

Newsletters

Vol. 1 No.5 December 1, 2023

More reliable physics in seismic hazard assessment (SHA) for disaster risk reduction (DRR)
(More reliable physics in SHA for DRR)

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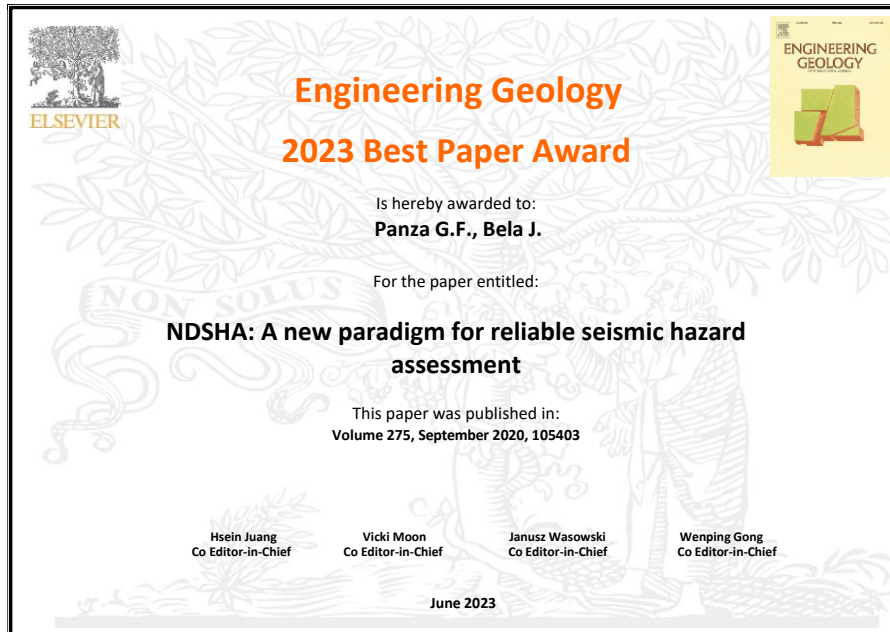
The 2023 Best Paper Award

The 2023 Best Paper Award was awarded to Profs. G. F. Panza and J. Bela. This paper was published in Volume 275, September 2020, in *Engineering Geology* (Panza and Bela, 2000). As Prof. A. Peresan commented, the success of the ENGEO paper by Panza and Bela (Best paper award) indicates that people are now looking for new alternative approaches to seismic hazard assessment. This likely indicates an increasing awareness of the limits of standard approach (PSHA). Numerical modeling is getting more and more popular, routinely at the local, regional and national scale; we need to confront with PSHA models and clearly show the advantages of NDSHA (e.g. reliability and robustness). Focusing on risk assessment performance (e.g., loss predictions) rather than on hazard assessment and taking PSHA estimates for granted has been highly popular in recent years. However, risk assessment requires considering the vulnerability and exposure layers on top of hazard assessment; as these elements (i.e. vulnerability and exposure) have their own significant uncertainties, it gets very hard to understand if the used underlying hazard assessment is adequate or not.

Prof. Panza commented the conferred award as follows: At global level, the value of PSHA, on account of the precision given, may seem close to that of diamonds; on the same scale NDSHA value could be compared to *Swarovski* crystals (<https://www.swarovski.com/en-IT/>; <https://en.wikipedia.org/wiki/Swarovski>), but the real practical value is reversed. The awarded paper is a tangible contribution to the necessary “revolution”.

Panza, G. F., Bela, J., 2020. NDSHA: A new paradigm for reliable seismic hazard assessment. *Engineering Geology*, 275, 105403. <https://doi.org/10.1016/j.enggeo.2019.105403>. (now open access as 2023 Best

Paper Awarded)



Congratulations, Giuliano and James!

Preparatory Meeting for the preparatory JWG: a review

The preparatory meeting on July 10th, 2023, played an important role in the organization of the preparatory JWG. Attendees of the online meeting included Giuliano Panza, Fabio Romanelli, Antonella Peresan, Mohamed El Gabry, Irwandi Nurdin, Pallabee Choudury, Farhana Sarwar, Hany Hassan, and Yan Zhang.

