IASPEI, IAPSO), Conveners: Dr. Eddie N. Bernard (USA), Dr. Gerassimos A. Papadopoulos (Greece), Prof. Nobuo Shuto (Japan), Prof. Stefano Tinti (Italy).

3-4 Jul, Earthquake Generation Processes: Environmental Aspects And Physical Modelling (S JS1, Joint IASPEI, IAVCEI), Conveners: M. Matsu'ura (Japan), T. Lewis (Canada), C.J. Marone (USA), S. McNutt (USA), M. Takeo (Japan).

4-5 Jul, Physical And Chemical Evolution Of The Earth (S JS2 , Joint IASPEI, IAVCEI), Conveners: T.J. Ahrens (USA), P. Gillet (France), W. McDonough (Australia), E. Ohtani (Japan).

5 Jul, Long-Term Seafloor Observations And Networks (S JS3, Joint IASPEI, IAG, IASPSO, ION), Conveners: K. Suyehiro (Japan), J-P. Montagner (France), J. Orcutt (USA), A. Chave (USA), A. Schultz (UK), F. Spiess (USA).

11 Jul, Patterns In Earth's Structure And Dynamics: Observations, Earth Models, And Laboratory Measurements (S JS4, Joint IASPEI, IAGA, IAG), Conveners: S. Constable (USA), A.G. Duba (USA), I. Jackson (Australia), J-P. Poirier, (France), T.A. Herring (USA).

7 Jul, Structure, Evolution And Dynamics Of The Core-Mantle Boundary Region (S JS5, Joint IASPEI, IAGA, IAG, SEDI), Conveners: R. Jeanloz (USA), B. Buffett (Canada), K. Whaler (UK).

7 Jul, Rock And Soil Properties Related To Environmental Concerns (S JS6, Joint IASPEI, IAHS, SEG), Conveners: G.A. Sobolev (Russia), S. Ingebritsen (USA), G. Olhoeft (USA), H. Spetzler (USA).

12 Jul, Mantle Dynamics And The Geological Record (S JS7, Joint IASPEI, SEDI, ILP), Conveners: M. Richards (USA), S. Cloetingh (Netherlands), G. Davies (Australia), M. Gurnis (USA).

13 Jul, Modelling The Earth's Interior (S JS8, Joint IASPEI, IAVCEI, IAG, SEDI), Conveners: R. O'Connell (USA), G. Masters (USA), M. Brown (USA), V. Dehant (Belgium).

3-4 Jul Mid-Tertiary To Recent Geodynamic Evolution Of The Andean Region (V JS1, Joint IAVCEI, IASPEI, IGCP, ILP), Conveners: Suzanne Kay (USA), Bryan Isacks (USA), Paul Silver (USA).

7 Jul, Subduction Zone Processes At 25-200 Kilometers Depth: The Subducting Slab, Mantle Wedge, And The Slab-Mantle Interface (V JS2, Joint IAVCEI, IASPEI, ILP), Conveners; Simon M. Peacock (USA), Gray E. Bebout (USA), Craig Manning (USA).

11 Jul, Signatures Of Mantle Plumes (V JS4, Joint IAVCEI, IASPEI, IAG, SEDI), Conveners: W.M. White (USA), L. Fleitout (IASPEI), B. Hager (USA), L. Kellogg (USA).

Inter-Association Workshops

4 Jul, Geophysical Networks: Possibilities For And Problems With Co-Location Of Instruments (S JW1, Joint IASPEI, IAGA, IAG), Conveners: D.W. Simpson (USA), G. Beulter (Switzerland), G. Boedecker (Germany), D. Kerridge (UK), G. Roullet (France).

13 Jul, Geophysical Data Challenges In The 21st Century (S JW2, Joint IASPEI, IAG, IAGA, CODATA, WDC), Conveners: M.A. Chinnery (USA), G.A. Sobolev (Russia), C.C. Tscherning (Denmark).

3-4 Jul, Electromagnetic Effects Of Earthquakes And Volcanoes (V JW1, Joint IAVCEI, IASPEI), Conveners: Malcolm Johnston (USA), M. Gokhberg (Russia), M. Parrot (France), Y. Fujinawa (Japan).

Association Symposia

4 Jul, Seismicity Induced By Petroleum, Mining And Geothermal Activities (S 1, Joint with SEG), Conveners; M. Fehler (USA), C. Trifu (Canada).

