RI²sE
Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes

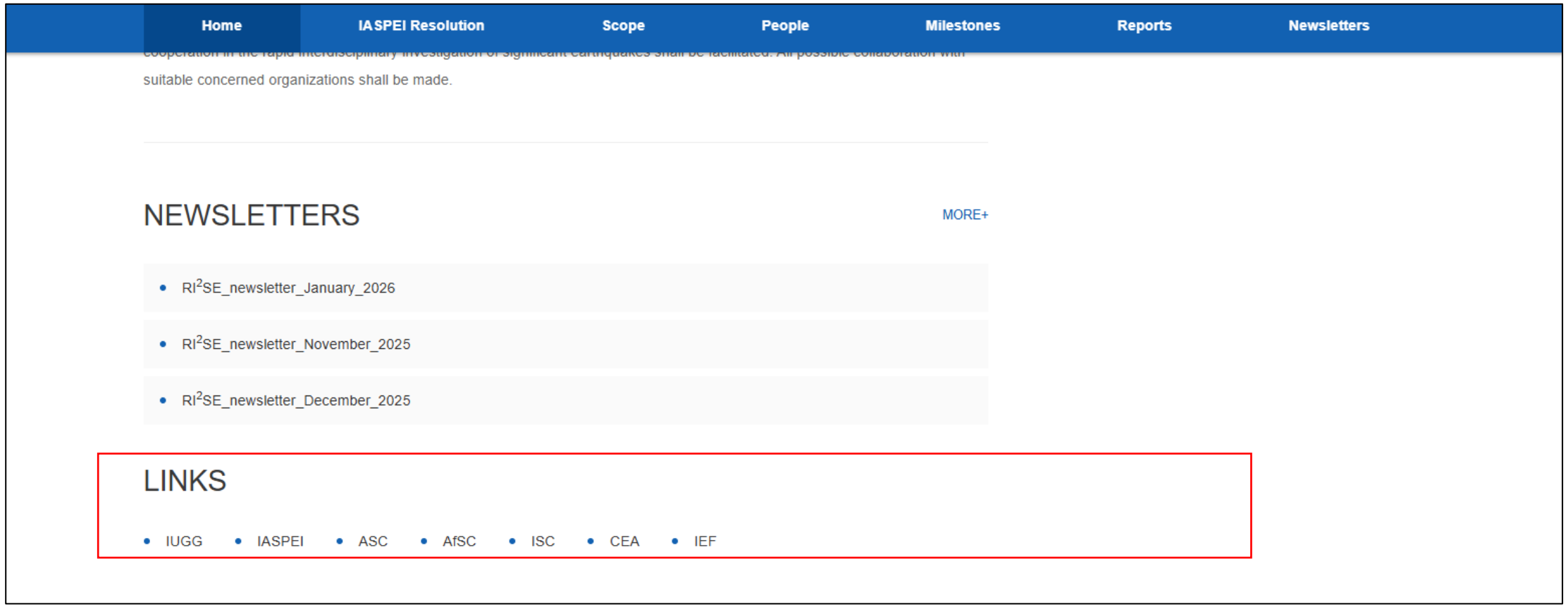
The Website and Newsletter of the RI²sE

2026.2.11

01 The Website of the RI²sE

01 The Website of the RI²sE

01 The Website of the RI²sE



01 The Website of the RI²sE

Home | IASPEI Resolution | Scope | People | Milestones | Reports | Newsletters

IASPEI RESOLUTION

The International Association of Geomagnetism and Aeronomy (IAGA) and the International Association of Seismology and Physics of the Earth's Interior (IASPEI) held their IAGA-IASPEI Joint Scientific Assembly 2025, hosted by the Instituto Superior de Engenharia de Lisboa (ISEL) in Lisbon, Portugal, from 31 August to 5 September 2025. At the end of the Assembly, the IASPEI participants endorsed the following IASPEI resolution:

Resolution 3

RESOLUTION ON THE ESTABLISHMENT OF A COMMISSION FOR RAPID INTERDISCIPLINARY INVESTIGATION OF SIGNIFICANT EARTHQUAKES

RECOGNISING the devastating impacts of significant earthquakes worldwide, such as the 03 Türkiye-Syria earthquakes that resulted in nearly 60,000 fatalities, and other recent deadly events;

ACKNOWLEDGING the critical importance of rapid, coordinated, and interdisciplinary scientific response in the immediate aftermath of major earthquakes to capture perishable data and transient phenomena essential for understanding rupture dynamics, fault properties, and secondary hazards;

IASPEI Proposes to establish the IASPEI Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (RI^{2}SE) as a platform to integrate expertise from earthquake and engineering seismology, geodesy, geology, geo-electromagnetics, geochemistry, hydrology, and social sciences.

