



# AOGS

**Asia Oceania Geosciences Society**

*In Asia for Asia and the World*

[www.asiaoceania.org](http://www.asiaoceania.org)

## REGIONAL SCIENTIFIC CO-OPERATION INITIATIVES IN GEOSCIENCES

### I. [SE] Solid Earth Sciences Initiatives

**Florian M. Schwandner, NASA**  
**AOGS Solid Earth Sciences (SE) Section President**

**AOGS mission in short:**  
*To promote geophysical science  
for the benefit of humanity in Asia and Oceania.*

The Asia Oceania region leads the world in its:

- Enormous diversity
- Largest population and growth
- Growth and rapid development
- Natural hazards, challenges, and potential
- A region rich in Solid Earth hazards:  
volcanoes, landslides, earthquakes, and  
derived hazards (e.g., tsunamis, flooding)

Singapore





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## INTRODUCTION TO AOGS

Asia Oceania Geosciences Society (AOGS) was established in 2003 to promote geosciences and its application for the benefit of humanity, specifically in Asia and Oceania and with an overarching approach to global issues. Asia Oceania region is particularly vulnerable to natural hazards, accounting for almost 80% human lives lost globally. AOGS is deeply involved in addressing hazard related issues through improving our understanding of the genesis of hazards through scientific, social and technical approaches. AOGS holds annual conventions providing a unique opportunity of exchanging scientific knowledge and discussion to address important geo-scientific issues among academia, research institution and public. Recognizing the need of global collaboration, AOGS has developed good co-operation with other international geo-science societies and unions such as the European Geosciences Union (EGU), American Geophysical Union (AGU), International Union of Geodesy and Geophysics (IUGG), Japan Geo-science Union (JpGU), and Science Council of Asia (SCA).



### **Solid Earth Sciences (SE)**

Geology, geodesy, geophysics, geochemistry

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**Florian M. Schwandner**  
president

[florian.m.Schwandner@nasa.gov](mailto:florian.m.Schwandner@nasa.gov)  
[max@gas-monitoring.net](mailto:max@gas-monitoring.net)

**The AOGS Solid Earth (SE) Section office.**

*You elect the section presidents to serve you  
so that we can advocate for your discipline,  
foster collaboration and deliver a great  
program.*



**Bruce Shyu**  
vice president

[jbhs@ntu.edu.tw](mailto:jbhs@ntu.edu.tw)

### **SE Section Secretaries (appointed):**

**Javed N. MALIK**

Indian Institute of Technology Kanpur  
[javed@iitk.ac.in](mailto:javed@iitk.ac.in)

**Betchaida PAYOT**

University of the Philippines  
[bdpayot@up.edu.ph](mailto:bdpayot@up.edu.ph)

**Bo WAN**

Institute of Geology and Geophysics,  
Chinese Academy of Sciences  
[wanbo@mail.iggcas.ac.cn](mailto:wanbo@mail.iggcas.ac.cn)

**Fuqiong HUANG**

Chinese Earthquake Networks Center  
[hfuqiong@seis.ac.cn](mailto:hfuqiong@seis.ac.cn)

**Yasuyuki KANO**

The University of Tokyo  
[ykano@eri.u-tokyo.ac.jp](mailto:ykano@eri.u-tokyo.ac.jp)

**Sushil KUMAR**

Wadia Institute of Himalayan Geology  
[sushil\\_rohella@yahoo.co.in](mailto:sushil_rohella@yahoo.co.in)

**Noelynna RAMOS**

University of the Philippines  
[Gennie.ramos@gmail.com](mailto:Gennie.ramos@gmail.com)

**Shinji TODA**

International Research Institute of Disaster  
Science, Tohoku University  
[toda@irides.tohoku.ac.jp](mailto:toda@irides.tohoku.ac.jp)

**Yu WANG**

National Taiwan University  
[Wangyu79@ntu.edu.tw](mailto:Wangyu79@ntu.edu.tw)

SE Section Secretaries position are under review, due for partial replenishment. Contact Florian Schwandner if

*Interested to serve*

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## ***Standing on the Shoulders of Giants:***