5 Jul, Earthquake Prediction (S 2), Conveners: K. Hamada (Japan), A. Lindh (USA).

6 Jul, Continental Evolution Revealed In Geophysical Transects (S3, Joint with ILP), Conveners: W.D. Mooney (USA), R. Clowes (Canada), H-J. Goetze (Germany), S. Mueller (Switzerland), N. Pavlenkova (Russia).

7 Jul, Origin And Evolution Of Sedimentary Basins: Tectonothermal, Geochemical And Hydrological Aspects (S 4, Joint with ILP, SEG), Conveners: R. Allis (New Zealand), C.

Beaumont (Canada), C. Clauser (Germany), S. Cloetingh (The Netherlands).

10 Jul, Ground Motion Analysis From Recent Strong-Motion Data (S 5), Conveners: Li-li Xie (China), N.A. Abrahamson (USA).

10 Jul, Quantification Of Earthquakes (S 6), Conveners: G. Ekstrom (USA), H. Kawakatsu (Japan), S.A. Sipkin (USA).

10 Jul, Rheology And Lithospheric Deformation (S 7, Joint with ILP), Conveners: S. Karato (USA), J. Braun (Australia), S. Sobolev (Russia).

Microearthquakes And Tectonics Of The Ocean Bottom (S 8, *cancelled*).

11 Jul, Earthquake Hazard Related To Regional And Local Geological Structures (S 9, Joint with ILP), Conveners: V. Schenk (Czech Republic), R.C. Agrawal (India), D. Giardini (Italy), A. Shapira (Israel).

11 Jul, Seismology And Physics Of Anisotropic Heterogeneous Media (S 10, Joint with SEG), Conveners: J-M. Kendall (Canada), E.M. Chesnokov (Russia), G. Pratt (UK).

11 Jul, Real Time Tectonics (S 11), Convener: W.E. Holt (USA)

12 Jul, Geophysical Tomography In Complicated Heterogeneous Media (S 12, Joint with SEG), Conveners: E. Kissling (Switzerland), L. Lines (Canada), A. Morelli (Italy).

12 Jul, Application Of Artificial Intelligence Computing In Geophysics (S 13, Joint with SEG), Conveners: G.B. Patnaik (USA), F. Aminzadeh (USA).

13 Jul, Advances In Methods And Interpretation Of 2D And 3D Earth Structure - Case Studies, Computational Techniques, Structures (S 14, Joint with SEG), Conveners: C. Thomson (Canada), D. Miller (USA), M. Weber (Germany).

13 Jul, Dynamics Of The Subduction Process (S 15), Conveners: R. Wortel (The Netherlands), R.D. van der Hilst (Australia), Y. Fukao (Japan).

Association Workshops

3 Jul, Seismological Networks For The Next Century (S W1), Conveners: A. Tarantola (France), R. Phinney (USA).

3 Jul, Thermoelastic Properties Of Deep Mantle Phases (S W2, Joint with SEDI), Conveners: O.L. Anderson (USA), I. Jackson (Australia).

5 Jul, Acquisition And Processing Of Deep Crustal Seismic Data (S W3, Joint with SEG), Conveners: S. Smithson (USA), P. Docherty (UK), P. Hubral (Germany).

6 Jul, Reliability Of Earthquake Precursors And Prediction (S W4), Convener: M. Wyss (USA).

7 Jul, Recent Devastating Earthquakes (S W5), Convener: H. Kanamori (USA).

6 Jul, Earthquake Warning Systems: Progress And Results (S W6), Conveners: W.H.K. Lee (USA), J.M. Espinosa-Aranda (Mexico), Y. Nakamura (Japan), T.C. Shin (Taiwan).

11 Jul, Intra-Continental Earthquakes (S W7), Conveners: Chen, Yun-tai (China), J.W. Dewey (USA).

11 Jul, Seismological Data And Practice Into The 21st Century (S W8), Conveners: E.A. Bergman (USA), D. Giardini (Italy).

12 Jul, Methodology Of Seismic Risk Assessment (S W9), Conveners: Chen, Yong (China), A. Shapira (Israel).

12 Jul, Exploiting Large Volumes Of Digital Waveform Data - Theory And Applications (S W10), Conveners: R. Snieder (The Netherlands), J.C. VanDecar (USA), H. Benz (USA).