01 The Website of the RI²sE

IASPEI

Home | About IASPEI | Commissions | Assemblies and Conferences | Newsletters | Documents | Downloads | Links | Upcoming Dates

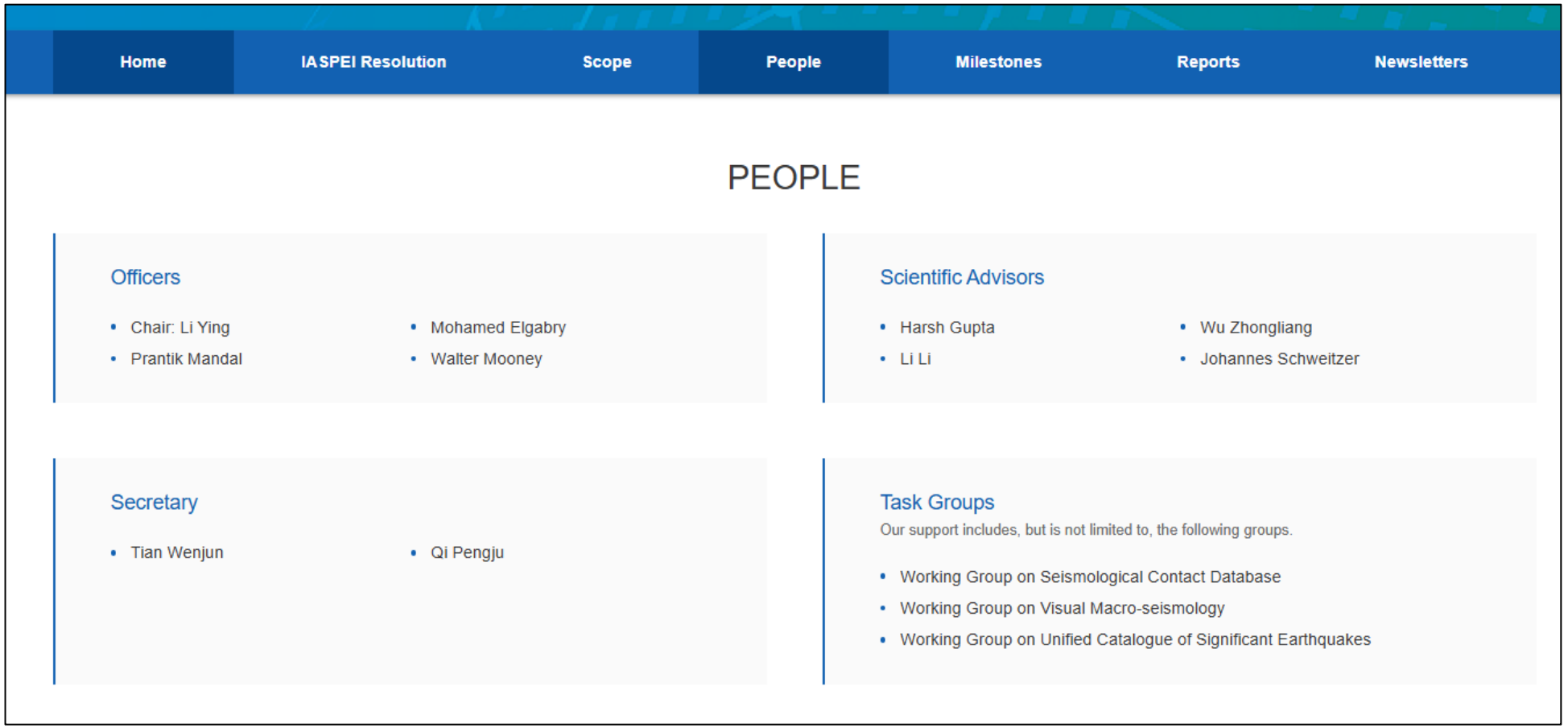
Scope

Recognizing the devastating impacts of significant earthquakes worldwide, such as the 2023 Türkiye-Syria earthquakes that resulted in nearly 60,000 fatalities, and other recent deadly events; and acknowledging the critical importance of rapid, coordinated, and interdisciplinary scientific response in the immediate aftermath of major earthquakes to capture perishable data and transient/essential phenomena; the Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE) provides a platform for coordinated international and interdisciplinary scientific responses. By leveraging expertise across seismology, geodesy, geophysics, geochemistry, geology, and allied fields, and fostering cooperation with other IASPEI commissions, RI²SE facilitates rapid investigation of possible earthquake precursors, rupture dynamics, fault zone properties, and secondary hazards when transient phenomena are most pronounced. The coordinated collection of multi-disciplinary datasets strengthens models of earthquake source physics, wave propagation, and crustal deformation, thereby advancing the integrated understanding of earthquake generation and its cascading societal impacts. The RI²SE commission helps institutionalize such timely investigations within the IASPEI framework, and focuses on but is not limited to the following aspects:

- **Seismogenic faults and surface rupture of significant earthquakes**
- **Measurement and analysis of geophysical and geochemical anomalies before and after the mainshock**
- **New technique applications to earthquake investigations.**
- **Fault rupture complexity, fault interaction, and triggering mechanisms**
- **Physical mechanisms of earthquake foci and crustal deformation models**
- **Strong ground motion, earthquake nucleation, seismic generation, and structural geophysics**
- **Rupture dynamics, fault zone characteristics, and secondary hazards such as landslides, liquefaction, and induced floods**
- **Development of innovative techniques for earthquake investigations**

In Symposia in IASPEI Assemblies, we will contribute to the Symposium 'Recent Significant Earthquakes' and organize topical issues in the internationally peer-review journals based on the Symposia results. Collaborating with already existing cooperating organizations for Scientific Investigation of Earthquakes in capacity building and networking of the technical teams. Working on the scientific guidelines/standards for the rapid interdisciplinary investigation of significant earthquakes, and the unified catalogue of significant earthquakes. Working on the development of remote sensing engineering seismology and seismology for emergency response. Participating in the meetings of the Association, the Union, and the Regional Commissions, as well as other related meetings, by presentations, exhibitions, advertising, and/or public lectures. Inter-Association and Inter-Union communication and cooperation in the rapid interdisciplinary investigation of significant earthquakes shall be facilitated. All possible collaboration with suitable organizations concerned shall be made.