### **Solid Earth section history:**

**Providing a platform for regional collaboration and cross-disciplinary exchange since 2003.**

**Acknowledging our leadership legacy from...**

**2004-2006**

**Yuntai Chen**

Institute of Geophysics, Chinese  
Academy of Sciences, China

[chenyt@cdsn.org.cn](mailto:chenyt@cdsn.org.cn)

**2006-2008**

**Kenji Satake**

National Institute of Advanced  
Industrial Science & Technology,  
Tsukuba, Japan

[kenji.satake@aist.go.jp](mailto:kenji.satake@aist.go.jp)

**2008-2010**

**Ching-Hua Lo**

National Taiwan University,  
Taiwan

[loch@ntu.edu.tw](mailto:loch@ntu.edu.tw)

**2010-2012**

**Yue-Gau Chen**

National Taiwan University,  
Taiwan

[ygchen@ntu.edu.tw](mailto:ygchen@ntu.edu.tw)

**2012-2014**

**Khin Zaw**

University of Tasmania

[Khin.Zaw@utas.edu.au](mailto:Khin.Zaw@utas.edu.au)

**2014-2016**

**Hai Thanh Tran**

Hanoi University of Mining and  
Geology

[tranthanhhai.humg@gmail.com](mailto:tranthanhhai.humg@gmail.com)

**2020-2022\***

**Florian M. Schwandner**

NASA

[florian.m.Schwandner@nasa.gov](mailto:florian.m.Schwandner@nasa.gov)

[max@gas-monitoring.net](mailto:max@gas-monitoring.net)

**2018-2020**

**J. Bruce H. SHYU**

National Taiwan University

[jbhs@ntu.edu.tw](mailto:jbhs@ntu.edu.tw)

**2016-2018**

**Carlo A. Arcilla**

University of the Philippines

[caloy.arcilla@gmail.com](mailto:caloy.arcilla@gmail.com)

**China**  
**Japan**  
**Taiwan (3x)**  
**Australia**  
**Vietnam**  
**Philippines**  
**USA**

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**I. [SE] Solid Earth Sciences Initiatives**

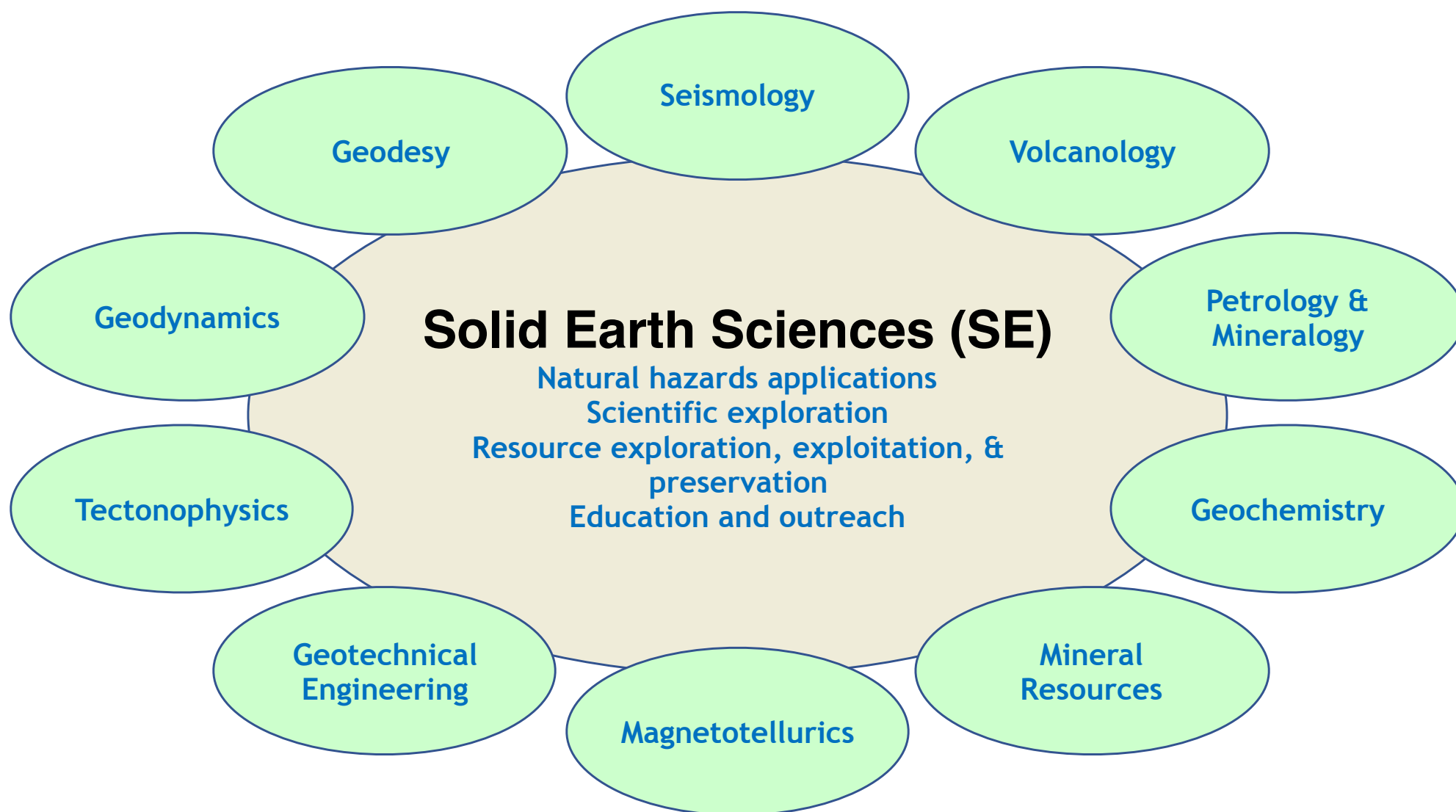
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# AOGGS