14 Jul, Deja Q: Anelasticity In The Earth's Deep Interior (S W11, Joint with SEDI), Conveners; M. Ritzwoller (USA), B. Romanowicz (USA).

14 Jul, GSHAP Related Advancement In Techniques And Interpretation In Seismic Hazard Assessment (S W12, Joint with ILP), Convener: P. Basham (Canada).

Improving Regional Cooperation In Observational Seismology (S W13, *cancelled*).

14 Jul, Seismic Noise - Stability And Change In Time And Space. (S W14), Conveners: A.A. Ostrovsky (Russia), E. Hjortenberg (Denmark), P. Bormann (Germany).

14 Jul, Statistical Characteristics Of Earth Heterogeneity (SW15, Joint with SEG), Conveners: O. Gudmundsson (Australia), A. Levander (USA), Wu Ru-shan (China)

13 Jul, Database of 3-D Structure of Lithosphere and Asthenosphere (SW16, Joint with ILP), Conveners: F. Schwab (USA), A. Ram (India)

Other Meetings

Commissions

6 Jul, Controlled Source Seismology (C1)

11 Jul, Earthquake Hazard and Prediction (C2)

10 Jul, Geodynamics and Tectonophysics (C3)

6 Jul, International Heat Flow Commission (C4)

6 Jul, Physical Properties of Material of the Earth's Interior (C5)

10 Jul, Practice (C6)

11 Jul, Wave Propagation(C7)

10 Jul, European Seismological Commission (C8)

4,11 Jul, Federation of Digital Broadband Seismograph Networks ((FDSN) C9)

11 Jul, Commission for International Decade for Natural Disaster Reduction (C10)

5 Jul, Committee for Developing Countries (C11)

Sub-Commissions

6 Jul, Earthquake Hazard (Earthquake Hazard and Prediction) (SC21)

6 Jul, Earthquake Prediction (Earthquake Hazard and Prediction) (SC22)

5 Jul, Modelling the Earthquake Source (Earthquake Hazard and Prediction) (SC23)

10 Jul, Strong Motion Seismology (Earthquake Hazard and Prediction) (SC24)

6 Jul, Reporting Standards (Practice) (SC61)

10 Jul, Earthquake Algorithms (Wave Propagation & Practice) (SC71)

11 Jul, Anisotropy (Wave Propagation) (SC72)

Working Groups

3 Jul, Seismic Hazard Assessment Techniques (Earthquake Hazard and Prediction) (WG21)

6 Jul, Telegraphic Formats (Practice, Reporting Standards) (WG61)

10 Jul, Regionalization (Practice, Reporting Standards) (WG62)

5 Jul, Manual of Seismological Observatory Practice (Practice, Analysis and Interpretation) (WG63)

6 Jul, Personal Computers (Practice) (WG64)

Special Interest Groups

11 Jul, International Seismological Observing Period (ISOP) (SIG1)

10 Jul, Global Seismic Hazard Assessment Program (GSHAP) (SIG2)

5 Jul, Prediction Panel (SIG3)

4 Jul, Space Geodetic Measurements Site Sub-Commission (SIG4)

5 Jul, Seismic Risk Assessment Panel (SIG5)

Closing Plenary Session 12 July 1995

Present: Prof. A.V. Nikolaev (President) in the Chair and about 300 delegates and guests.

The President opened the meeting at 1900 and welcomed participants.

President's Report

The President reported that, since our last IUGG General Assembly in Vienna, we have held the IASPEI General Assembly in Wellington in January 1994 and the Regional Assembly in South America in August 1994, and noted that many in attendance here actively participated in these main scientific meetings.

Other events of note included the Workshop on Earthquake Risk and Loss Assessment, held in Israel in December 1994, and a meeting on the formation of an Asian Seismological Commission (ASC), held in Guangzho, China, April 1995. At this latter meeting, there was general support among representatives of various countries for the formation of an ASC and for interaction among member countries to mitigate earthquake hazard. It was also proposed to hold an IASPEI Regional Assembly in Asia, for the first time in China, during August 1996. Both the formation of the ASC and the plans for a Regional Assembly were approved by the IASPEI Executive Committee during this Assembly.

The President noted that the IASPEI Bureau met in Boulder in 1992 and Hawaii in 1993. A main topic of the latter meeting was preparations for the New Zealand Assembly which ended up being very well organized and successful scientifically.