01 The Website of the RI²sE



01 The Website of the RI²sE

Fig.4 The PrepComm I3 participated in AfSC Assembly in Windhock, 2025

A discussion meeting was held during the International Symposium on Earthquake Forecasting to Commemorate the 50th Anniversary of the 1975 Haicheng *M*7.3 Earthquake (Shenyang, 2025). Key participants included Profs. Li Ying, Li Li, Wu Zhongliang, Michelle Grabelaar, Mohamed ElGabry, and Walter Mooney. The experts provided critical feedback on the feasibility report for establishing the commission and dedicated significant effort to refining its name. The original tentative name "Preparatory Commission on the International and Interdisciplinary field Investigation of significant Earthquakes" (PrepComm I³E) was revised to "**Rapid Interdisciplinary Investigation of Significant Earthquakes**" (RI²sE).

During the International Symposium on Haicheng *M*7.3 earthquake, Wang Kun, the Administrator of CEA and Michelle Grobbelaar, President of IASPEI, discussed about the matters related to the establishment of the commission.

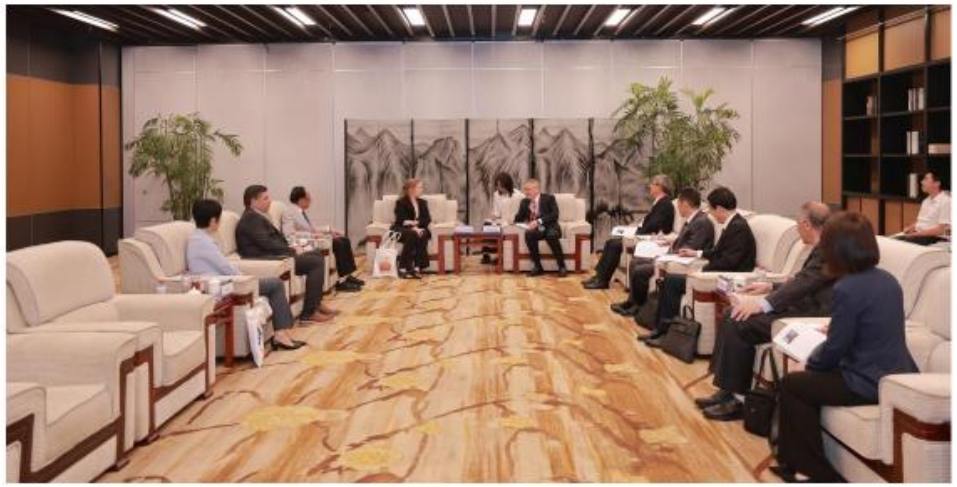
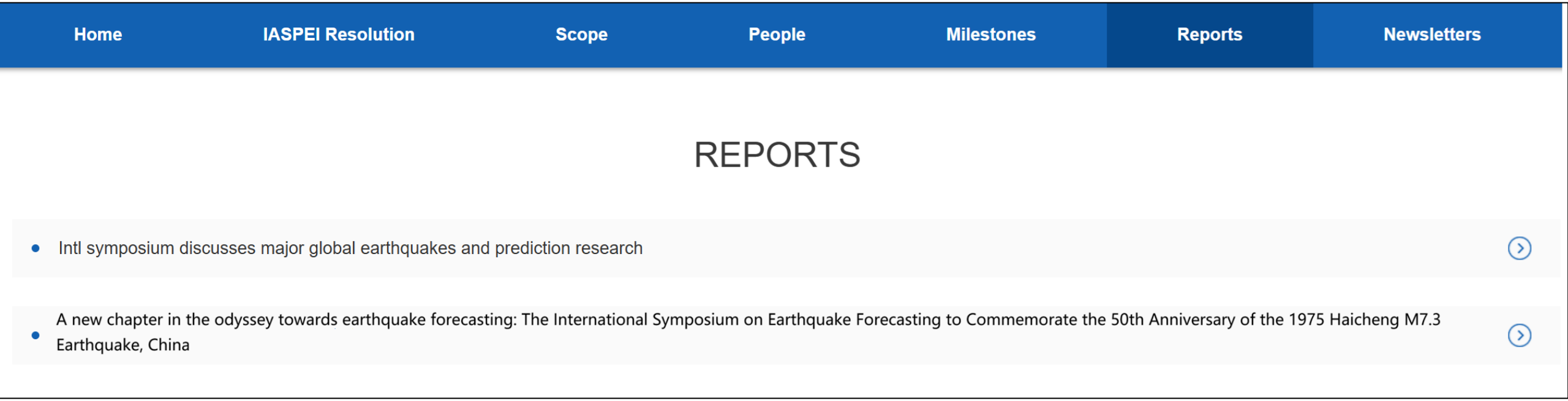


Fig.5 Administrator of CEA Wang Kun talked with President of IASPEI Michelle Grobbelaar during International Symposium on Haicheng *M*7.3 Earthquake