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# AOGS

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***YOU are AOGS.***

***YOU can make AOGS and the world a better place.***

***Collaborate across regions, countries, and disciplines.***



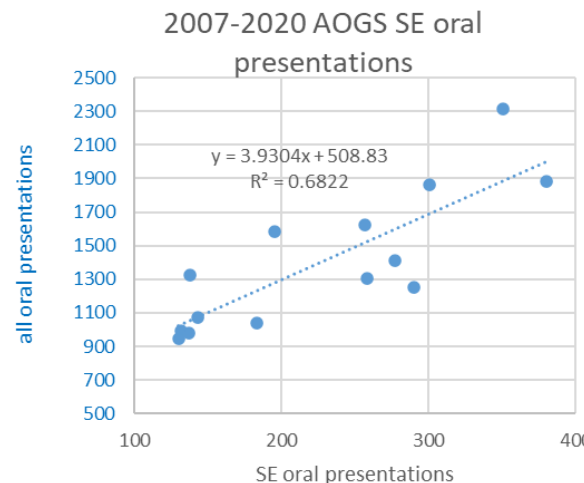
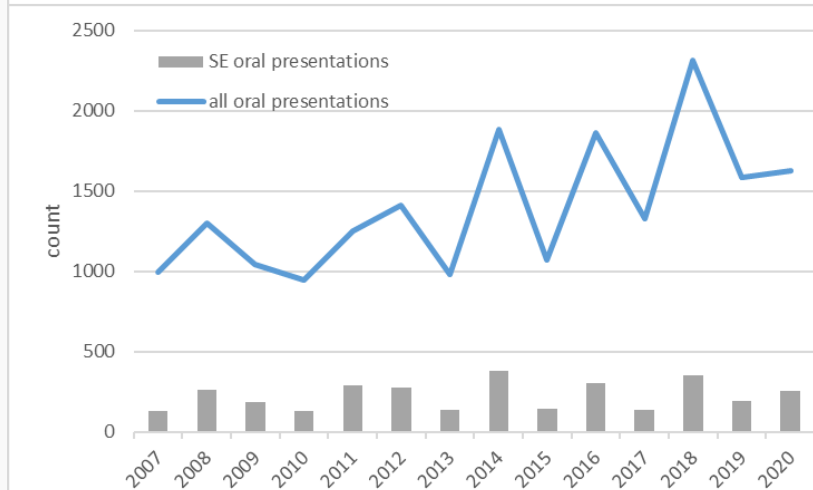
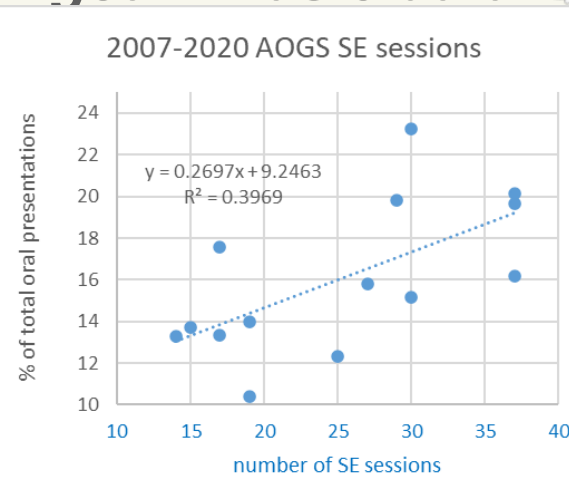
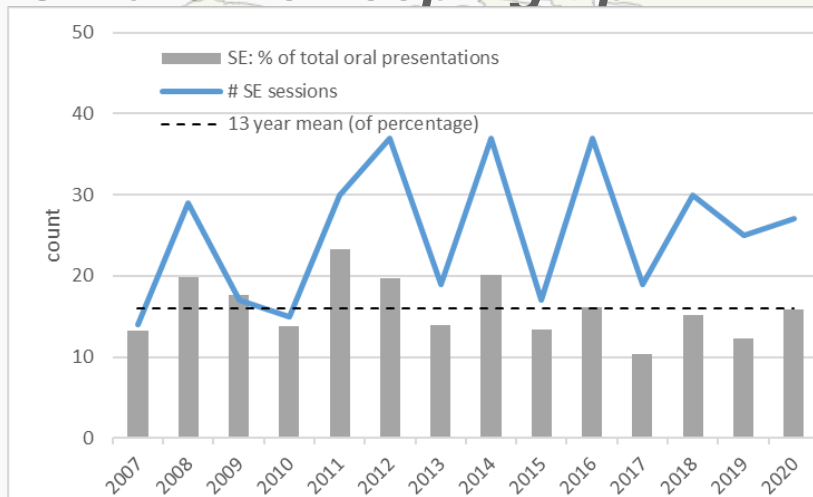
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## AOGS sessions enable seeding of regional collaboration How are we keeping up with that goal? Basic data



