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Also in this issue of the IASPEI Newsletter, I have to inform you with great sadness that one of our colleagues left us. We remember him in an obituary.

Please don't forget to inform me about international conferences and workshops with IASPEI related topics. Then, I can add these events to the Meetings Calendar of future Newsletters.

**Johannes Schweitzer**  
Secretary General

## 11<sup>th</sup> General Assembly of the Asian Seismological Commission (ASC), Melbourne, Australia November 25 – 27, 2016

The ASC 2016 Assembly will be held in Melbourne, with the main scientific program from Friday November 25 to Sunday November 27. This is in late spring when Melbourne weather is usually at its best.

Technical and training workshops will be held in the days before the main program, other meetings will be scheduled for Monday 28 November, and optional local tours will follow. The assembly will be held parallel with the 2016 Australian Earthquake Engineering Society meeting, with several sessions in common.



### Foreword

Dear Readers,

In this first issue of the IASPEI Newsletter in 2016 you can find

- information about forthcoming assemblies of our regional commissions in Europe and Asia in 2016;
- information from our mother organisation IUGG and the Inter-Association Commission SEDI;
- reports from two IASPEI sponsored workshops in 2015.

The venue is the Melbourne Conference and Exhibition Centre, where the IUGG meeting was held in 2011. Several adjoining rooms of various sizes on the first floor above ground level will be available, with a large foyer overlooking the Yarra River providing space for registration, discussions, catering, posters and exhibitions.

The First Circular was released in March, by email to participants of past ASC assemblies, and by download from the conference web site ([asc2016.asia](http://asc2016.asia)). This will call for proposals on session themes and workshops, for volunteers to act as session convenors, and for early abstracts. The Second Circular incorporating proposals received will follow in late April, and a Third Circular in late July with a preliminary program.

The scientific program will last for three days, with two presentation sessions each morning, and one presentation session and one poster session each afternoon. The second session each morning will be a plenary presentation, with keynote and invited papers on issues of significance to all.

Preliminary session proposals include:

1. Earthquake Observation and Interpretation
2. Earthquake Hazard and Risk
3. Earth structure, geodynamics and seismotectonics
4. Education, outreach and cooperation
5. Volcano seismology
6. Recent Earthquakes

Suggestions for pre-assembly workshops include:

1. Earthquake geology for seismologists
2. Earthquake magnitude, local attenuation, and conversion between scales

The Local Organising Committee (LOC) can be contacted on email at [secretary@asc2016.asia](mailto:secretary@asc2016.asia)

## 35<sup>th</sup> General Assembly of the European Seismological Commission

4-10 September  
2016

**Trieste**

The call for papers for the 35th General Assembly of the European Seismological Commission, that will take place from 4 to 10 September 2016 in Trieste (Italy), is now open.

Please note that the deadline to submit your abstract is: 30 APRIL 2016

The online submission form is now available at the ESC website [www.35esc2016.eu](http://www.35esc2016.eu).

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## News from the IUGG

IUGG recently published several documents with relevance for IASPEI on its web-site:

**Comptes Rendus of the 26<sup>th</sup> General Assembly of IUGG:**

<http://www.iugg.org/assemblies/2015prague/>

**2016 Yearbook:**

<http://www.iugg.org/publications/yearbooks/>

**Anti-Harassment Guidelines:**

[http://www.iugg.org/meetings/Anti\\_harassment\\_guidelines.pdf](http://www.iugg.org/meetings/Anti_harassment_guidelines.pdf)

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## NEWS from SEDI

SEDI SG Michael Bergmann informed that as in the past there are limited funds available for early career scientists (students, post-docs, junior faculty) to attend the SEDI 2016 meeting in Nantes, France. For details on how to apply go to Support link on the SEDI 2016 website ([www.sedi2016.org](http://www.sedi2016.org)). Applications, which include an abstract and a brief description of your situation, are due April 20, 2016, e-mailed to [bergman@simons-rock.edu](mailto:bergman@simons-rock.edu).

IUGG SG Alik Ismail-Zadeh informed that SEDI has produced a collection of review and original papers based on the presentations at SEDI2014 Symposium held in Japan. The collection of papers has been published in the journal Progress in Earth and Planetary Science (PEPS). All articles are OPEN ACCESS

(<http://www.progearthplanetsci.com/series/DeepEarthPlanets>).