On February 6, 2023, two great earthquakes (M_w 7.8 and M_w 7.6) occurred in Turkey-Syria region, and caused unpredictable losses and casualties. These deadly events strongly demonstrate the necessity and urgency to intensify the work of JWG-NDSHA in Asia and Africa and utilize the knowledge that is already available to the fullest.

In the meeting, some primary 'definitions' of the working group were discussed and concluded. The meeting discussed the scope and long-term goals, planned activities, financial issues, organization and governance of JWG, and proposed the scientific/technical advisory board, group members, and executive secretaries.

JWG members and advisors

Based on communications since the last year, the list of members and advisors of the JWG is now:

Scientific/Technical Advisory Board

- Vladimir G. Kossobokov (volodya@mitp.ru)
- Mustapha Meghraoui (m.meghraoui@unistra.fr)
- Giuliano F. Panza (giulianof.panza@lincei.it)
- Antonella Peresan (aperesan@ogs.it)
- Fabio Romanelli (romanel@units.it)
- Franco Vaccari (vaccari@units.it)
- Zhongliang Wu (wuzl@cea-igp.ac.cn)

JWG members

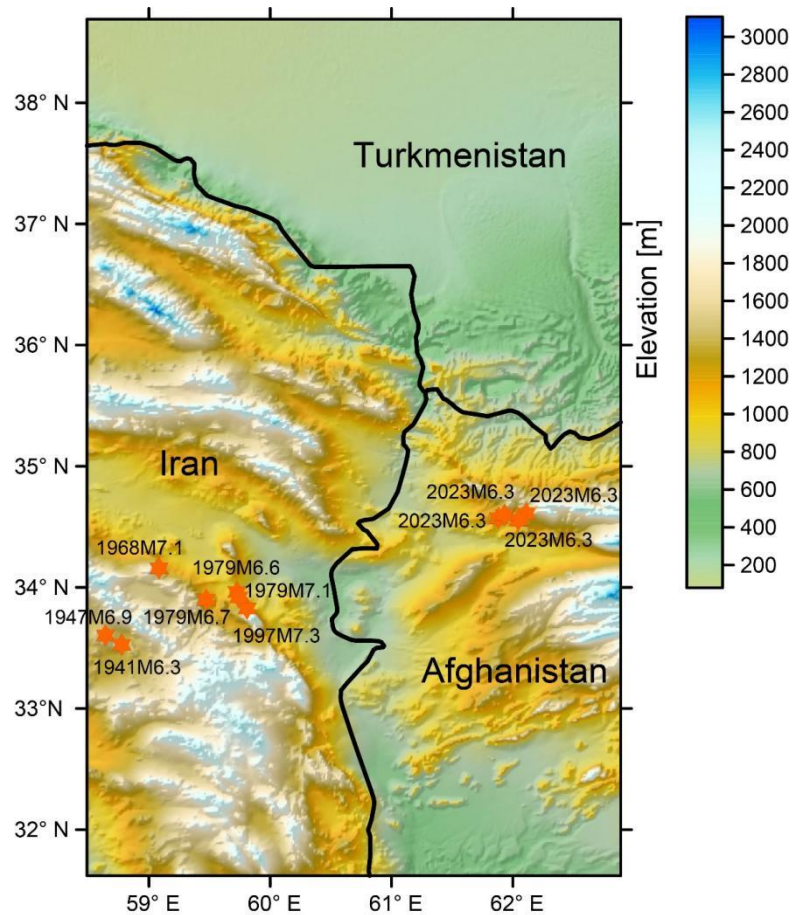
- Algeria: Djillali Benouar (dbenouar@gmail.com), Amel Benali (benali.amel1992@gmail.com)
- Bangladesh: Tahmeed M. Al-Hussaini (htahmeed@yahoo.com)
- China: Yan Zhang, *Executive Secretary* (zhangyan@cea-igp.ac.cn)
- Congo: Georges Mavonga Tuluka (mavotulu@gmail.com)
- Egypt: Hany Hassan (hany_hassan@nriag.sci.eg), Mohamed El Gabry, *Executive Secretary* (elgabry@nriag.sci.eg)
- Ethiopia: Atalay Ayele (atalayaye@gmail.com)
- Ghana: Paulina Amponsah (pekua2@yahoo.com)
- India: Imtiyaz A. Parvez (parvez@csir4pi.in), Sima Ghosh (sima.civil@nita.ac.in), Pallabee Choudhury (pallabee.ch@gmail.com)
- Indonesia: Irwandi Nurdin (irwandi@usk.ac.id)
- Iran: Medhi Zare (mzare@iiees.ac.ir), Mehdi Rastgoo (rastgoo.mehdi@gmail.com)
- Morocco: Mimoun Chourak (ml.chourak@gmail.com)
- Pakistan: Farhana Sarwar (f_saleem10@yahoo.com)
- Sudan: Nada Ahmed (eng.nada.ibr@eng.asu.edu.eg)
- Tunisia: Ahmed Ksentini (ahmedksentini@yahoo.fr)