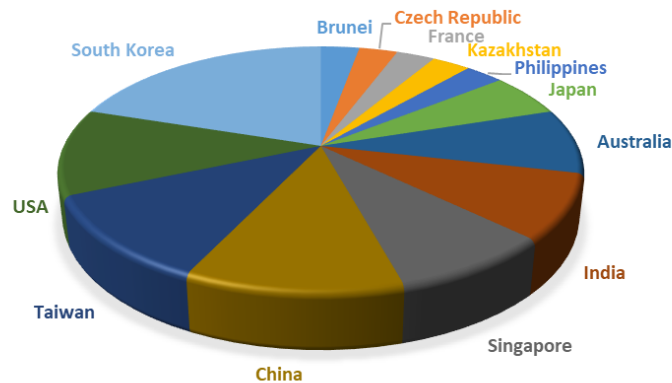
### 2007 through 2020:

- SE averages ~18% of all AOGS oral presentations
- Weak relation between # of SE sessions and that percentage, but fluctuate together: session size remains stable, slightly decreasing the last 5 years.
- Mitigation: To prevent mergers, increase convener team diversity and enhance regional collaboration potential.
- The number of SE oral presentations grows less strongly than the total AOGS number of oral presentations, but they fluctuate together.



## ***AOGS sessions enable seeding of regional collaboration. 2020 was a highly diverse program (unfortunately cancelled)***