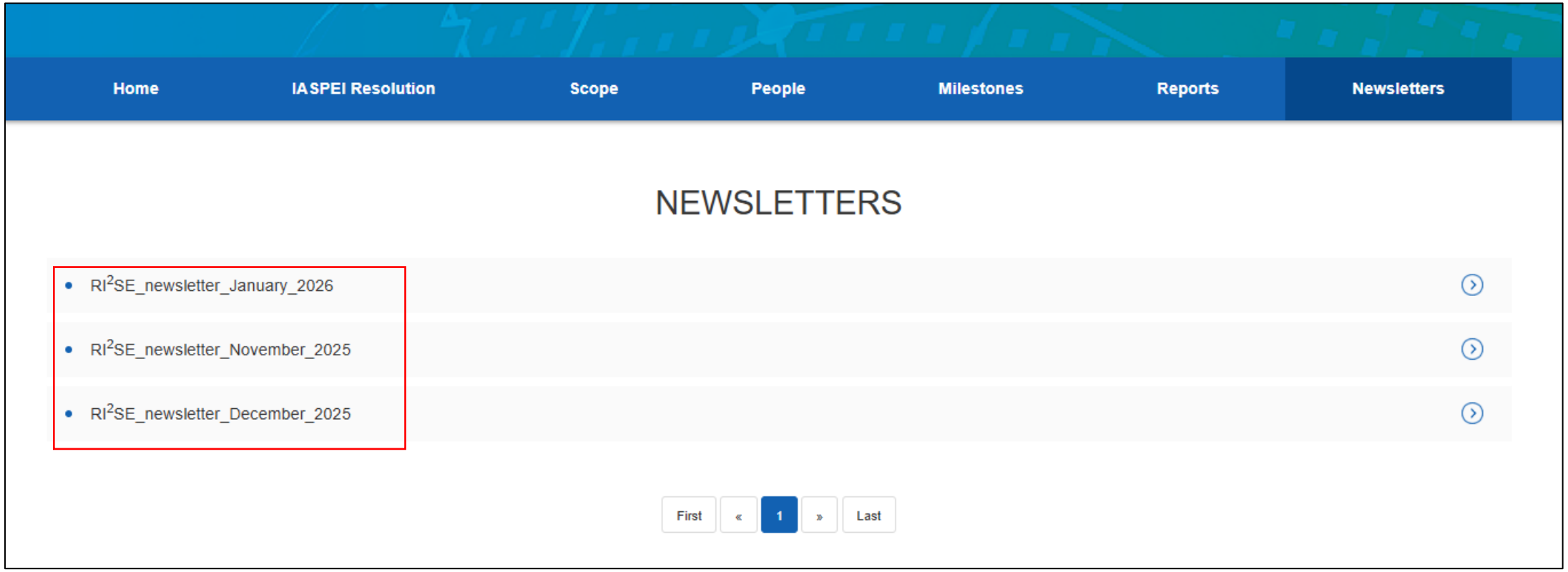
At the joint IAGA-IASPEI meeting held in Portugal in September 2025, Prof. Li Ying put forward a proposal to the IASPEI Executive Committee recommending the establishment of the IASPEI Commission on the **Rapid Interdisciplinary Investigation of Significant Earthquakes** (RI²sE) as a platform to integrate expertise from earthquake and engineering seismology, geodesy, geology, geo-electromagnetics, geochemistry, hydrology, and social sciences. The establishment of RI²sE was approved by resolution at the closing of the IASPEI Assembly.

CEA has experience in organizing large-scale international scientific investigations and conferences. It has established foreign affairs management mechanisms. CEA experts participate in international activities. CEA integrates experts in seismology, geology, and engineering. Through these efforts, CEA has compiled and published *A Guidebook to Earthquake Scientific Investigation to standardize field investigation procedures, and Scientific Investigation of Continental Earthquakes and Relevant Studies*, to present multi-disciplinary approaches in investigations for Maduo and Luxian earthquakes and provide state-of-the-art and AI-enhanced techniques in earthquake prediction and risk assessment.

01 The Website of the RI²sE



01 The Website of the RI²sE



01 The Website of the RI²sE

https://www.ief.ac.cn/IASPEI-RI2SE/

02 The Newsletter of the RI²sE

02 The Newsletter of the RI²sE

IASPEI Commission for Rapid Interdisciplinary Investigation of Significant Earthquakes

Newsletters

Vol.1 no.1 November 14,2025

Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE) was established

During IAGA-IASPEI Joint Scientific Assembly 2025, the participants endorsed the following IASPEI resolution:

Resolution 3

RESOLUTION ON THE ESTABLISHMENT OF A COMMISSION FOR RAPID INTERDISCIPLINARY INVESTIGATION OF SIGNIFICANT EARTHQUAKES

RECOGNISING the devastating impacts of significant earthquakes worldwide, such as the 2023 Türkiye-Syria earthquakes that resulted in nearly 60,000 fatalities, and other recent deadly events;

ACKNOWLEDGING the critical importance of rapid, coordinated, and interdisciplinary scientific response in the immediate aftermath of major earthquakes to capture perishable data and transient phenomena essential for understanding rupture dynamics, fault properties, and secondary hazards;

IASPEI Proposes to establish the IASPEI Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE) as a platform to integrate expertise from earthquake and engineering seismology, geodesy, geology, geo-electromagnetics, geochemistry, hydrology, and social sciences.

--From IASPEI newsletter

New IASPEI Commission on Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE)

Call for Participation and Suggestions

At the joint IAGA-IASPEI meeting held in Portugal in September 2025, a group of scholars put forward a proposal to the IASPEI Executive Committee recommending the establishment of a new commission dedicated to the rapid interdisciplinary study of significant earthquakes. This proposal has since garnered broad support and is now under formal consideration.

The proposed commission, to be known as the IASPEI (preparatory) Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (PrepComm RI²SE), aims to integrate expertise across earthquake seismology, engineering seismology, geodesy, geology, geochemistry, geo-electromagnetics, and social sciences. Its primary goal is to coordinate rapid international scientific responses immediately following significant earthquakes, leveraging the growing capabilities of global seismic and satellite observation networks.