## ECGS & ESC/EAA Joint Workshop: Earthquake and Induced Multi-Risk Early Warning and Rapid Response, November 18 – 20, 2015

The European Center for Geodynamics and Seismology (ECGS), together with the European Seismological Commission (ESC) and the European Association for Earthquake Engineering (EAEE), organized the ECGS & ESC/EAEE Joint workshop “Earthquake and Induced Multi-Risk Early Warning and Rapid Response”, which was held from 18 to 20 November 2015 in Luxembourg City. The main objective was to bring together scientists and engineers working on the problems of early warning, rapid response and (near-)

real-time risk assessment for earthquakes and earthquake-induced phenomena. In particular, the scientific and engineering communities dealing with these issues do not interact enough, and the workshop aimed at fostering this interaction and collaboration.

69 participants from 21 countries registered for the meeting, with largest groups of attendees from Japan, the UK, Switzerland and the USA. Strong emphasis was put on discussion and exchange of ideas among participants. For this reason, two “debate” time slots were allocated to serve this need. The scientific programme of the workshop is available on the website [www.ecgs.lu/eewrr2015/](http://www.ecgs.lu/eewrr2015/). In total, five keynote lectures, twenty-one oral and twenty-three poster presentations were given.

Besides the allocated funds from ECGS, financial sponsorship for the workshop was provided by the National Research Fund of Luxembourg (FNR), the Major Hazards Agreement (EUR-OPA) of the Council of Europe and the Ministry of Culture of Luxembourg. IASPEI and the Seismological Society of America (SSA) provided support by helping to disseminate the advertisement for the workshop and lending the associations’ names for support to the meeting.

We were in the fortunate position to be able to provide travel grants to ten young scientists so that they could attend the workshop. All of these grants covered the entire accommodation and travel expenses as well as the registration fees.

### Scientific program

The workshop started with an extensive session on the state-of-the-art of today’s earthquake early warning (EEW) systems, since these represent the basis for all ensuing analyses and procedures, such as the treatment of induced effects and real-time risk or loss assessment. Following these presentations, a session dedicated to tailor-made EEW systems for varying targets and socio-economic contexts was held. This is an issue of crucial importance as not every

country can afford such elaborate but expensive systems as for instance Japan or California.

After these earthquake-early-warning dedicated sessions, the program moved to the interface of engineering and seismology, discussing multi-risk methodologies for early warning and rapid response, using the examples of tsunami and landslide studies and how such secondary effects can be integrated in early warning schemes. The meeting concluded with a session on real-time risk assessment and structural monitoring, again at the interface of engineers and earth scientists.

Over the entire workshop, the 23 posters were continuously on display, in the same area where the coffee breaks and lunch breaks were held. This allowed for the maximum possible time to discuss the poster presentations.

## Conclusions

Based on the presentations at the meeting, the participants came to the following conclusions and recommendations:

- The development of loss-based early warning systems for multi hazard applications represents a key element in future disaster risk reduction strategies.
- The detection and assessment of aftershocks following major earthquakes and their effects is a major challenge for early warning and rapid response systems. The inclusion of these effects is however of key importance in order to ensure the reliability of such systems and future research is required on this topic.
- There is a continued need for basic research on earthquake ground motion generation, in particular regarding earthquake source characteristics, in order to validate current and future earthquake early warning algorithms and implementations.

As for the past ECGS workshops in 2012 and 2010, the concept of the workshop with keynote presentations (40 min.), regular presentations (20 min.), short poster announcements (1 slide / 3 min), discussions and debates was a great success. There were lively discussions during the whole workshop, including the coffee breaks and the meals.

Adrien Oth

LOC and European Center for Geodynamics and Seismology (ECGS)

## Managing Data from Seismic Networks Workshop and Advanced Studies Institute in Hanoi, Vietnam, September 8 – 15, 2015



IASPEI has been supporting IRIS Data Services (DS) workshops for over 10 years. The workshops have taken place in Brazil two times, Malaysia, Egypt, Thailand, Kuwait, Colombia, and Vietnam. IASPEI has provided support for all of these workshops. We anticipate the next workshop will take place in Africa in 2017. Without support such as provided by IASPEI these workshops would not be possible.