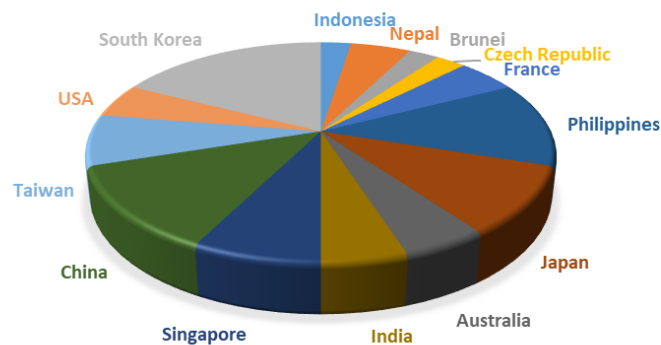
2020 SE SESSION LEAD CONVENER COUNTRIES



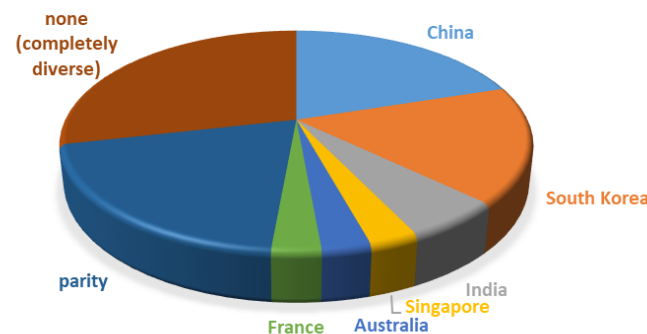
Sessions with strong convener diversity lead to many and more diverse abstracts, offering new perspectives, and enable new regional, international collaboration.

- 35 SE sessions, lead conveners from 13 countries (11 AO, 2 non-AO)  
(top left)
- 10 sessions were highly diverse, led by lead conveners from 8 countries, representing 14 countries (see bottom left)
- 15 sessions were not very country-diverse (see bottom right).
- 7 sessions were at country parity (equal country representation)

2020 COUNTRIES CONVENING THE MOST DIVERSE SE SESSIONS (<2 SAME COUNTRIES PER SESSION)

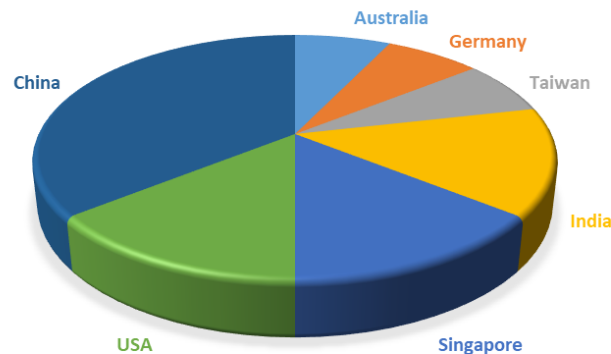


2020 SE SESSIONS WITH HIGHLY DOMINANT COUNTRIES



## ***AOGS sessions enable seeding of regional collaboration. 2021 is shaping up to be diverse but maybe smaller (virtual conference)***

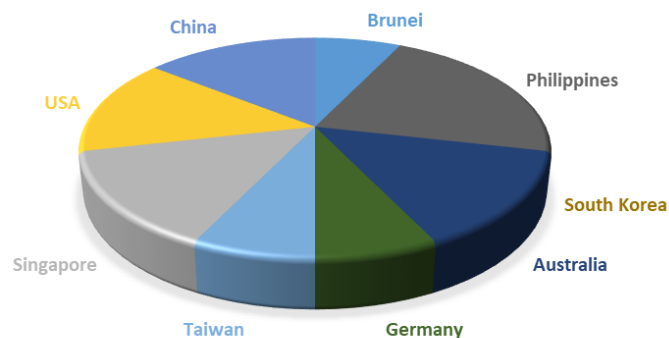
**2021 SE SESSION LEAD CONVENER COUNTRIES**



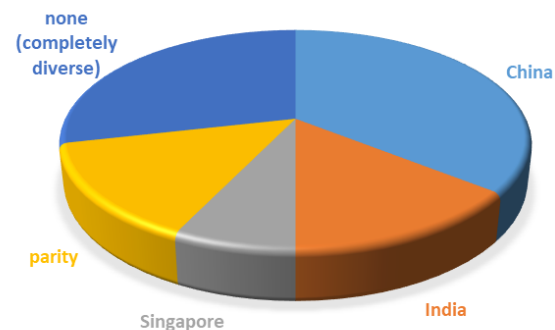
Sessions with strong convener diversity lead to many and more diverse abstracts, offering new perspectives, and enable new regional, international collaboration

- 14 SE sessions, lead conveners from 7 countries (4 AO, 3 non-AO)  
(top left)
- 4 sessions are highly diverse, led by lead conveners from 4 countries, representing 8 convener countries (see bottom left)
- 13 sessions are not very country-diverse (see bottom right).
- 2 sessions were at country parity (equal country representation)