By facilitating timely, cross-disciplinary data collection and analysis, the commission seeks to improve understanding of earthquake rupture processes, fault zone characteristics, and secondary hazards such as landslides and liquefaction. It will also help strengthen physical models of earthquake sources and crustal deformation, while enhancing the overall integration of scientific knowledge into disaster response and resilience strategies.

The initiative builds on recent experiences from significant events including the 2023 Türkiye earthquakes and the 2025 earthquakes in Dingri (Xizang, China) and Myanmar, highlighting the urgent need for coordinated, interdisciplinary post-earthquake investigations.

We welcome feedback and suggestions from the international community regarding the structure, objectives, and activities of the proposed commission. Those interested in contributing ideas or learning more are encouraged to get in touch with:

Li Ying, Institute of Earthquake Forecasting, China Earthquake Administration, liying@ief.ac.cn

--From IASPEI newsletter

IASPEI Commission for Rapid Interdisciplinary Investigation of Significant Earthquakes

Newsletters

Vol.1 no.2 December 16,2025

✨ Season's Greetings! ✨

Wishing you a joyful holiday season and a prosperous New Year!

May the Christmas bring peace and happiness to you and your colleagues around the world!

105 years ago today

On this day 105 years ago, December 16, 1920, an earthquake measuring 8.5 on the magnitude scale struck Haiyuan in Ningxia, China. Following the disaster, Weng Wenhao, then director of the Central Institute of the Geological Survey, led a team to conduct on-site investigations. Upon returning, he authored a field report and research papers, which are considered to mark the beginning of earthquake studies in China using modern scientific methods by Chinese scientists, and is also recognized as the first earthquake scientific investigation conducted in China.

IASPEI Commission for Rapid Interdisciplinary Investigation of Significant Earthquakes

Newsletters

Vol.1 no.3 January 26,2026

Looking Forward the Feedback to Our Scope

The scope of our commission has been published on the webpage at http://www.iaspei.org/commissions/commission-on-the-rapid-interdisciplinary-investigation-of-significant-earthquakes#scope. We now warmly invite everyone to provide comments on it. Please send any feedback to qipj@ief.ac.cn.

The scope is as follows:

Recognizing the devastating impacts of significant earthquakes worldwide, such as the 2023 Türkiye-Syria earthquakes that resulted in nearly 60,000 fatalities, and other recent deadly events; and acknowledging the critical importance of rapid, coordinated, and interdisciplinary scientific response in the immediate aftermath of major earthquakes to capture perishable data and transient/essential phenomena; the Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE) provides a platform for coordinated international and interdisciplinary scientific responses. By leveraging expertise across seismology, geodesy, geophysics, geochemistry, geology, and allied fields, and fostering cooperation with other IASPEI commissions, RI²SE facilitates rapid investigation of possible earthquake precursors, rupture dynamics, fault zone properties, and secondary hazards when transient phenomena are most pronounced. The coordinated collection of multi-disciplinary datasets strengthens models of earthquake source physics, wave propagation, and crustal deformation, thereby advancing the integrated understanding of earthquake generation and its cascading societal impacts. The RI²SE commission helps institutionalize such timely investigations within the IASPEI framework, and focuses on but is not limited to the following aspects:

- Seismogenic faults and surface rupture of significant earthquakes
- Measurement and analysis of geophysical and geochemical anomalies before and after the mainshock
- New technique applications to earthquake investigations.
- Fault rupture complexity, fault interaction, and triggering mechanisms
- Physical mechanisms of earthquake foci and crustal deformation models
- Strong ground motion, earthquake nucleation, seismic generation, and structural geophysics

02 The Newsletter of the RI²sE

Content that already published:

- The establishment of Commission
- Significant historical earthquakes
- Feedback from readers
- Updates on the progress of Commission
- Obituary

Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE) was established

During IAGA-IASPEI Joint Scientific Assembly 2025, the participants endorsed the following IASPEI resolution:

Resolution 3

RESOLUTION ON THE ESTABLISHMENT OF A COMMISSION FOR RAPID INTERDISCIPLINARY INVESTIGATION OF SIGNIFICANT EARTHQUAKES

RECOGNISING the devastating impacts of significant earthquakes worldwide, such as the 2023 Türkiye-Syria earthquakes that resulted in nearly 60,000 fatalities, and other recent deadly events;

ACKNOWLEDGING the critical importance of rapid, coordinated, and interdisciplinary scientific response in the immediate aftermath of major earthquakes to capture perishable data and transient phenomena essential for understanding rupture dynamics, fault properties, and secondary hazards;

IASPEI Proposes to establish the IASPEI Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE) as a platform to integrate expertise from earthquake and engineering seismology, geodesy, geology, geo-electromagnetics, geochemistry, hydrology, and social sciences.

--From IASPEI newsletter

New IASPEI Commission on Rapid Interdisciplinary Investigation of Significant Earthquakes (RI²SE)

Call for Participation and Suggestions

At the joint IAGA-IASPEI meeting held in Portugal in September 2025, a group of scholars put forward a proposal to the IASPEI Executive Committee recommending the establishment of a new commission dedicated to the rapid interdisciplinary study of significant earthquakes. This proposal has since garnered broad support and is now under formal consideration.

The proposed commission, to be known as the IASPEI (preparatory) Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes (PrepComm RI²SE), aims to integrate expertise across earthquake seismology, engineering seismology, geodesy, geology, geochemistry, geo-electromagnetics, and social sciences. Its primary goal is to coordinate rapid international scientific responses immediately following significant earthquakes, leveraging the growing capabilities of global seismic and satellite observation networks.