Forty-seven seismologists and operators of seismic networks from 19 Asian countries recently participated in a week long training course on the management of data from

seismic networks. Most participants stayed on for an additional two-day Advanced Studies Institute. Participants came from Bangladesh, Bhutan, China, Indonesia, Kazakhstan, Kyrgyzstan, Maldives, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, Taiwan, Thailand, Timor-Leste, Uzbekistan, Vietnam and lecturers came from Germany and the United States.

Topics included an Introduction to IRIS including IRIS Data Services and its Data Management Center in Seattle, the International Federation of Digital Seismograph Networks (FDSN), site selection and installation specifics, real time data transmission systems, station metadata and the IRIS Portable Data Collection Center (PDCC) software, an introduction to Python and ObsPy for data analysis, the SeisComp3 Seismic Network Management System, how modern broadband data are multipurpose being useful for monitoring and scientific purposes, and the MUSTANG quality control system. Lectures were presented by Dinh Quoc Van, Peter Davis, Rick Benson, Mary Templeton Joachim Wassermann, Bernd Weber, Emile Okal, and Tim Ahern. Each network in attendance also presented descriptions of the current and future status of their networks.

The workshop was followed by a two-day Advanced Studies Institute with two tracks of instruction. Felix Waldhauser presented a course on the use of double difference techniques for earthquake relocation and Robert Herrmann provided instruction on the calculation of regional moment tensors.

The workshops were sponsored by the National Science Foundation through an award to IRIS (EAR-1261681), the Institute of Geophysics of the China Earthquake Administration (CEA), Taiwan Earthquake Center and Institute of Earth Sciences of Academia Sinica in Taiwan and IASPEI. Our local hosts were the Vietnamese Institute of Science and Technology (VAST) and the Vietnamese Institute of Geophysics. Our regional sponsor was the Regional Integrated Multi-Hazard Early Warning System for Africa

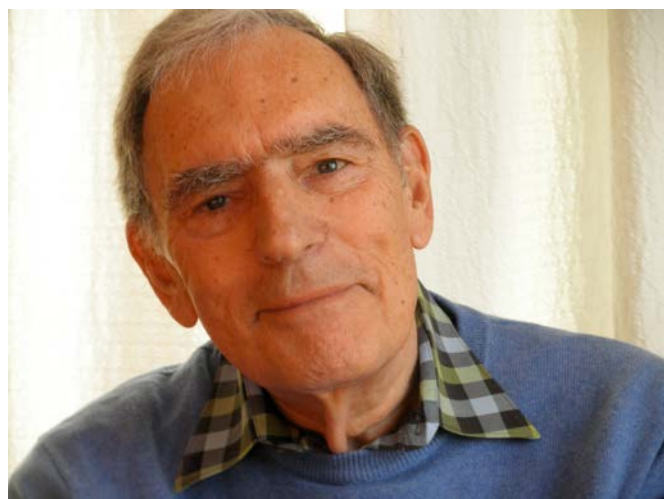
and Asia (RIMES). Consistent with past support, the workshop also received financial support from IASPEI.

More information can be found at the workshop website at <https://ds.iris.edu/ds/workshops/2015/09/managing-data-from-seismic-networks/>, which includes the complete agenda, all presentations, network reports and a list of attendees.

Tim Ahern  
IRIS

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## OBITUARY



### ADAM M. DZIEWOŃSKI

(1936 – 2016)

Adam Marian Dziewoński, Frank F. Baird, Jr., Professor of Science, Emeritus at Harvard University, passed away on March 1, 2016 in Cambridge, Mass., USA, only one month after being diagnosed with cancer, in his 80<sup>th</sup> year.