**2021 COUNTRIES CONVENING THE MOST DIVERSE SE SESSIONS (<2 SAME COUNTRIES PER SESSION)**



**2021 SE SESSIONS WITH HIGHLY DOMINANT COUNTRIES**





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**AOGS sessions enable seeding of regional collaboration.**

**Sessions with a strong convener diversity lead to many abstracts, and enable new regional, international collaboration. AOGS is a place to meet, learn, and showcase your science.**

**AOGS wants to promote regional collaboration through the opportunities AOGS sessions offer.**

**Therefore, AOGS has a policy that session proposals should have more than one convener country represented. If you need help making contacts, please contact your section office for help. We would be happy to suggest introductions.**

minimize repetition and to build a program with sessions that are fewer but larger and stronger.

3. Co-conveners must be from at least 2 countries. The minimum number of conveners is 2 and the maximum number of conveners is 5, per session.

Two session proposals is the maximum limit. No Convener may submit more than 2 session proposals.

**AOGS2021 VIRTUAL**  
18<sup>TH</sup> ANNUAL MEETING  
Asia Oceania Geosciences Society  
01 – 06 August 2021

### Convene Your Own Sessions

[Regular Session](#) | [Special Session](#)

There are 2 main types of session proposals: Regular and Special.  
The deadlines, rules and procedures for convening both types of sessions are given below.

Session Proposals	Regular Session	Special Session
Submission Opens:	04 Aug 2020	04 Aug 2020
Submission Closes:	10 Nov 2020	03 Nov 2020
Acceptance/Rejection Notification	24 Nov 2020	24 Nov 2020

### Regular Session

[Rules](#) | [How to Submit](#)

This type of session proposal covers topics that belong to any one of the 8 AOGS Scientific Sections listed below. Once submission closes, Section Presidents will evaluate the proposals

- Those accepted will be listed on MARS to invite abstract submission
- Those rejected will not be listed
- Those whose contents are similar or closely related may be joined, combined or merged to form a single session. If the session involves 3 or more Sections, the session will be channelled to Interdisciplinary Geosciences (IG)

#### Rules

- The subject of a session should have a sufficiently broad appeal that it can be expected to consist of at least ten papers. The actual time allocation will vary according to the number of accepted abstracts. If a session has less than 10 accepted abstracts, the Section President and Program Committee reserve the right to move the abstracts to another session.
- Session proposals with broader themes and larger scales are favoured, and session proposals with strong overlap are likely to be merged. This is so as to minimize repetition and to build a program with sessions that are fewer but larger and stronger.
- Co-conveners must be from at least 2 countries. The minimum number of conveners is 2 and the maximum number of conveners is 5, per session.
- Two session proposals is the maximum limit. No Convener may submit more than 2 session proposals.
- Invited papers should not exceed one third of oral presentations in a given session, the only exception is for sessions of great timeliness (such as a recent natural disaster or the first reports from new international scientific programs or space missions).
- Convener and Co-Conveners cannot present or be a co-author to an invited paper in their own session. Any paper with an overlap between the co-authors and the co-conveners cannot be designated as invited.

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### ***AOGS – nurturing relationships to further regional collaboration and advance science and societal resilience***

AOGS members have many regional international collaborations that work well.

The relationships that form the basis of these collaborations are being seeded and nurtured through AOGS sessions and meetings.

#### **Some examples of AOGS SE section activities:**

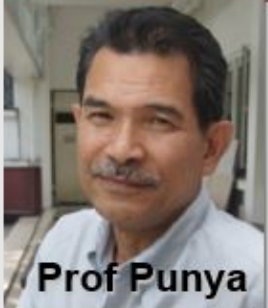
- **The Ore Deposits of SE Asia Project. Mineral resources, petrology, geochemistry, and many more.**
  - **AOGS interdisciplinary regional collaboration: Disaster Risk Reduction & Resilience. Seismology, volcanology, geodesy contributions.**
  - **Volcanology regional collaborations.**
- All SE disciplines**



