

## Commission on Seismological Observation and Interpretation (CoSOI)

### - BM Meeting IASPEI 2025 -

4 September 2025, 18:30-20:00 (Lisbon, Portugal)

#### Participants:

T. Dahm (GFZ)  
S. Cesca (GFZ)  
Myrto Pirlı (Norway)  
J. Batllo (ICGC)  
R. Gallacher (ISC)  
Tom Garth (ISC)  
Yasuyuki Kano (ERI)  
K. Satake (ERI)  
I. Triantafyllou (HMU)  
G. Papadopoulos (HMU)  
M. Neves (UiB)  
K. Pankow (U. Utah)  
F. Waldhauser (Columbia U.)  
T. Makhateng (CGS)  
B. Orlecka-Sikora (IfG PAS)  
H.K. Exnerova (IG CAS)  
L. Vecsey (IG CAS)  
J. Salichon (ESNZ/GEONET)  
M. Vallee (IPGP)  
H. Nakahara (Tohoku U)  
U. Wegler (U. Jena)  
M. Grobbelaar (CTBTO)  
J. Plomerova (IG CAS)  
H. Hausmann (Geosphere Austria)  
B. Hejrani (GA, Australia)  
A. Zvereva  
D. Di Giacomo (ISC)  
J. Schweitzer (IASPEI & NORSAR)  
D. Storchak (ISC)

#### Agenda:

1. Short Intro
2. Brief reports by working groups (WG chairs, keep it **short!**) (~45 **min**) + proposal for new WG on “legacy/analog seismograms preservation and use” (J. Batllo) + proposal on “automatic phase characterisation and event formation” (T. Garth)
3. First planning of symposia at IASPEI 2027 (all) (30 **min**)
4. Report “Discovery Award in Seismology” (Dahm) (5 **min**)
5. AOB (10 min)

## 1. Intro – overview on our working and task groups (and status)

- Task Group on Seismic Scattering and Heterogeneity (*Hisashi Nakahara, Ulrich Wegler*) presentations available
- Reference events for improved locations (*Ryan Gallacher*) presentations available – published in *Seismica*
- Utilization of Global 3-D Models for Seismic Observatory Applications (*Istvan Bondar*) no report
- Magnitude Measurements (*Allison Bent*) short report by Di Giacomo, Allison Bent continues. Nomenclature review prepared for 2027.
- New Manual of Seismological Observatory Practice (*T. Dahm*)
- Antropogenic Seismicity (formerly Triggered and Induced Seismicity, TAIS) (*B. Orlecka-Sikora*) Short report of activity
- Historical Seismology (*Paola Albini, Kenji Satake*) Report given oral. Two new chairs! WG on historical seismicity and historical data, Yasuyuki Kano (Tokyo) and Ioanna Triantafyllou (Greece)
- Automatic and routine Moment tensors: benchmark and verification platform (*Simone Cesca*) short report oral
- (joint CoSOI/FDSN) Review “classification of seismic events”, chair: *Dmitry Storchak* working group is alive
- (joint with IAVCEI) Volcano-seismology (*J. Neuberg, will step down*) Joint Symposium planned at IUGG in Korea
- *New: Working Group on Automated Phase Characterisation and Seismic Event Formation* Tom Garth gives a report on plans
- *New: WG on Legacy data joint with FDSN and/or ESC*

## 2. Reports of working groups

Short reports were given by representatives of the WGs.

Presentations of WG activities are provided by (to be uploaded to the CoSOI webpage):

- WG Anthropogenic Seismicity (by B. Orlecka-Sikora)
- Reference events for improved locations (by Ryan Gallacher). *The proposals (last page of pptx file) were approved after discussion*
- Proposal for new WG on Automated Phase Characterisation and seismic event formation (by T. Garth)

### Working group discussion

Also, **FDSN discusses a task or subgroup for “Legacy Data”** and ESC has a WG 02-12 on “Preservation, valorisation and analysis of seismological legacy data”. The point raised by J. Batlló is whether and how IASPEI should establish a WG on these topics, or coordinate with ESC and FDSN, to promote the topic globally.