He announced that at this General Assembly we have had three Executive Committee meetings where a number of important issues were discussed and resolved, including the appointment of Association Representatives and Commission Chairs, the Elsevier Publications Agreement, the formation of an Inter-Association Commission on Physics and Chemistry of Mantle Materials, the formation of an Asian Seismological Commission, and the arrangements and scientific program for the 1997 IASPEI General Assembly in Greece.

To conclude, the President added that our meetings were always held in a spirit of mutual understanding and peace, and were also short and efficient.

Secretary-General's Report

Dr. E.R. Engdahl (Secretary-General) noted that most items to report have already been published in IASPEI Newsletters. However, he did call special attention to the close cooperation of IASPEI and ILP in the GSHAP program and IASPEI participation in the STEND program being supported by WMO. Other items would be covered in later points on the agenda

Financial Statement and Discharge of Accounts

The Association's Accounts and Financial Report for the period 1991-1995, published in Newsletter 36, were presented by the Secretary General. Transactions for this period totaled nearly US\$458K. He noted that major sources of income during this period were IUGG Allocations, Grants & Contracts, and Sales of Publications. Major expenditures were Administration, General Assemblies, and support for Symposia and Scientific Meetings. Investments and Reserves, as well as the Doornbos Fund which is managed by IASPEI, were maintained at recommended levels.

Dr. Denham, Chairman of the Audit Committee, then gave a brief report. On examination of the audit report and detailed listings of expenses and income, the Committee concluded that the published summary financial statements are a correct and true representation of the Association's financial affairs, and are accepted as presented, giving the Secretary-General discharge. However, to improve clarity the Committee recommended that details of the investment portfolio be included in future quadrennial reports.

Union Activities

The President reported that last summer an IUGG Executive Committee meeting was held in Boulder where the main topic was the scientific program. So far there have been three IUGG Executive Committee meetings and two IUGG Council meetings at this Assembly. The most significant event was the IUGG elections. The new President is Peter

Wyllie (USA) and the Vice-President is Uri Shamir (Israel). New Bureau Members are J. Chen (China), A. Monin (Russia) and S. Uyeda (Japan). Soren Gregersen remains the Treasurer and Georges Balmino the Secretary-General.

The IUGG Council ratified Taipei, Croatia, Slovenia, Yugoslavia (Serbia and Montenegro) as Members of the Union. The place of the next IUGG General Assembly is still uncertain; perhaps it will be Great Britain (Birmingham).

Association Activities

The Secretary-General announced the following Chairs of IASPEI Commissions, Committees, and other affiliated bodies during 1995-1999:

Commission on Controlled Source Seismology: Walter Mooney (USA)

Commission on Earthquake Hazard and Prediction: Chen, Yong (China)

Commission on Geodynamics and Tectonophysics: Uri Christensen (Germany)

International Heat Flow Commission: Vladimir Cermak (Czech Republic)

Commission on Physical Properties of Materials of the Earth's Interior: S.J. Mackwell (USA)

Commission on Practice: Stuart Sipkin (USA)

Commission on Wave Propagation: Colin Thomson (Canada)

Commission for IDNDR: Bruce Bolt (USA)

Committee for Developing Countries: Robin Adams (UK)

Committee on Education (newly formed): Willie Lee (USA)

European Seismological Commission: President: Genaudi Sobolev (Russia)

Asian Seismological Commission (newly formed): Acting President: Harsh Gupta (India)

International Commission on Earth Sciences in Africa: Isaac Nyambok (Kenya)

Federation of broadband Digital Seismograph Networks: Jean-Paul Montagner (France)

International Ocean Network: Kiyoshi Suyehiro (Japan)

Publications

The Secretary General noted the following publications produced by IASPEI during the 1991-1995 period:

IASPEI Newsletter

CDC Newsletter

IDNDR Newsletter (IASPEI/IDNDR Secretariat)

Proceedings of the International Conference on Continental Collision Zone Earthquakes and Seismic Hazard Reduction held at Yerevan-Sevan, Armenia

The Practice of Earthquake Hazard Assessment (IDNDR Monograph)

Proceedings of IASPEI Symposia and Workshops (PEPI and Tectonophysics)

He also noted that the Elsevier publications agreement with IASPEI had been concluded.