# Ore Deposits of SE Asia Project (Long-term collaboration since 1992)



Prof Meng



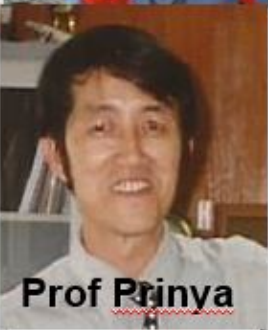
Prof Punya



Prof Chakkaphan



Masoe



Prof Prinya



Prof Zaw

**Leader: Prof Khin Zaw, CODES Centre of Ore Deposit and Earth Sciences, University of Tasmania, Australia**  
**Previous AOGS SE Section President**

**CODES**



**Aims:**

- To enhance tectonic, metallogenic and geochronological evolution and ore deposit formation in SE Asia
- Help determine which areas are most prospective
- Provide better geological knowledge for local SE Asia countries

- **Current Research Collaborators:** Thailand: Prof Meng Lintrakhum (Chiang Mai University), Profs Punya, Chakkaphan and Dr Masoe (Chulalongkorn University), Prof Prinya (Mahidol University)
- **Malaysia and Brunei:** Prof Azman Ghandi (Univ Malaya), Dr Mohd Basril (UKM), Prof Chun Kit Lai (Univ Brunei)
- **Vietnam and Cambodia:** Prof Hai Thanh Tran (Head of School and Dean, Hanoi University of Mining & Geology), Dr Sokha Seang (Institute of Technology, Cambodia)
- **Indonesia (Sumatra):** Prof Mega Rosana, Univ of Padjajaran, Bandung
- **Japan:** Prof Akira Imai, Prof Koichiro Watanabe, Kyushu University, Japan
- **Myanmar:** Prof Cho Cho Aye (Head of Geology Dept. East Yangon University), Dr Nyein Nyein Sint (Yangon Uni)



Prof Azman



Dr Basril



Prof Kit



Prof Tran



Prof Rosana



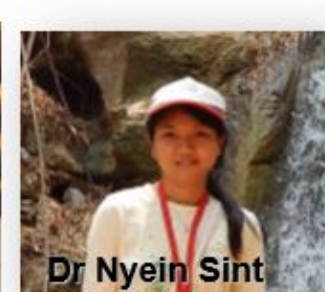
Prof Imai



Prof Watanabe



Prof Cho



Dr Nyein Sint



Dr. Sokha



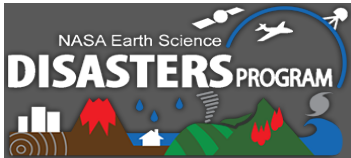


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## AOGS interdisciplinary regional collaboration: Disaster Risk Reduction & Resilience