*After discussion, the CoSOI BM chair recommends J. Batlló to get in contact with the FDSN and ESC groups to suggest a good way how to work together without duplicating efforts and resources. CoSOI also suggests that the topic in this case may formally be installed as a task group, or as a*

joint WG with the other Commissions (formally, ESC, FDSN and CoSOI are all IASPEI commissions)

**T. Garth (ISC) suggests a new CoSOI WG on “automated phase characterisation and seismic event formation.**

Discussions were intensive raising the following points:

- The developments in AI phase picking are so fast (e.g., in US), that the WG may easily lack behind. Therefore, specific tasks that can be reached in short time should be clearly defined.
- While the topic is definitely important and best practices in automation should be developed, it is possibly very ambitious to try to reach this in a WG at the moment, if key developers and drivers are not integrated in the CoSOI group.

Recommendations:

- T. Garth and the team should develop specific tasks for the group, that can be reached and finalised in reasonable time. The short-term objectives maybe represented by a “Task Group” in CoSOI as possibility
- It would be important to attract key developers in the field to contribute to the CoSOI “best practice” results. This may be easier if the tasks are not too broad and “lower hanging fruits”.

Supplementary note by T. Garth.

The key questions of the task group posed at the side meeting on Monday of IASPEI were,

- Build a database of explicitly automated picks
- Investigate event formation and phase association
- Define desired meta data and reporting formats
- Establish and distribute best practices in automation

### 3. Discussion of tentative session plan 2027

Sessions in Lisbon 2025 were all very successful (many contributions, strong interest). Therefore, in CoSOI we plan to continue most of the sessions (see next slide). Some suggestions were discussed:

- S04 (Advances, observations ...) Chairs were not present at the conference. We have to discuss how the symposia can be organised better
- S05 (Frontiers in Fibre Optics) Although the session was full, it may be discussed whether the scope can become broader for the 2027 meeting
- S06 (Pre-instrumental earthquakes) I. Triantafyllou and Y. Kano will replace the previous chairs **CoSOI thanks P. Albin and K. Satake for their long engagement for this topic and symposium**
- S10 (Volcano-seismology). The symposium was organised the first time after many years. It attracted a lot of interest and we want to continue therefore. The coordination needs to be discussed, as the chair of the joint working group with IAVCEI (J. Neuberg) will retire and stop

Preliminary list of planned symposia and conveners

(S1) Observational seismology – open session (**T. Dahm, D. Di Giacomo, J. Schweitzer**)

(S2) International, regional and local networks and earthquake centers (**D. Storchak, K. Pankow**)

(S3) Seismic scattering and absorption, ambient noise and monitoring Earth's structure  
(**N. Nakahara, U. Wegler**)

(S4) Advancements in Observation, Processing and Interpretation of Seismological Data (**F. Grigoli, ?**) **conveners were not present in Lisbon!**

(S5) Frontiers in Fibre Optic Sensing (**V.R. Tribaldos, ...**): **to continue, but scope and title could become broader**

(S6) "Preinstrumental Earthquake ..." (new: **Y. Kano, I. Triantafyllou, P. Albini, K. Satake**)  
**P. Albini and K. Satake both retire: scope and title will be extended in 2027**

(S7) Anthropogenic seismicity (**B. Orlecka-Siroko, et al.**)

(S8) Advances in environmental seismology (**D. Kühn, M. Schimmel**)

(S9) Cryoseismology (**Gajek, Kanao, et al.**)

(S10) Volcano seismology (**P. Büyükakpınar, C. Coutant?, M. Reiss?**)

#### **4. Discovery Award – Status**

i) Suggestion of award to support fundamental and observational seismology was discussed between chairs of CoSOI and CoESM and smaller group of scientists

ii) Draft concept was prepared and presented to the ExeCom of IASPEI during the Berlin Assembly. We received positive feedback and a **"go"** to further discuss and develop a specific plan and procedure

iii) At IAGA / IASPEI 2025: plenary discussion how to realise and what focus will be (A resolution was prepared for the Closing Meeting of IASPEI → positively discussed)

iv) Next steps: Core group from CoSOI and CoESM (Dahm, Ide, Pankow, Cesca) will select and approach senior experts (e.g., 5) as candidates for the "award selection committee". Together with this panel, a detailed description and procedure defined. To be published in the IASPEI Newsletter asap.

#### **5. All other business (AOB)**

- none -