Future Activities and Assemblies

The Secretary-General announced the organization of a Publications Transfer Program by the Committee on Developing Countries with coordination and assistance from Secretariat. A flyer describing the program has been distributed to all IASPEI participants. Also, the newly formed Committee on Education will undertake the preparation of an IASPEI Brochure and an Encyclopedia Of Seismology, as well as develop IASPEI Training Courses.

The Secretary-General reported that an IASPEI Regional Assembly in Asia (organized by ASC and SSB) will be held in Tangshan, China, August 1-3, 1996, before the IGC in Beijing. He also reported that the 29th IASPEI General Assembly will be held in Thessaloniki, Greece, August 18-29, 1997 and that the development of the scientific program has begun. Christos Papouianou, Secretary of the LOC, gave a brief description of the facilities that would be available there and invited all to attend.

Election of Officers for 1995-1999

At the invitation of the President, Prof. Mueller Chairman of the Nominating Committee, then explained the criteria by which the Nominating Committee chose candidates, and proposed a slate of officers.

There being no further nominations from the floor, the following officers were accepted by acclamation:

IASPEI Bureau:

President:: Prof. C. Froidevaux (France)
First Vice-President:: Prof. B.L.N. Kennett (Australia)
Second Vice-President: Dr. H.K. Gupta (India)
Secretary-General/Treasurer; Dr. E.R. Engdahl (USA)

IASPEI Executive Committee:

Prof. A.V. Nikolaev (Past President, Russia)
Prof. D. Giardini (Italy)
Prof. V.M. Hamza (Brazil)
Prof. R. Jeanloz (USA)
Prof. Xie, Li-Li (China)

The President welcomed the new officers and wished them well.

Appointment of Representatives

The President announced the following appointments as Association Representatives:

Inter-Association Commission on Physics and Chemistry of Mantle Materials (newly formed with IAVCEI): Tom Ahrens (USA)

Inter-Association Committee on Volcano Seismology (newly formed with IAVCEI): Brian Kennett (Australia)

Commission for Geological Map of the World: Vladimir Cermak (Czech Republic) and Nina Pavlenkova (Russia)

Federation of Digital Broadband Seismograph Networks: E.R. Engdahl (USA)

SCAR (Solid Earth Geophysical Working Group): S.K. Verma (India)

Committee for Mathematical Geophysics: Roel Sneider (The Netherlands)

Working Group on the Re-Use of Submarine Telephone Cables: J. Kasahara (Japan)

ISC Executive Committee: Oleg Starovoi (Russia)

Commission on the Lithosphere: Stephan Mueller (Switzerland)

Resolutions

Prof. H.K. Gupta, Chairman of the Resolutions Committee, then proposed the resolutions given below. They were accepted after some modification and are printed below as adopted.

An additional resolution given below was considered at the behest of Prof. Bolt. It was generally agreed that the proposed resolution was cast more as a Statement of Purpose and was thereby adopted as such.

"IDNDR intends to continue making seismic risk reduction a top priority during the second half of the Decade. It calls upon seismological groups in member countries and individual Earth scientists to participate in the effort to reduce the great danger from earthquakes in many places around the world. IASPEI intends to expand and identify its programs to study the main attributes of earthquakes and to disseminate globally knowledge on earthquakes to governments, engineers, planners, and the public."

The President closed the meeting at 2030

IASPEI Resolutions Adopted Boulder, Colorado, U.S.A. 12 July 1995

1. Publication Transfer

Recognizing the serious lack of scientific literature at many educational and research institutions in developing countries, IASPEI **appreciates** the establishment of a scheme for transfer of publications, whereby individuals and institutions with surplus copies of scientific journals, books and other publications make these available for transfer to suitable institutions in developing countries, and **urges** all individual scientists and institutions with such surplus publications to make their availability known to the Secretary-General.

2. Regional Cooperation

Recognizing the good seismology-related work being done in Central American countries through support provided by the universities of Uppsala (Sweden) and Bergen (Norway), IASPEI **urges** extension of such cooperation for assessment of seismic risk for this and other developing regions.

3. Committee on Education

Conscious of the impact of recent damaging earthquakes, such as those at Latur (India), Northridge (USA), Kobe (Japan), and Sakhalin (Russia), and of recent technological advances in hazard assessment and mitigation techniques,

by **establishing** a Committee on Education to promote the transfer of technology to developing countries, and to ensure the continuation and coordination of training courses,

IASPEI **urges** all appropriate national and international agencies to support this activity to the fullest possible extent.