Following the formula of silent consent, the list compiled on the base of available information will be considered valid from now (December 2023) on. New participants are encouraged. To join, prospective members need only send an application to the JWG's executive secretaries, Yan Zhang and M. El Gabry, stating their interest in the JWG-NDSHA goals. The secretaries in consultation with the advisory committee will decide on acceptance and inform applicants. Please get in touch with the executive secretaries if you do not want to be a part of the JWG and ask that your name be taken off the list above.

M_{design} at the Northern border between Afghanistan and Iran

What recorded since 1900 up to now (15 October 2023) (<https://earthquake.usgs.gov/earthquakes/map/>) it is certainly not the MCE (Maximum Credible Earthquake) for the area (e.g. Bela and Panza, 2021). From the definition of M_{design} (Rugarli et al. 2019) MCE at the Northern border Iran-Afghanistan can be formally defined in the range 7.6-7.8, until proven otherwise.

Time (UTC)	Latitude	Longitude	Depth	M	Location
2023-10-15 T 03:36:00	34.6094	62.1115	6	6.3	30 km NNW of Herāt, Afghanistan
2023-10-11 T 00:41:56	34.5565	62.0449	9	6.3	
2023-10-07 T 07:12:50	34.5718	61.8816	10	6.3	western Afghanistan
2023-10-07 T 06:41:03	34.5989	61.9313	14	6.3	33 km NNE of Zindah Jān, Afghanistan
1997-05-10 T 07:57:29	33.825	59.809	10	7.3	58 km E of Qaen, Iran
1979-11-27 T 17:10:32	33.962	59.726	10	7.1	56 km ENE of Qaen, Iran
1979-11-1 T 02:21:22	33.918	59.741	33	6.6	55 km ENE of Qaen, Iran
1979-01-16 T 09:50:10	33.897	59.472	33	6.7	32 km NE of Qaen, Iran
1968-08-31 T 10:47:43	34.158	59.083	10	7.1	42 km ESE of Dasht-e Bayaz, Iran
1947-09-23 T 12:28:15	33.604	58.642	15	6.9	52 km WSW of Qaen, Iran
1941-02-16 T 16:39:03	33.527	58.776	15	6.3	43 km WSW of Qaen, Iran



References

- Bela, J., Panza G.F., 2021. NDSHA - The new paradigm for RSHA - An updated review. *Vietnam Journal of Earth Sciences*, 43, 111-190. DOI: 10.15625/2615-9783/15925.
- Rugarli, P., Vaccari, F., Panza, G. F., 2019. Seismogenic nodes as a viable alternative to seismogenic zones and observed seismicity for the definition of seismic hazard at regional scale. *Vietnam Journal of Earth Sciences*, 41, 289-304. DOI: 10.15625/0866-7187/41/4/14233.

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Issue 1

JWG NDSHA reports at the ASC EC Meeting in Berlin
 Scope of JWG for discussion and revision
 editorial: Let's act

Issue 2

JWG attended the AfSC meeting
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Issue 3

Suggestion for a Webinar: 2023 Morocco M_s 6.8 Earthquake and Seismic Hazard Assessment
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Collection of published results of NDSHA as a start of the regional/global unified NDSHA map
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NDSHA helps earthquake early warning (EEW)
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pJWG NDSHA as co-sponsor for StatSeis13

Issue 4-S2

Webinar: 2023 Morocco M_s 6.8 Earthquake and Seismic Hazard Assessment

Issue 5

The 2023 Best Paper Award
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We sincerely thank the supports from our readers, and herewith convey our best wishes, somehow earlier of schedule, to the readers of this Newsletter for a merry holiday season and a prosperous new year.

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