

IASPEI ニュースレター

No. 27 October 1990

26th GENERAL ASSEMBLY, VIENNA; 11-24 AUGUST 1991

IASPEI will hold its 26th General Assembly in conjunction with the XX General Assembly of IUGG, 11-24 August 1991. As well as participating in Union activities, IASPEI will be arranging its own programme of scientific and business sessions.

Please note that the issue of all circulars and local arrangements, including registration and accommodation, is being handled by:

Local Organizing Committee IUGG 91
ZANG
Hohe Warte 38
A-1190 Vienna, AUSTRIA
Tel: +43 222 364453
Fax: +43 222 369 1233
Telex: 131837 METEOR

The first and second circulars with preliminary information have already been issued, and the Third Circular with full details of sessions, convenors and instructions for submitting abstracts will be distributed from Vienna in November. Those who have not already requested these from the Local Committee should do so.

Registration Fee This will be announced in the Third Circular, but preliminary estimates are as follows, in Austrian schillings:

	Before 1 March	Before 1 July	At Assembly
Delegates	2,650	3,350	3,650
Young scientist	600	1,500	1,700
Accompanying person	1,000	1,200	1,400

The present exchange rate is about US \$1 = 11 schillings

Abstracts Instructions for the preparation of abstracts will also be in the Third Circular. The deadline for submission to convenors is likely to be 28 February 1991. Please note that abstracts should be sent to convenors and the Local Organizing Committee and not to the IASPEI Secretariat.

Travel Grants As is usual in IASPEI, the provision of travel grants will be made through convenors of sessions, and scientists wishing to receive support should apply to convenors when they submit abstracts. The total amount available for each session will not be known until early in 1991, when the Association learns how much support it will receive from funding agencies. Please remember that our resources are very small, and only in exceptional circumstances will it be possible to offer full funding to any participant.

Scientists who are successful in obtaining GEOMOST grants from the Local Committee should let me know directly if they need further support.

Business Sessions IASPEI will hold two plenary sessions, on 12 and 21 August. The agendas will be announced later, but if any National Correspondents wish to have any particular matters raised, please let me know. Elections will take place for new officers of the Association. A Nominating Committee has already been appointed and suggestions may be made to the Committee at the Assembly or beforehand. The Chairman is: Prof. Z. Suzuki, 9-11-18 Hino, Konan-ku, Yokohama 233, Japan, and other members are: Prof. H Berckhemer (Germany), Prof. B A Bolt (USA), Prof. A D Gvishiani (USSR) and Prof. E. Kausel (Chile).

SCIENTIFIC SESSIONS (WITH CONVENORS)

Plenary Sessions

- First Plenary Session 12 Aug. a.m.
Second Plenary Session 21 Aug. ev.

IASPEI-Related IUGG Symposia

- U1 Interrelation Between Geophysical Structures and Processes
(Prof. K Aki) 14 Aug. a.m., p.m., 15 Aug. p.m.
U3 Major Puzzling Problems or Paradoxes in Contemporary Geophysics
(Dr E Nyland) 13 Aug. a.m., p.m.
U4 Non-linear Dynamics and Predictability of Critical Geophysical
Phenomena (Dr J Lomnitz-Adler) 20 Aug. a.m., p.m., 21 Aug. a.m., p.m.
U5 Application of Gravimetry and Space Techniques to Geodynamics and Ocean
Dynamics (Prof. C Froidevaux) 14 Aug. a.m., p.m., 15 Aug. a.m.
U6 Dynamics of the Earth's Deep Interior and Earth Rotation
(Prof. K Lambeck) 19 Aug. a.m., p.m.
U8 Water and Ice as Geophysical Agents
(Prof. A M Nur) 22 Aug. a.m., p.m., 23 Aug. a.m., p.m.
U10 The Application of Topographic Data Bases to Geodynamic Prediction
and Interpretation (Dr Y Ricard) 16 Aug. a.m., p.m.
U11 Structure Beneath Marginal Sea Basins
(Prof. H Shimamura) 20 Aug. a.m., p.m.
U12 Chemical Evolution of the Earth and Planets
(Prof. R Jeanloz) 22 Aug. a.m., p.m.