Professor Dziewoński was a towering figure in the field of solid earth geophysics. Specializing in seismology, he made many

seminal contributions to our knowledge of the Earth's deep structure and earthquake source processes. One of his prominent achievements was providing the first direct proof that the central part of the Earth's iron core is solid, using normal mode frequency data (Dziewonski & Gilbert, 1971). Together with Don Anderson, he was tasked by IASPEI in 1979 to develop a reference 1D seismic earth model, which became PREM (Preliminary Reference Earth Model, Dziewonski & Anderson, 1981). PREM has withstood the test of time and is still, today, considered as a reference for many seismological, mineral physics and geodynamic modeling efforts. He was the father of global seismic tomography, publishing the first long wavelength model of the lower mantle in 1979, and the first global tomographic model of the upper mantle, together with John Woodhouse, 1984. This was followed by many generations of upper mantle and whole mantle 3D seismic models. With student George Chou and colleague John Woodhouse, he also initiated the Harvard Centroid Moment Tensor catalog in 1981, an invaluable database for various tectonic studies.

He also contributed in many ways to the research infrastructure in this field. In particular, he was one of the main drivers of the establishment of an international global network of state-of-the-art digital, broadband seismic observatories (FDSN, Federation of Digital Seismic Networks), and the Incorporated Research Institutions for Seismology (IRIS), that to this day provide essential information for world-wide earthquake monitoring and investigation of the Earth's interior. He educated and inspired several generations of seismologists, for whom he was a role model. Always generous with his time, he also encouraged and supported the careers of many young scientists.

Adam Dziewoński was honored with many awards for his fundamental contributions to Earth Sciences, including the Crafoord Prize (1998, shared with Don L. Anderson), the Bowie Medal of the American Geophysical

Union (2002), the Harry F. Reid medal of the Seismological Society of America (1999). He was a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the American Association for the Advancement of Science, foreign member of the Polish Academy of Sciences, as well as Doctor Honoris Causa of the Kraków School of Mines, Poland.

Adam Dziewoński was born in Lwów (then Poland) on November 15, 1936. He was educated at the University of Warsaw and at the Kraków School of Mines (Akademia Górniczo-Hutnicza), where he obtained a Ph.D. in 1965. Since then, he has lived and worked in the U.S.A., first at the Southwest Center for Advanced Studies in Dallas, Texas, then at the University of Texas at Dallas, and finally at Harvard University. As professor emeritus, he was still actively involved in research at the time of his passing. Adam's wife of 43 years, Sybil, passed away in 2010. He is survived by his brother, Stanislaw and sister-in-law, Ewa, two nephews, and 5 grandnephews, all of Wrocław, Poland.

Barbara Romanowicz  
March 24, 2016

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## Meetings Calendar

We report below titles, dates, places and websites of the forthcoming meetings relevant to the interests of IASPEI scientists. If you are aware of events not listed below, please inform the Secretary General.

### 2016

#### **African Seismological Commission (AfSC), 1<sup>st</sup> General Assembly 2016**

**April 2 – 5, 2016, River Nile between Luxor  
and Aswan, Egypt**

URL: <http://www.AfSC2016.org/>

**European Geosciences Union  
General Assembly 2016**

April 17 – 22, 2016, Vienna, Austria

URL: <http://www.egu2016.eu/>

**Seismological Society of America (SSA)  
Annual Meeting**

April 20 – 22, 2016, Reno, Nevada

URL: <http://www.seismosoc.org/meetings>

**Arthur Holmes Meeting 2016 - The Wilson  
Cycle: Plate Tectonics and Structural  
Inheritance During Continental  
Deformation**

May 23-25, 2016, Geological Society, London,  
UK

URL: <http://www.geolsoc.org.uk/AHM16-The-Wilson-Cycle>

**31<sup>st</sup> IUGG Conference on Mathematical  
Geophysics (CMG 2016)**

June 6 – 10, 2016, Paris, France

URL: <http://cmg2016.sciencesconf.org/>

**10<sup>th</sup> International Workshop “Physics and  
Forecasting of Rock Destruction”**

June 7 – 12, 2016, Apatity, Murmansk region,  
Russia

URL: <http://www.xmsc.ru/>

**Latin American Caribbean Seismological  
Commission (LACSC), Regional Assembly  
2016**

June 20 – 22, 2016, San Jose, Costa Rica

URL:

