

CNR-IASPEI

Activities' Report - Year 2023

Warner Marzocchi

1. Introduction

IASPEI (International Association of Seismology and Physics of the Earth Interior) promotes the study of the structure, properties and processes that occur inside the Earth and is one of the eight associations of the International Union of Geodesy and Geophysics (IUGG). IASPEI organizes its General Assemblies every four years, jointly with the ordinary General Assembly of IUGG. In the interval between its General Assemblies, IASPEI organizes its Scientific Assembly, often together with one of the other IUGG associations. In 2023 the IASPEI General Assembly was held in Berlin (Germany) and the next ones will be held in Lisbon, Portugal (IASPEI-IAGA joint meeting; 2025), and in Incheon, Korea (IUGG meeting; 2027). Currently the President of IASPEI is Prof. Michelle Grobbelaar (South Africa), while the Secretary General is the Dr. Johannes Schweitzer from NORSAR (Norway).

2. Main activities carried on by IASPEI during 2023 relevant for Italy and for CNR

Unlike some other associations, there is no Italian equivalent of IASPEI, so the activities of the Italian community in this area are rather fragmented and poorly coordinated even if they have a great overall worldwide impact. For example, the Italian seismological community remains a point of reference in many activities as evidenced by the active participation in many face-to-face meetings. Among these we point out those of interest to IASPEI, in which there has been a significant participation and/or organization of the Italian community:

- EGU General Assembly, Vienna, 23-28 April 2023. A Medal lecture and sessions with Italian conveners: Christiaan Huygens Medal Lecture by Maurizio Fedi "Solving the ambiguity in the potential field exploration of complex sources"
- Session GMPV8.1 EDI: Volcanic processes: tectonics, deformation, geodesy, unrest (20-year anniversary). Convener: Valerio Acocella
- Session GD7.1 EDI: Anisotropy from crust to core: Observations, models and implications . Convener: Manuele Faccenda
- Session SM5.4 EDI: Alpine-Mediterranean mountain belts and basins from mantle to surface studied by seismic large-scale passive experiments. Convener: Claudia Piromallo
- Session EMRP3.5: Paleomagnetism, Rock Magnetism and Environmental Magnetism. Convener: Anita Di Chiara
- Session SM6.3 EDI: Earthquake swarms, complex seismic sequences and their earthquake source properties in tectonic and volcanic regions. Convener: Luigi Passarelli
- Session TS13.1 EDI: Planetary Volcanism, Tectonics, and Seismology. Convener: Matteo Massironi

Meetings and Congresses with IASPEI relevant sessions/presentations:

- IUGG meeting, 11-20 July 2023 – Berlin, Germany.
- Seismological Society of America meeting, 17-20 April 2023 – San Juan, Puerto Rico.
- American Geophysical Union meeting, San Francisco, December 11-15, 2023.
- Meeting Gruppo Lavoro Ofioliti Mediterranee (GLOM), Milan, February 8, 2023.
- Gruppo Nazionale della Geofisica della Terra Solida (GNGTS), Bologna, February 7-9, 2023
- Congress (Società Italiana di Geologia) SIMP-SGI, Potenza, September 19-21, 2023.

Italian researchers continue to be directly and managerially involved in the development of the EPOS infrastructure financed by the European community.

3. Activities carried on by Warner Marzocchi within the Union during 2023 and impact on the Italian scientific community

The undersigned was appointed representative of IASPEI in February 2019 (provision of the President of the CNR n. 11/2019 of 11.02.2019 prot. 0009953) and renewed for the three-year period 2023-2026 with provision of the President of the CNR n. 40/2023 of 3 April 2023, prot. 0099637). I was later appointed secretary of the commission.

As previously mentioned, I reiterate that the activities of the Italian community within IASPEI are rather disjointed since, compared to other associations, we do not have a section of IASPEI-Italy. In 2023, my activities as the Italian representative of IASPEI were mainly oriented towards the finalization of the review processes for two important national seismic hazard models; specifically, I served as member of the Review Panel for the Earthquake Rupture Forecast of the 2023 United States National Seismic Hazard Model (NSHM23), and as a member of the Panel for the National Seismic Hazard Model (NSHM) Revision Project Assurance and Lessons Review in New Zealand. I have also participated actively to the work that is under development in the international network named *Collaboratory for the Study of Earthquake Predictability*, and I served as a member of the task force nominated by the Dean of the University of Naples Federico II to support the municipality of Naples in managing the seismic risk during the ongoing phase of unrest at Campi Flegrei, Italy.

4. Evaluation of the participation in terms of benefits and membership cost

IASPEI is one of the most important organizations in the field of seismology. Italy is a country with significant seismic activity, so it is essential that the Italian community continues to have a strong participation in this association, even if it continues to take place in a disjointed way and driven by individual researchers or groups.

5. Evaluation of Italians' attendance and how to improve interest and involvement

In addition to the General Assemblies, IASPEI organizes various thematic workshops, which focus on topics specific to seismology and physics of the Earth's interior. Among the various commissions that refer to IASPEI, there is also the European Seismological Commission (ESC) which historically sees a large and motivated Italian participation.

Since its inception, the activity of Italian researchers in IASPEI has always been very intense and of a high scientific level. Italy has a consolidated tradition in research in the field of seismology and Earth physics, which is demonstrated both in the acquisition of high-quality geophysical data, and in their analysis and interpretation to determine the physical processes that govern the dynamics of the Earth interiors and earthquakes. Italy is a country characterized by high seismicity and the seismic monitoring networks are modern and of high quality and allow the collection of data and observations both for the understanding of the physical processes and to support the civil protection system for the management of emergencies.

Although IASPEI meetings are generally well attended by Italian researchers, the link between Italian scientists and IASPEI is mostly associated with this. Building an important and more continuous link between the activities of IASPEI and the Italian community should be an important future task.

6. Italian experts with important roles within the Union or within related Commissions and Programs (if known)

In the IASPEI organization, nobody I know of.

7. If Union with CNR Commission, short summary about the 2023 CNR Commission activities

No.

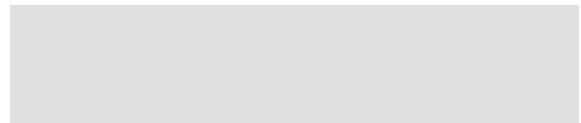
8. Notes (if any)

No.

9. Conclusions

I would like to reiterate, once again, the importance of having a strong Italian participation within IASPEI. It is important to strengthen this bond in addition to participation in meetings organized by IASPEI

Signature



Place and date: Rome, May 8, 2024