IASPEI Symposia

- S1 Earthquake Hazard and Risk
(Mr P W Basham) 13 Aug. a.m., p.m., 14 Aug. a.m.
S2 Progress in the Seismic Interpretation of Complex Structures
(Prof. B L N Kennett) 22 Aug. a.m., p.m., 23 Aug. a.m., p.m.
S3 Plate Tectonic Signatures in the Continental Lithosphere
(Dr A G Green) 13 Aug. a.m., p.m., 14 Aug. a.m.
S4 Shear-Waves and Shear Wave Splitting
(Prof. J P Montagner) 21 Aug. a.m., p.m.
S5 Earthquake Sources (Prof. J L Nabelek) 14 Aug. a.m., p.m.
S6 Lateral Heterogeneity and Earthquake Location
(Dr D Giardini) 16 Aug. a.m., p.m.
S7 Application of Strong Motion Records to Seismological Problems
(Prof. B A Bolt) 16 Aug. a.m., p.m.
S8 Heat Flow, Rock Mechanics and Seismicity
(Prof. G Ranalli) 19 Aug. a.m., p.m.
S9 Physical Processes in the Deformation of the Lithosphere:
Observations, Laboratory and Numerical Modelling
(Prof. B H Hager) 15 Aug. a.m., p.m., 16 Aug. a.m.
S10 Physical Properties of the Earth's Interior: Mantle to Core
(Prof. T J Ahrens) 20 Aug. a.m., p.m.
S11 Tsunami Disaster Reduction (Dr E N Bernard) 19 Aug. a.m., p.m.

IASPEI Workshops

- W1 Global and Local Geophysical Networks
(Prof. A V Nikolaev) 20 Aug. a.m.
W2 Structured Databases in Solid Earth Geophysics
(Dr J Bonnin) 20 Aug. p.m.
W3 Estimation of Earthquake Size (Prof. S J Duda) 19 Aug. p.m.
W4 Analysis of Digital Seismograms (Dr A Plesinger) 19 Aug. a.m.
W5 Applications of Personal Computers in Geophysics (Dr W H K Lee)
19 Aug. p.m. (oral), 20 Aug. a.m., p.m., ev. (demonstration)
W6 Evaluation of Methods of Interpretation of Heat Flow Data
(Prof. A E Beck) 20 Aug. a.m.

- W7 Climate Change Recorded in Subsurface Temperatures
(Prof. H N Pollack) 20 Aug. p.m.
- W8 World-wide Assessment of Seismic Hazard Techniques
(Dr R K McGuire) 15 Aug. a.m., p.m.
- W9 Earthquake Risk (Dr K V Steinbrugge) 14 Aug. p.m.
- W10 Electrical and Seismic Properties of the Lithosphere and their
Interpretation in Terms of Physical State and Petrology
(Dr I S Sacks) 19 Aug. a.m., p.m.
- W11 Electromagnetic Methods of Natural Disaster Warning
(Dr M B Gokhberg) 22 Aug. p.m.
- W12 International Seismological Observing Period
(Dr E R Engdahl) 21 Aug. a.m.
- W13 Global Geoscience Transects Project (Dr J W Monger) 14 Aug. p.m.
- W14 Exploring the Continental Crust by Drilling (Dr S L Klemperer)
16 Aug. a.m., p.m.

IASPEI Working Groups

- WG1 IASPEI/Unesco/ICL Working Group on Seismology and Related
Sciences in Africa (Dr H K Gupta) 22 Aug. a.m., p.m.
- WG2 Seismic Regionalization (Mr J B Young) 19 Aug. a.m.
- WG3 Modelling the Earthquake Process (Prof. C H Scholz) 15 Aug. p.m.
- WG4 Case Histories of Earthquake Precursors
(Dr M Wyss) 15 Aug. a.m.
- WG5 Time-Dependent Earthquake Hazard
(Dr J Lomnitz-Adler) 16 Aug. a.m.
- WG6 Seismicity Patterns (Dr K Hamada) 14 Aug. p.m.
- WG7 Crustal Deformation (Prof. J Zschau) 16 Aug. p.m.
- WG8 Earthquake Alarms Based on Combined Parameters
(Prof. G A Sobolev) 16 Aug. p.m.