02 The Newsletter of the RI²sE

Content that alrea

- The establishmer
- Significant histori
- Feedback from re
- Updates on the p
- Obituary

24 years ago today

On November 14, 2001, China experienced the first earthquake of magnitude 8 or above in the 21st century—the M8.1 Kunlun Pass West earthquake. After the earthquake, the China Earthquake Administration organized a joint earthquake investigation team, involving more than a hundred people from over a dozen units, to conduct a comprehensive, multidisciplinary survey of the earthquake. The members of the earthquake scientific investigation team risked their lives, overcoming unimaginable difficulties such as oxygen deprivation, extreme cold, and threats from wild animals, to obtain kinematic parameters of the surface rupture zone of the M8.1 Kunlun Pass West earthquake, as well as essential basic data on current crustal movements. The findings from the earthquake scientific investigation enhanced the understanding of earthquake rupture mechanisms and provided indispensable fundamental data and scientific evidence for how major national projects on the Qinghai-Xizang(Tibet) Plateau can avoid and mitigate potentially active faults, effectively reducing earthquake hazards.

105 years ago today

On this day 105 years ago, December 16, 1920, an earthquake measuring 8.5 on the magnitude scale struck Haiyuan in Ningxia, China. Following the disaster, Weng Wenhao, then director of the Central Institute of the Geological Survey, led a team to conduct on-site investigations. Upon returning, he authored a field report and research papers, which are considered to mark the beginning of earthquake studies in China using modern scientific methods by Chinese scientists, and is also recognized as the first earthquake scientific investigation conducted in China.

25 years ago today

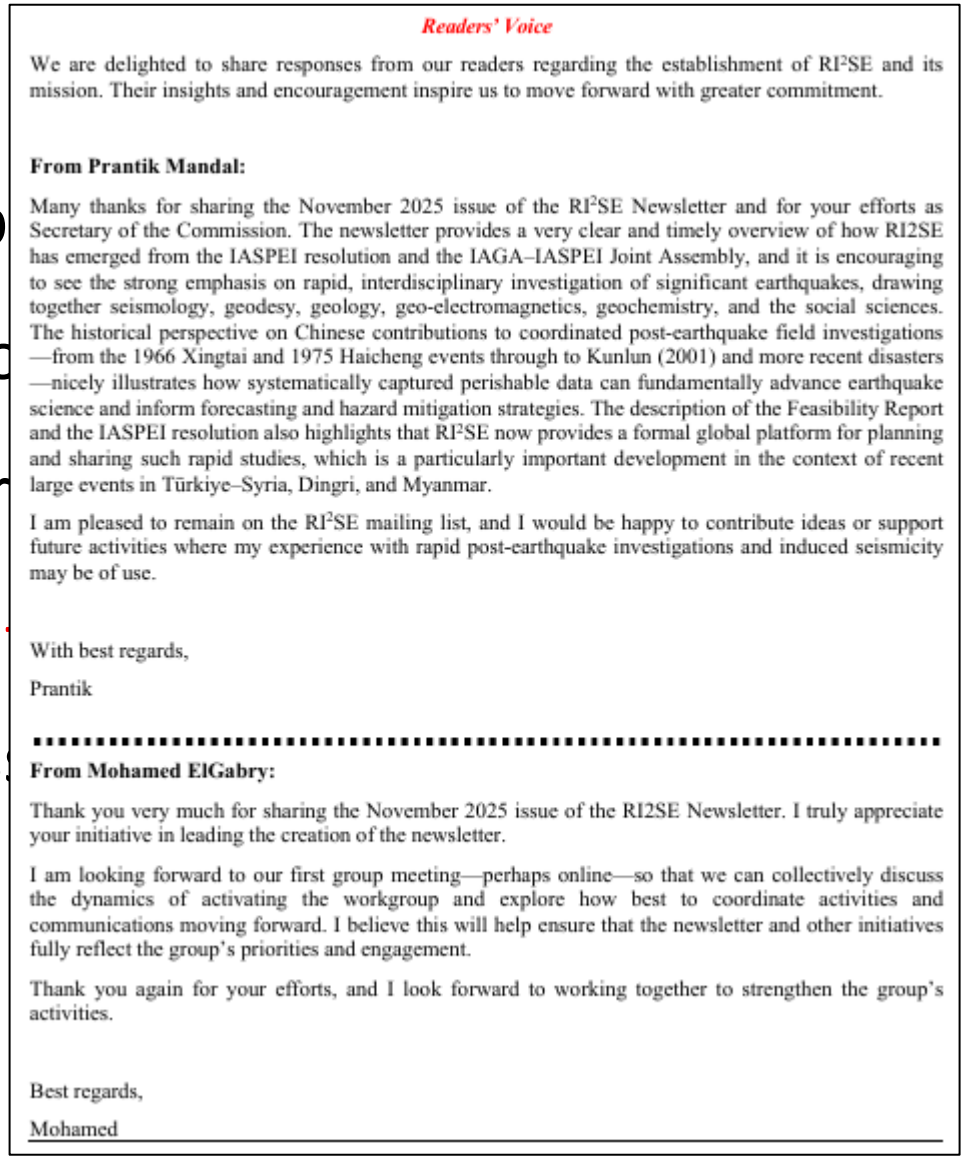
25 years ago, on January 26, 2001, a catastrophic magnitude 7.8 earthquake shook Gujarat, India. It remains one of the most severe intraplate seismic disasters in recent history.

We have invited an expert to share his view on this event. The full contribution will be published in our next newsletter.