4. Cataloging of Artificial Events

Recognizing that catalogues of earthquakes prepared by local, regional, and international organizations are being contaminated by artificial events,

IASPEI **urges** that these organizations make all efforts to distinguish natural events from artificial ones so that seismicity is more clearly represented by these catalogues.

5. Seismological Data Exchange

Recognizing the desirability for free and open exchange of seismological data between major international, national, and regional data centers,

IASPEI **urges** that the United Nations Conference on Disarmament *ad hoc* Group of Scientific Experts (GSE) makes the data supplied to the EIDC as readily available as possible to the world seismological community.

6. Strong Motion Data

Recognizing the importance of earthquake strong motion data in the evaluation of earthquake hazard and mitigation of earthquake risk, and

recognizing significant new developments in strong motion instrumentation in many places, IASPEI **encourages** all government agencies and other organizations operating strong motion instrumentation networks to make data available on request to researchers throughout the world as rapidly as possible.

7. Appreciation

Appreciating and utilizing the very good arrangements made for the XXI IUGG General Assembly

IASPEI **thanks** and congratulates all the members of the Local Organizing Committee for a most memorable assembly.

PUBLICATIONS

Doornbos, D.J. (Editor), *Seismological Algorithms*, Academic Press, London, U.K., 469 pp, 1988.

Lee, W.H.K. (Editor), *IASPEI Software Library*, Seismological Society of America, El Cerrito, CA, U.S.A., v. 1-5, 1989-1993.

Kulhánek, O., *Anatomy of Seismograms*, Elsevier Science Publishers, The Netherlands, 188 pp., 1990.

Kennett, B.L.N. (Compiler and Editor), *IASPEI 1991 Seismological Tables*, Bibliotech, Canberra, Australia, 167 pp., 1991.

Sato, H. (Editor), Special Issue, *Scattering and Attenuation of Seismic Waves*, Proceedings of the IASPEI Symposium held during the 25th General Assembly in Istanbul, Turkey, *Physics of the Earth and Planetary Interiors*, v. 67, 1991.

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Earthquake Disaster Prevention, Tokyo, Japan, v. 1, 355 pp., v.2, 517 pp., 1992.

Hurtig, E., and Haack, H. (Editors), Geothermal Atlas of Europe, Rudolf Muller International Booksellers, Amsterdam, The Netherlands, 36 maps, 156 pp., 1992.

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Ohnaka, M. (Editor), Special Issue, Earthquake Source Physics and Earthquake Precursors, Proceedings of the IASPEI sponsored Symposium held in Tokyo, Japan, November, 1990, Tectonophysics, v. 211, 1992.

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Giardini, D. (Editor), Special Issue, Lateral Heterogeneity and Earthquake Location, Proceedings of the IASPEI Symposium held during the 26th General Assembly in Vienna, Austria, Physics of the Earth and Planetary Interiors, v. 75, 1992.

Lewis, T. (Editor), Special Issue, Climatic Change Inferred from Underground Temperatures, Paleogeography, Paleoclimatology, Paleoecology, v. 98, Global and Planetary Change, v.6, 1992.

Ranalli, G. (Editor), Special section, Heat Flow, Rock Mechanics, and Seismicity, Proceedings of the IASPEI Symposium held during the 26th General Assembly in Vienna, Austria, Tectonophysics, v. 217, 1993.

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Austria, Computers & Geosciences, v. 19, 1993.

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McGuire, R.K. (Editor), IDNDR Monograph, The Practice of Earthquake Hazard Assessment, IASPEI/European Seismological Commission, 284 pp., 1993

Parrot, M., and Johnston, M.J.S. (Editors), Special Issue, Seismo-Electromagnetic Effects, Proceedings of the IAGA/IASPEI Symposium held during the 26th General Assembly in Vienna, Austria, Physics of the Earth and Planetary Interiors, v. 77, 1993.

Clowes, R.M. and Green, A.G. (Editors), Special Issue, Seismic Reflection Probing of the Continents and Their Margins, Selected papers from the 5th International Symposium held at Banff, Canada, 6-12 September 1992, Tectonophysics, v. 232, 1994.

Bolt, B.A. and Amirbekian, R. (Editors), Proceedings of the International Conference on Continental Collision Zone Earthquakes and Seismic Hazard Reduction held at Yerevan-Sevan, Armenia, 1-6 October 1993, 258 pp., 1994.