IASPEI Commissions

- C1 Commission on Controlled Source Seismology 14 Aug. ev.
- C2 Commission on Earthquake Hazard and Prediction 16 Aug. ev.
- C3 Commission on Geodynamics and Tectonophysics 15 Aug. ev.
- C4 International Heat Flow Commission 19 Aug. ev.
- C5 Commission on Physical Properties of Material
of the Earth's Interior 20 Aug. ev.
- C6 Commission on Practice 21 Aug. p.m.
- C7 Commission on Strong Motion Seismology 15 Aug. ev.
- C8 Commission on Wave Propagation 16 Aug. ev.
- C9 European Seismological Commission 13 Aug. ev.
- C10 Federation of Digital Broad Band Seismograph
Networks 15 Aug. a.m., p.m., 19 Aug. p.m.

Social Events

- IUGG Reception 12 Aug. ev
- IASPEI Dinner 22 Aug. ev

CONVENORS OF PRINCIPAL IASPEI SESSIONS

Prof.K.Aki
Dept. of Geological Sciences
University of Southern California
University Park
Los Angeles CA90089-0740
U.S.A.

Prof.R.Jeanloz
Department of Geology and Geophysics
University of California
Berkeley CA 94720
U.S.A.

Dr.A.G.Green
Continental Geoscience Division
Geological Survey of Canada
1 Observatory Crescent
Ottawa, Ontario
Canada K1A 0Y3

Dr.E.Nyland
Department of Physics
University of Alberta
Edmonton T6G 2M7
Canada

Prof.H.Shimamura
Laboratory of Ocean Bottom Seismology
Geophysical Institute
Hokkaido University
Sapporo 060
Japan

Prof.J.P.Montagner
Laboratoire de Sismologie
Institut de Physique du Globe
Universite P & M Curie
4 Pl. Jussieu
75252 Paris Cedex 05
France

Dr.J.Lomnitz-Adler
Instituto de Fisica
UNAM Apartado Postal 20-364
Mexico DF 01000
Mexico

Prof.G.Fanali
Institut fuer Mineralogie and Petrographie
ETH-Zentrum
CH 8092 Zurich
Switzerland

Prof.J.L.Nabelek
College of Oceanography
Oregon State University
Corvallis OR 97331-5503
U.S.A.

Prof.C.Frodevaux
Ecole Normale Supérieure
Department de Geologie
24 rue Lhomond
75231 Paris Cedex 05
France

Prof.B.H.Hager
Dept of Earth and Planetary Sciences
Mass. Institute of Technology
Cambridge MA 02139
U.S.A.

Dr.D.Giardini
Istituto Nazionale di Geofisica
Via di Villa Ricotta 42
I-00161 Rome
Italy

Prof.K.Lambeck
Research School of Earth Science
Australian National University
G.P.O.Box 4
Canberra 2601
Australia

Dr.E.N.Bernard
Pacific Marine Environmental Laboratory
7600 Sand Point Way N.E.
Seattle, Washington 98115-0070
U.S.A.

Prof.B.A.Bolt
Seismographic Station
University of California
Berkeley, CA 94720
U.S.A.

Prof.A.M.Nur
Dept. of Geophysics
Stanford University
Stanford CA 94305
U.S.A.

Prof.B.L.N.Kennett
Research School of Earth Sciences
Australian National University
G.P.O.Box 4, Canberra A.C.T. 2601
Australia

Prof.T.J.Ahrens
Seismological Laboratory 252-21
California Institute of Technology
Pasadena CA 91125
U.S.A.

Dr.Y.Ricard
Departement de Geologie
Ecole Normale Supérieure
24 rue Lhomond
F-75251 Paris Cedex 05
France

Mr.P.W.Basham
Geophysics Division
Geological Survey of Canada
1 Observatory Crescent
Ottawa, Ontario
Canada K1A 0Y3

THE IASPEI SEISMOLOGICAL SOFTWARE LIBRARY

1. Introduction

The International Association of Seismology and Physics of the Earth's Interior (IASPEI) is a non-profit professional association dedicated to furthering the knowledge of seismology and solid-earth geophysics. In 1988, IASPEI established a Working Group on Personal Computers to promote sharing of seismological software among scientists worldwide. This Working Group is chaired by W. H. K. Lee of the U. S. Geological Survey, and includes the following members: M. Coviello (Italy), D. J. Crossley (Canada), M. Garcia-Fernández (Switzerland), R. E. Habermann (WDC), K. Koketsu (Japan), J.C. Lahr (USA), A. Mendecki (South Africa), H. Meyer (Colombia), D. Novelo-Casanova (Mexico), D. A. Plesinger (Czechoslovakia), F. Scherbaum (Germany), R. A. Uhrhammer (USA), Z. H. Zhao (China), and V. Zhuravlev (USSR).