02 The Newsletter of the RI²sE

Content that already pub

- The establishment of Co
- Significant historical ear
- Feedback from readers
- Updates on the progres
- Obituary



Readers' Voice

We are delighted to share responses from our readers regarding the establishment of RI²SE and its mission. Their insights and encouragement inspire us to move forward with greater commitment.

From Prantik Mandal:

Many thanks for sharing the November 2025 issue of the RI²SE Newsletter and for your efforts as Secretary of the Commission. The newsletter provides a very clear and timely overview of how RI2SE has emerged from the IASPEI resolution and the IAGA–IASPEI Joint Assembly, and it is encouraging to see the strong emphasis on rapid, interdisciplinary investigation of significant earthquakes, drawing together seismology, geodesy, geology, geo-electromagnetics, geochemistry, and the social sciences. The historical perspective on Chinese contributions to coordinated post-earthquake field investigations —from the 1966 Xingtai and 1975 Haicheng events through to Kunlun (2001) and more recent disasters —nicely illustrates how systematically captured perishable data can fundamentally advance earthquake science and inform forecasting and hazard mitigation strategies. The description of the Feasibility Report and the IASPEI resolution also highlights that RI²SE now provides a formal global platform for planning and sharing such rapid studies, which is a particularly important development in the context of recent large events in Türkiye–Syria, Dingri, and Myanmar.

I am pleased to remain on the RI²SE mailing list, and I would be happy to contribute ideas or support future activities where my experience with rapid post-earthquake investigations and induced seismicity may be of use.

With best regards,

Prantik

From Mohamed ElGabry:

Thank you very much for sharing the November 2025 issue of the RI2SE Newsletter. I truly appreciate your initiative in leading the creation of the newsletter.

I am looking forward to our first group meeting—perhaps online—so that we can collectively discuss the dynamics of activating the workgroup and explore how best to coordinate activities and communications moving forward. I believe this will help ensure that the newsletter and other initiatives fully reflect the group's priorities and engagement.

Thank you again for your efforts, and I look forward to working together to strengthen the group's activities.

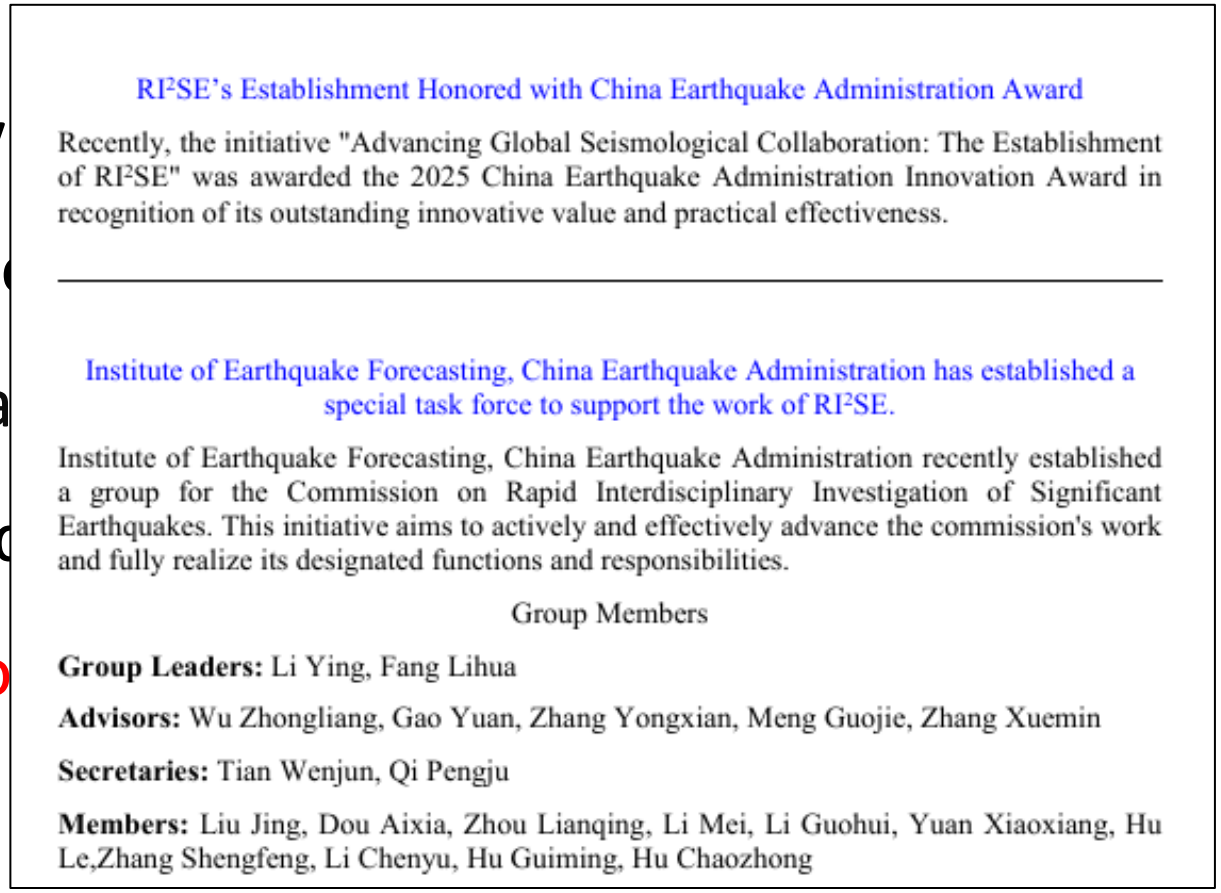
Best regards,

Mohamed

02 The Newsletter of the RI²sE

Content that already

- The establishment
- Significant historica
- Feedback from reac
- Updates on the pro
- Obituary



RI²SE's Establishment Honored with China Earthquake Administration Award

Recently, the initiative "Advancing Global Seismological Collaboration: The Establishment of RI²SE" was awarded the 2025 China Earthquake Administration Innovation Award in recognition of its outstanding innovative value and practical effectiveness.