FORTHCOMING MEETINGS

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

1995 November 1-5
INTERNATIONAL SYMPOSIUM ON
RESERVOIR INDUCED SEISMICITY
Beijing, CHINA

H. Chen, Institute of Water Conservancy and Hydroelectric Power Research, PO Box 366, Beijing, 100044, CHINA (Tel: 86 1 8415522, ext. 560; Fax: 86 1 8412316)

1995 November 6-17
THIRD WORKSHOP ON NON-LINEAR
DYNAMICS AND EARTHQUAKE
PREDICTION, Miramare-Trieste, ITALY
International Centre for Theoretical Physics,
P.O. Box 586, I-34100, Trieste, ITALY
(E-mail: smr879@ictp.trieste.it)

1995 November 20-22
PACIFIC CONFERENCE ON
EARTHQUAKE ENGINEERING
Melbourne, AUSTRALIA
B. Butler, PCEE '95, PO Box 829, Parkville,
Victoria 3052, AUSTRALIA (Tel: 61 3 344
6777; Fax: 61 3 566 616344-4616)

1995 November 22-25
5TH INTERNATIONAL CONFERENCE ON
PLATE TECTONICS, Moscow, RUSSIA
Dr. Elena Pristavakina, Institute of
Oceanology, RAS, 23 Krasikova St., Moscow

117851, RUSSIA (Tel: 7 095 124 7942; Fax: 7
095 124 5983; E-mail: paleo@sovam.com)

1996 January 19-22
INTERNATIONAL CONFERENCE ON
DISASTERS AND MITIGATION
Madras, INDIA
Dr. A.R. Santhakumar, Anna University,
Madras - 600 025, INDIA (Fax: 91 44
2350397; E-mail: annalib@sirnetm.ernet.in)

1996 March 5-8
INTERNATIONAL CONFERENCE ON
NATURAL DISASTER REDUCTION,
Washington, D.C., USA
NDR '96, Conferences and Conventions
Department, American Society of Civil
Engineers, 345 East 47th Street, New York,
NY 10017 (Tel: 1 800 548 2723; Fax: 1 212
705 7975)

1996 April 10-12
20TH UNITED KINGDOM GEOPHYSICAL
ASSEMBLY (UKGA20)
Newcastle upon Tyne, UK
Dr. W. O'Reilly, Dept. of Physics, University
of Newcastle upon Tyne, Newcastle upon
Tyne, NE1 7RU, UK (Tel: 44 191 2227333;
Fax: 44 191 2227361; e-mail:
UKGA20@ncl.ac.uk; World Wide Web;
<http://www.phys.ncl.ac.uk/ukga20/>)

1996 June 9-15
FOURTH INTERNATIONAL MEETING
HEAT FLOW AND STRUCTURE OF THE
LITHOSPHERE
Chateau of Trest, CZECH REPUBLIC

The Geophysical Institute of the Academy of Sciences of the Czech Republic is pleased to extend its invitation to the above meeting, which will be held under the auspices of the International Heat Flow Commission of IASPEI and the Academy of Sciences of the Czech Republic.

The main programme of the Workshop includes invited lectures, contributed papers, and an ample poster section focussed on problems of two major topics of contemporary geothermics:

(i) Heat flow studies with special attention to 2-D and 3-D geothermal modelling, crustal and lithosphere structure, deep temperature assessment, correlation studies between heat flow and other geoparameters, etc.; and

(ii) Climate related temperature versus depth borehole observations including studies of

underground climate recollections, ground surface temperature histories, air/soil temperature coupling, etc..

The participation fee will be approx. US\$500, which includes accommodation and full board at the chateau, the social programme (welcome party, concert or theatre, banquet), conference material and local transport. For accompanying persons the fee is approx.US\$400. Limited funds are available for some participants to cover their local expenses.