2. IASPEI Software Library

Under the auspices of the IASPEI Working Group on Personal Computers and in collaboration with the Seismological Society of America (SSA), a series of seismological software volumes for the IBM-compatible personal computers are being published.

The IASPEI Seismological Software Library volumes are being edited by W. H. K. Lee. The editorial advisory board is chaired by Hiroo Kanamori of the California Institute of Technology, and includes the following members: R. D. Adams (UK), V. Cervený (Czechoslovakia), E. R. Engdahl (USA), Y. Fukao (Japan), R. B. Herrmann (USA), E. Kausel (Chile), V. Keilis-Borok (USSR), B. L. N. Kennett (Australia), and S. K. Singh (Mexico).

3. IASPEI Software Library Volume 1

This volume (published in May, 1989) is a toolbox of programs for both real-time operation of a seismic network, and off-line processing and analysis of seismic events. The off-line programs can be adapted for analyzing any digital seismic data. In addition, it includes a description of the hardware implementation for a PC-based seismic data acquisition, processing, and analysis system. Such a system can be easily duplicated because it uses standard and commercially available components, and can be put into operation in a few hours. It is designed to bring an analog seismic network into the modern "digital world" at a very low cost.

Using a 8-MHz 286 PC, the on-line program (XDETECT) is capable of digitizing 16 channels of analog signals at up to 500 samples per second per channel, and displaying the 16 seismic traces in realtime. In the event triggered mode, the XDETECT program automatically picks first P-arrival times, locates the earthquake, and saves the digitized waveform data on the hard disk. With a multiplexer and a revised version of the XDETECT program, a 16-MHz 286 PC is capable of digitizing and processing 128 channels of seismic data in real time at 100 samples per second per channel. The off-line processing and analysis programs provide the following functions: (1) a rapid playback and editing of digitized waveform data, (2) interactive picking of seismic phases, (3) earthquake location, and (4) interactive signal processing such as windowing, filtering, Fourier spectra, and coda Q attenuation analysis.

4. IASPEI Software Library Volume 2

The second volume (published in September, 1990) is a companion to the first volume. It contains several programs for plotting seismic and other data on the monitor screen and generating a hard copy on either a printer or a plotter. It includes a 3-dimensional data viewing program for rotating, enlarging, or shrinking objects and data points. The plotting package supports Hercules, CGA, EGA, and VGA graphics, IBM or Epson compatible printers, and HP plotters. A few application programs are also included to illustrate how to use plotting package for seismological applications.

5. IASPEI Software Library Volume 3 and 4

Volume 3, by Anthony Lomax (University of California, Berkeley), and Robert McCaffrey (Rensselaer Polytechnic Institute) contains computer programs for analyzing digital seismograms and inversion of teleseismic body waves. This volume is a toolbox for seismological research, especially on broad-band digital seismic data. This volume is scheduled for publication in February, 1991.

Volume 4 is a toolbox for managing bibliographic information and includes programs to automate the reference preparation in manuscripts and to manage a user's own references. It also includes a database of all articles published in the Bulletin of SSA (1911-1990), and 10,000 most frequently cited articles. This volume is scheduled for publication in August, 1991.

6. Technical Support

Although the programs have been extensively tested, the authors welcome comments from users and will answer questions. If any errors are discovered, registered users will be informed and corrections will be issued promptly. We are planning for an annual update which will be available at a small cost.

7. Source Code

Users will not normally need the *source* code for their applications because the *executable* programs are designed with extensive user control through options in input files. However, for users who wish to modify the programs for their applications, source code is available. The source code package contains instructions and source code written by the IASPEI authors on floppy diskette(s). To compile the source code, specific compilers and other commercial software packages are also required as specified in the instructions.

8. License Agreement

IASPEI, by not placing any copy protection on the disks, trusts that users will purchase legitimate copies. Because the IASPEI Software Library publication must recover the cost of production and distribution through sales, continued publication of this series depends on your goodwill. In accordance with the legal practice in the United States, all purchasers must sign the formal license agreement in the order form.