Institute of Earthquake Forecasting, China Earthquake Administration has established a special task force to support the work of RI²SE.

Institute of Earthquake Forecasting, China Earthquake Administration recently established a group for the Commission on Rapid Interdisciplinary Investigation of Significant Earthquakes. This initiative aims to actively and effectively advance the commission's work and fully realize its designated functions and responsibilities.

Group Members

Group Leaders: Li Ying, Fang Lihua

Advisors: Wu Zhongliang, Gao Yuan, Zhang Yongxian, Meng Guojie, Zhang Xuemin

Secretaries: Tian Wenjun, Qi Pengju

Members: Liu Jing, Dou Aixia, Zhou Lianqing, Li Mei, Li Guohui, Yuan Xiaoxiang, Hu Le,Zhang Shengfeng, Li Chenyu, Hu Guiming, Hu Chaozhong

Content that alread

- The establishment
- Significant historic
- Feedback from rea
- Updates on the pr
- Obituary

Ding Guoyu (1931-2026)

Prof. Ding Guoyu was born in September 1931 in Gaoyang, Hebei Province, China, and passed away 95-year-old during January 19, 2026.

He graduated from the Department of Geology at Peking University in 1952 and began his career at the Beijing College of Geology (now China University of Geosciences, Beijing) the same year. From 1955 to 1959, he pursued and earned a Candidate of Sciences degree at the Moscow Geological Prospecting Institute in the former Soviet Union. After returning to China in 1959, he joined the Institute of Geology of the Chinese Academy of Sciences. In 1970, he started working in the Earthquake Analysis Group of the Central Earthquake Working Office. In 1972, he transferred to the State Seismological Bureau (now China Earthquake Administration), where he served as Deputy Director starting in 1981.

He has held numerous key positions, including Director of the Academic Committee of the State Seismological Bureau, Director of the Science and Technology Committee of the China Earthquake Administration, President of the Seismological Society of China, Vice President of the Geological Society of China, Deputy Director of the Chinese Society for Quaternary Research, and member of discipline appraisal panels under the Academic Degrees Committee of the State Council and the National Natural Science Foundation of China. In 1980, he was elected as an academician (member of the Faculty) of the Chinese Academy of Sciences, and in 1985, he was elected as a fellow of The World Academy of Sciences (TWAS).

Prof. Ding Guoyu is a pioneering and foundational figure in the fields of neotectonics, seismic tectonics, earthquake monitoring, and analysis and prediction in China. He has led the establishment of theoretical and methodological frameworks for seismic tectonics in the Chinese mainland, promoted the application of GPS technology and the construction of China's Modern Crustal Movement Observation Network, and founded the Neotectonic Chronology Laboratory. He has made significant contributions to Quaternary geology, neotectonics, active tectonics, seismic tectonics and paleoseismology, earthquake prediction, and engineering seismology.

- Recommendations from Prof. Mandal

Dear Dr. Qi Pengju and Dr. Li Ying,

I have read the RI²SE Newsletter Vol. 1 No. 3, January 26, 2026, very attentively and want to praise you and your team for a great idea that shows the Commission's goals and reach around the world. The newsletter is well-organised and full of useful information. Here are some comments and recommendations that I think will make future editions even better:

- The scope is broad. You might want to make it more action-oriented by clearly addressing quick deployment methods, SOPs, and example approaches like AI/ML, remote sensing, and drone-based surveys.
- Add a short part to each issue about very recent major earthquakes and any quick or coordinated RI²SE activities that are related to them.
- The obituary for **Prof. Ding Guoyu is really strong. You might include a short personal memory or statement to make his legacy more human and show how important he was to international cooperation.**
- For the "Forthcoming Meetings" list, include a short description of each meeting to make it clear what it's about and why it's important, especially for scientists who are just starting out.
- **For the Gujarat 2001 (Bhuj) 25-year note, include a one-sentence teaser that talks about important lessons or new ideas that will be in the upcoming edition.**
- In the part about the CEA task force that helps RI²SE, give a short overview of its primary goals and any activities that have already happened or are planned.
- For the CEA Innovation Award, please include a statement about why RI²SE was seen as innovative and how this award would help future work.
- Add a few pictures (such images, simple maps, or a group picture) and one or two shaded "highlight boxes" for important things like awards, obituaries, and task forces to make the layout better.
- In future issues, think about including minor sections that come back, such as "Technology corner," "Early-career spotlight," and a quick overview of "Global significant earthquakes in this quarter."
- For the request for comments on the RI²SE scope, think about giving a soft deadline and a short explanation of how the feedback would be used.

- Recommendations from Prof. Mooney

Dear Colleagues,

I second the recommendations of Dr. Prantik Mandal regarding the newsletter.

Due to the large volume of material everyone reads these days, I agree that maps, Figure and photos would attract attention to this RI2SE newletter. I will be pleased to offer such images.

Congratulaitons on your success!

Sincerely yours,

Walter Mooney, USGS

02 The Newsletter of the RI²sE

Future plans of Newsletter:

- Incorporating more image and charts
- Establishing more regularly featured secondary columns
- Soliciting opinions from all commission members

RI²sE
Commission on the Rapid Interdisciplinary Investigation of Significant Earthquakes

Thank you