More information and additional particulars will be given in the Second Circular. In order to be forwarded a copy, please contact:

Dr. Vladimir Cermak, Geophysical Institute, AVCR, Bocni II, 141 31 Praha 4, CZECH REPUBLIC (Tel: 42 2 764539; Fax: 42 2 761549; E-mail: cermak@ig.cas.cz)

1996 July 8-13
INTERNATIONAL MEETING
GEODYNAMICS OF LITHOSPHERE AND
EARTH'S MANTLE
Chateau of Trest, CZECH REPUBLIC
Dr. Jaroslava Plomerova, Geophysical
Institute, CASci, 141 31 Praha 4, CZECH
REPUBLIC (Tel: 42 2 67 103 049; Fax: 42 2
76 15 49; E-mail: jpl@ig.cas.cz)

1996 July 21-28
FOURTH INTERNATIONAL SYMPOSIUM
ON THE GEOCHEMISTRY OF THE
EARTH SURFACE, Ilkley, Yorkshire,
England, UK
Conference Secretariat, Dept. of Continuing
Education, Leeds University, Leeds LS2 9JT,
UK (Tel: 01132 333 241; Fax:01132 333 240)

1996 July 23-27
5TH INTERNATIONAL SEDI SYMPOSIUM
4TH WESTERN PACIFIC GEOPHYSICS
MEETING, Brisbane, AUSTRALIA
Prof. Frank Stacey, Physics Dept., University
of Queensland, Brisbane Qld 4072,
AUSTRALIA (Fax: 61 7 374 2059)

1996 August 1-3
IASPEI REGIONAL ASSEMBLY IN ASIA
Tangshan, CHINA
Prof. Zhu Chuanzhen, Acting Secretary-
General of the ASC, No. 5 Minzuxueyuan,
SSB, Beijing 100081, CHINA (Tel: 86 10
8415372; Fax: 86 10 8417859; E-mail;
Zhucz@cdsndmc.css.gov)

1996 August 4-14
30TH INTERNATIONAL GEOLOGICAL
CONGRESS
Beijing, CHINA
Prof. Zhao Xun, 30th International Geological
Congress, P.O. Box 823, Beijing 100037,
CHINA (Tel: 86 10 8327772; Fax: 86 10
8328928; E-mail: zhaox@becp2.ihep.ac.cn)

1996 September 16-20
7TH INTERNATIONAL SYMPOSIUM ON
DEEP SEISMIC PROFILING OF THE
CONTINENTS, Asilomar, California, USA

We invite submission of scientific and technical papers, on the interpretation, processing, modelling, inversion or acquisition of near-vertical seismic reflection data, that

focus principally on the fine structure composition or tectonics of the continental crust and lithospheric mantle.

We invite submission of papers on wide-angle reflection/refraction data, or earthquake data, both local and teleseismic, if used to provide constraints on lithospheric structure, composition or tectonics at length scales comparable with near-vertical reflection data, or if combined with refraction data.

Significant time will be allotted to poster sessions, and authors of oral presentations will be encouraged to prepare a companion poster display, especially if their paper includes presentation of reflection data.

We will not accept for oral presentation papers which only address sedimentary basin fill, though papers on deep structure of basins are welcome; or only oceanic crust, though papers on continental margins are encouraged; or only structure below the lithosphere-asthenosphere boundary, unless a clear relation is shown to studies of the continental lithosphere.

We do not plan simultaneous sessions.

A Second Circular will be mailed in 1996, with final costs and details.

The abstract deadline will be June 1, 1996; and registration deadline will be July 1, 1996.

Because accommodation is limited to 250 scientists, early registration will be encouraged.

A symposium volume will be published with scientific papers arising from the meeting.

The deadline for receipt of papers by the conference organizers will be December 31, 1996. For further information contact:

Simon Klemperer (7th Deep Seismix), Dept. of Geophysics, Mitchell Bldg., MC 2215, Stanford Univ., Stanford, CA 94305-2215, USA (Tel: 1 415 723 8214; Fax: 1 415 723 8725; E-mail:;:klemp@pangea.stanford.edu)

1996 October 20-25
INTERNATIONAL EUROPROBE
SYMPOSIUM ON EARTH'S UPPER
MANTLE STRUCTURE
Moscow, RUSSIA

1997 August 18-29
29TH GENERAL ASSEMBLY, IASPEI
Thessaloniki, GREECE

Secretariat, Geophysical Laboratory,
University of Thessaloniki, GR-540 06,
Thessaloniki, GREECE (Tel: 30 31 998526;
Fax 30 31 998528; E-mail:
iaspei@olymp.ccf.auth.gr).

1997 September 20-26
INTERNATIONAL SEMINAR ON
EVALUATION AND MITIGATION OF
SEISMIC RISK IN CENTRAL AMERICA
San Salvador, EL SALVADOR