Some complimentary copies of IASPEI software are available to institutions and individuals who need the software but can not afford the payment or can not obtain U.S. funds. Please contact: IASPEI PC Working Group, P. O. Box "I", Menlo Park, CA 94026, USA.

9. Ordering Information

Each IASPEI software volume includes the executable code and examples on floppy diskettes, and printed documentation in IBM-type software packaging. The regular cost is \$250 each, including tax, handling and shipping. For Volumes 3 and 4, a pre-paid pre-publication order is available for \$150 each. Please use the enclosed Institutional Order Form.

For members of SSA, special discounts for purchase with personal funds (\$75 pre-publication and \$125 post-publication) are offered in 'SSA Member Dues Notice'. You are encouraged to join SSA to take advantage of the special discounts.

Source code for the IASPEI Software Library volumes is available at \$250 per volume, and it is *not* discounted for pre-publication or SSA members.

Send orders to: Seismological Society of America, 201 Plaza Professional Building, El Cerrito, CA 94530, USA (Phone: 415-525-5474; FAX: 415-525-7204).

(10/1/90)



IASPEI ソフトウェアライブラリー (地震学会員用特別割引) 申込書

This form is for ordering IASPEI software by SSJ members using personal funds. Because of legal practice in the United States, please read the following License Agreement. If it is acceptable to you, then sign below and place the order. All orders must be pre-paid in U.S. dollars by bank check or credit card. Please send order to: Seismological Society of America, 201 Plaza Professional Building, El Cerrito, CA 94530, USA (Phone: 415-525-5474; FAX: 415-525-7204).

- Vol. 1. *Toolbox for Data Acquisition, Processing, and Analysis* (published May, 1989)
 — Executable code and manual (\$150 each) \$ _____
- Vol. 2. *Toolbox for Plotting Seismic and Other Data* (published September, 1990)
 — Executable code and manual (\$150 each) \$ _____
- Vol. 3. *Digital Seismogram Analysis and Seismic Moment Inversion* (February, 1991)
 — Executable code and manual (\$90 each [pre-publication]; \$150 each [after 2/91]) \$ _____
- Vol. 4. *Toolbox for Bibliographic References and BSSA Database* (August, 1991)
 — Executable code and manual (\$90 each [pre-publication]; \$150 each [after 8/91]) \$ _____

TOTAL: \$ _____

Payment Options:

Check or Money Order (payable to SSA)
 Charge
 Mastercard  VISA  Date Expires _____
 Account Number _____
 Signature _____

I accept the License Agreement: Signed _____ Date _____

PURCHASER: _____ PHONE: _____

ADDRESS: _____

IASPEI Software Library License Agreement

- (1) **GRANT OF LICENSE.** IASPEI grants to you the right to use one copy of the program(s) included in a purchased IASPEI Software Library volume (the "SOFTWARE") on a single computer.
- (2) **COPYRIGHT.** The SOFTWARE is copyrighted by IASPEI or its suppliers (except as noted) and is protected by United States copyright laws and international treaty provisions.
- (3) **LIMITED WARRANTY AND DISCLAIMER.** IASPEI warrants that for a period of 90 days, from the date of shipment by SSA, the materials on the diskettes and the user manual will be free from defects in materials and workmanship and the computer program(s) under normal use will perform without significant errors that will make it unusable. IASPEI/SSA entire liability and your exclusive remedy under this warranty will be IASPEI's replacement of the diskettes and/or the user manual returned to IASPEI by certified mail.
- (4) **NO OTHER WARRANTIES.** IASPEI/SSA DISCLAIM ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SOFTWARE AND THE ACCOMPANYING WRITTEN MATERIALS.
- (5) **NO LIABILITY FOR CONSEQUENTIAL DAMAGES.** IN NO EVENT SHALL IASPEI, SSA, OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, INTERRUPTION, LOSS OF INFORMATION, OR OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THIS IASPEI SOFTWARE LIBRARY VOLUME, EVEN IF IASPEI OR SSA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
- (6) **U.S. GOVERNMENT USE.** Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subdivision (c)(1)(ii) of the Rights in Technical Data and Computer Software clause as 252.227-7013.

(10/28/90)