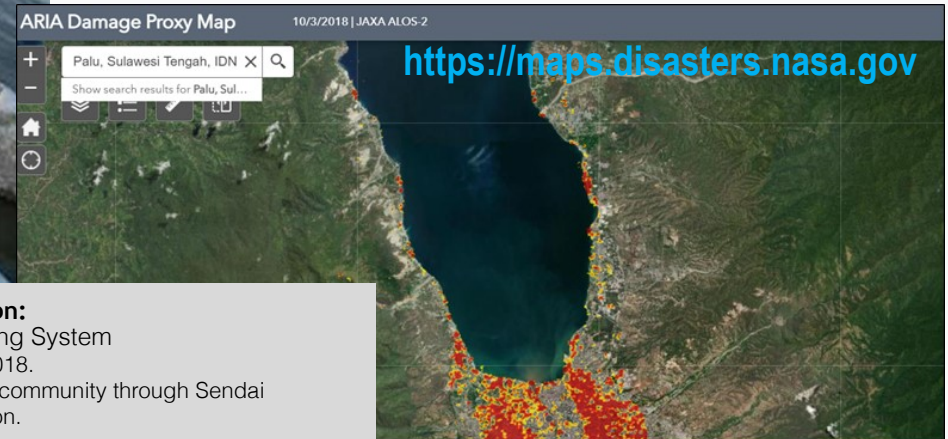


**SENDAI FRAMEWORK**  
FOR DISASTER RISK REDUCTION 2015-2030

**BELMONT**  
FORUM



- **AOGS natural hazards conference:** <https://nathazards.org/>
- **Sendai Framework and Tokyo Framework:**  
Kenji Satake, Univ. Of Tokyo, colleagues  
<https://www.preventionweb.net/sendai-framework/>
- **Belmont Forum:**  
Yue-Gau CHEN, National Taiwan University, colleagues
- **Geoscience Letters thematic collections:**
  - 2018 Palu & Krakatau Earthquake, Tsunami, Landslides (AOGS editors from Singapore, Indonesia, Europe)
  - Volcanoes & Applications (AOGS editors from Japan, US, Taiwan)
- **GGOS GATEW (geohazards) Working Group**  
17 countries, NASA, GGOS, APRU, Tohoku Univ. Under auspices of IUGG. <https://ggos.org/about/org/fa/geohazards/>
- **Asian Disaster Reduction & Response Network (ADRRN)** <https://www.adrrn.net/>



**Example of regional collaboration:**  
**GNSS-Augmented** Tsunami Warning System  
Palu earthquake and tsunami Sept 2018.  
NASA coordination with international community through Sendai Framework for Disaster Risk Reduction.

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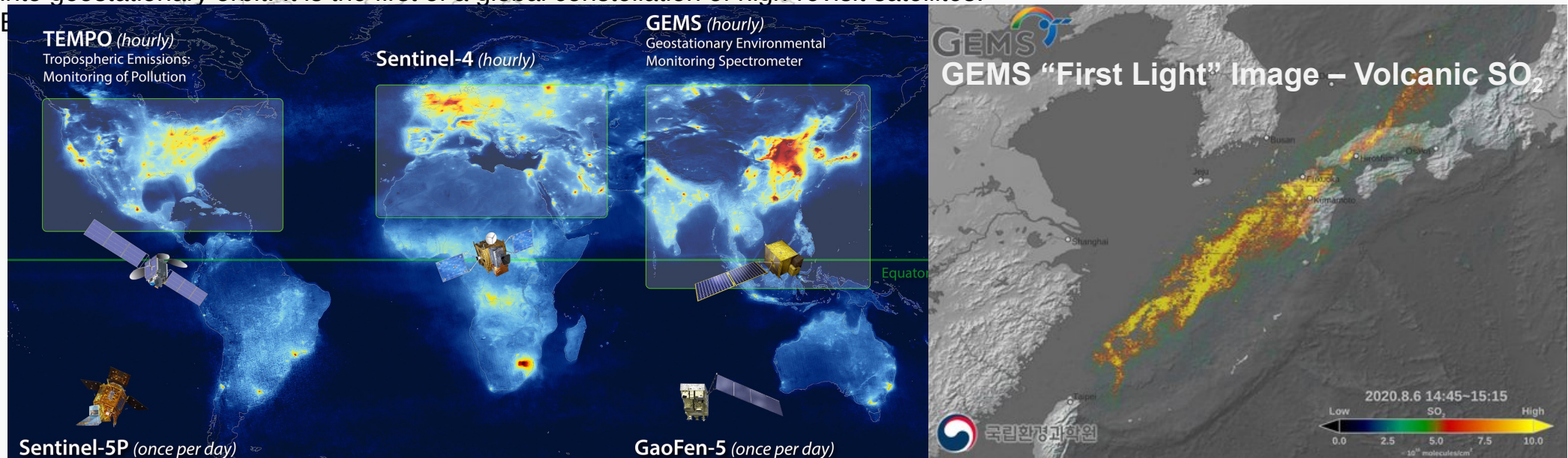


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**AOGS Solid Earth section members collaborate on volcanology, petrology, geochemistry, geophysics, hazards research and applied monitoring.**

(Singapore, the Philippines, Indonesia, Japan, Taiwan, South Korea, Russia, the U.S., Papua New Guinea, Vanuatu, New Zealand, and many other Asia-Oceania countries)

Example: Collaboration between South Korea, NASA, Japan, and several other science team member countries with AOGS ties and membership work on multi-satellite observations of volcanic and anthropogenic SO<sub>2</sub> emissions. South Korea's GEMS (Geostationary Environment Monitoring Spectrometer) instrument launched February 2020 into geostationary orbit. It is the first of a global constellation of high-revisit satellites:



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Thank you for making  
AOGS' Solid Earth Section what it is today:

***A vibrant community and platform for  
international exchange and regional  
collaboration.***

**Thank you for being a member of the AOGS  
family.**