<http://www.lacsc2016.com/ingles/index.html>

**4<sup>th</sup> Meeting of the International Working  
Group on Rotational Seismology**

June 20 – 23, 2016, Tutzing, Germany

URL: <http://www.rotational-seismology.org/events/workshops/2016>

**International Conference on Natural  
Hazards and Infrastructure**

28 – 30 June 2016, Chania, Crete island,  
Greece

URL: <http://iconhic2016.com/>

**SEDI 2016**

July 24 – 29, 2016, Nantes, France

URL: [www.sedi2016.org](http://www.sedi2016.org)

**5<sup>th</sup> IASPEI/IAEE International Symposium:  
Effects of Surface Geology on Seismic  
Motion (ESG5)**

August 15 – 17, 2016, Taipei, Taiwan

URL: <http://esg5.nctree.org.tw>

**35<sup>th</sup> International Geological Congress  
(IGC)**

August 27 – September 4, 2016, Cape Town,  
South Africa

URL: <http://www.35igc.org>

**35<sup>th</sup> European Seismological Commission  
(ESC), General Assembly 2016**

September 4 – 10, 2016, Trieste, Italy

URL: [www.35esc2016.eu](http://www.35esc2016.eu)

**11<sup>th</sup> ASC General Assembly**

November, 25 – 27, 2016, Melbourne,  
Australia

URL: [asc2016.asia](http://asc2016.asia)

**AGU Fall Meeting**

December 12 – 16, 2016, San Francisco,  
USA

URL: <http://fallmeeting.agu.org/2016/>

**2017**

**16<sup>th</sup> World Conference on Earthquake  
Engineering (WCEE)**

January 9 – 13, 2017, Santiago, Chile

URL: <http://www.16wcee.com/>

**IAG – IASPEI: Joint Scientific Assembly**

July 30 – August 4, 2017, Kobe, Japan

URL: <http://www.iag-iaspei-2017.jp/>

**AGU Fall Meeting**

December 11 – 15, 2017, New Orleans, USA

**2018**

**AGU Fall Meeting**

December 10 – 14, 2018, Washington D.C.,  
USA

## 2019

### **27<sup>th</sup> IUGG General Assembly**

July 8 – 17, 2019, Montreal, Canada

### **AGU Fall Meeting**

December 9 – 13, 2019, San Francisco, USA

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## **General Information about IASPEI**

The International Association of Seismology and Physics of the Earth's Interior is one of the eight Associations of the International Union of Geodesy and Geophysics [\[IUGG\]](#).

The other IUGG Associations are:

Int'l Association of Cryospheric Sciences [\(IACS\)](#)

Int'l Association of Geodesy [\[IAG\]](#)

Int'l Association of Hydrological Sciences [\[IAHS\]](#)

Int'l Association of Meteorology and Atmospheric Sciences [\[IAMAS\]](#)

Int'l Association for the Physical Sciences of the Oceans [\[IAPSO\]](#)

Int'l Association of Geomagnetism and Aeronomy [\(IAGA\)](#)

Int'l Association of Volcanology and Chemistry of the Earth's Interior [\[IAVCEI\]](#)

### **Scientific Assemblies**

IASPEI holds an Ordinary General Assembly every four years in conjunction with each Ordinary General Assembly of IUGG. Between the General Assemblies, IASPEI holds a Scientific Assembly, sometimes meeting with one of the other Associations of IUGG.

## **Participation in IASPEI Activities**

Since July 2015, all scientists participating in IASPEI activities are counted as **members** of IASPEI (see <http://www.iaspei.org/statutes.html>). IASPEI welcomes all scientists throughout the world to join in research into Seismology.

IASPEI is subdivided into a number of Commissions, many of which have working groups for the study of particular subjects in their general areas of interest. On occasion, these internal IASPEI groups issue their own newsletters or circulars and many maintain their own web sites. At the IASPEI Assemblies, the groups organize specialist symposia, invite scholarly reviews and receive contributed papers that present up-to-the-minute results of current research. The IASPEI web site gives, or provides links to, information on the range of IASPEI activities.

### **The IASPEI Web site**

Information on IASPEI can be found at:

<http://www.iaspei.org/>

### **Contacting IASPEI**

The Secretary-General is the main point of contact for all matters concerning IASPEI.

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