IELP/GP-RSS Joint Seminar with ITB

In collaboration with WISE Program for Sustainability in the Dynamic Earth

International Environmental Leadership Program
International Joint Graduate Program in Resilience and Safety Studies
Institut Teknologi Bandung
Graduate School of Environmental Studies

Holistic learning in Disaster Management: The case of Tsunamis and Earthquakes

TOHOKU
UNIVERSITY

Thursday, February 18, 2021

Morning session
https://meet.google.com/ecv-jvyb-zam

Afternoon session
https://bit.ly/3u5AjBx

Organized by

Ardiansyah Taufik | Astin Nurdiana | Farah Wirasenjaya
Fiona Motswaiso | Kevin Muhamad Lukman | Tsogtbaatar Amarsaikhan

IELP/GP-RSS Joint Seminar with ITB
Graduate School of Environmental Studies

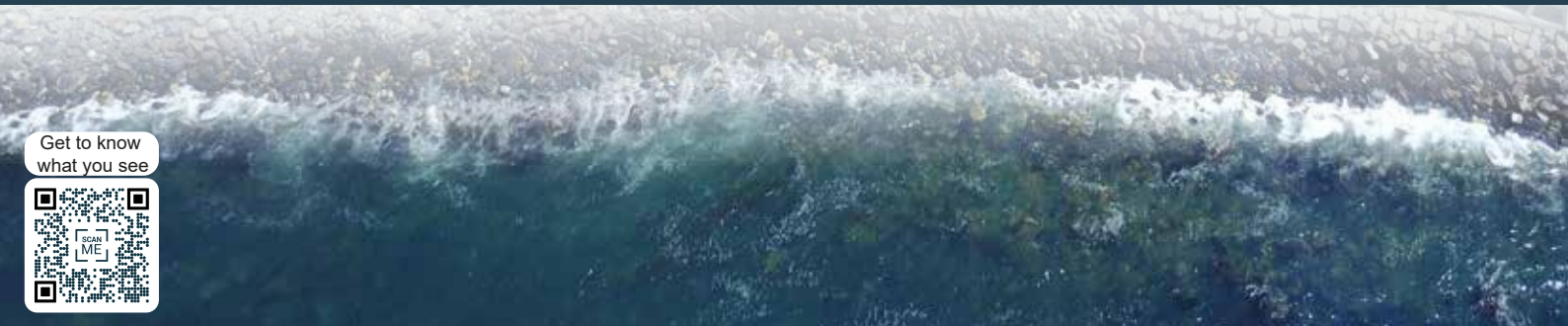
Seminar Schedule
Thursday, February 18, 2021

https://meet.google.com/ecv-jvyb-zam

08:30- 08:45	Opening	
08:45 - 09:30	Topic presentation 1	Nomuulin Amarbayar Luis Salala Kevin Muhamad Lukman
09:30 - 09:45	Internship presentation 1	Ardiansyah Taufik
09:45 - 10:30	Topic presentation 2	Fiona Motswaiso Amalia Nafisah Rahmani Irawa Chathurika Sewwandi Bandara
10:30 - 10:45	Break	
10:45 - 11:00	Internship presentation 2	Astin Nurdiana
11:00 - 11:15	Conference presentation 2	Nga Duong
11:15 - 12:00	Topic presentation 3	Farah Wirasenjaya Kanpachiro Urasaki Chelsea Adelina Langga
12:00 - 12:15	Internship presentation 3	Kevin Muhamad Lukman
12:15 - 12:30	Conference presentation 1	Ardiansyah Taufik
12:30 - 13:30	Break	

https://bit.ly/3u5AjBx

13:30 - 14:35	Guest lecture 1	Dr. Irwan Meilano
14:35 - 15:05	Break (Interactive session)	
15:05 - 16:10	Guest lecture 2	Ir. Harkunti P. Rahayu, Ph.D.
16:10 - 16:20	Closing remarks	



Get to know what you see

SCAN ME

IELP/GP-RSS Joint Seminar with ITB
Graduate School of Environmental Studies

Guest Lecture 1

Lessons from the recent devastating earthquakes in Indonesia

Dr. Irwan Meilano

In the last three years, Indonesia has experienced several large earthquakes, which have resulted in significant economic losses. The earthquakes were the Lombok M6.9 earthquake in August 2018, the Palu M7.5 earthquake in September 2018, the Ambon M6.5 earthquake in September 2020, and the M6.2 Mamuju earthquake in January 2021. These earthquakes had resulted in economic losses of more than 1.8 million dollars and more than 5000 people died. In this study, lessons learned from the latest earthquake in Indonesia will be discussed, especially aspects related to understanding the earthquake's source, with a detailed discussion of the 2018 Palu earthquake.

Palu's coastal area suffered a tsunami on September 28, 2018 caused by an earthquake with a magnitude of 7.5. With a known pattern of strain accumulation and release, the potential for earthquakes due to the Palu-Koro Fault is well understood by experts. However, this understanding from the expert did not succeed in becoming part of the community's knowledge. The survey results showed that 71% of the community did not understand the potential for an earthquake and 84% of the tsunami's potential.

This earthquake also provides an important lesson for experts, that a strike-slip fault, if it has a fast rupture (supershear), can generate a tsunami. As well as the potential for a tsunami due to submarine landslides associated with strong ground shaking. Another lesson learned from the Palu earthquake is that there is a need for a system that can rapidly estimate the earthquake's magnitude by combining information from GPS displacement and Seismic data. This rapid estimate of the magnitude can be used to estimate the impact of a disaster quickly.

irwanm@itb.ac.id

Dr. Irwan Meilano

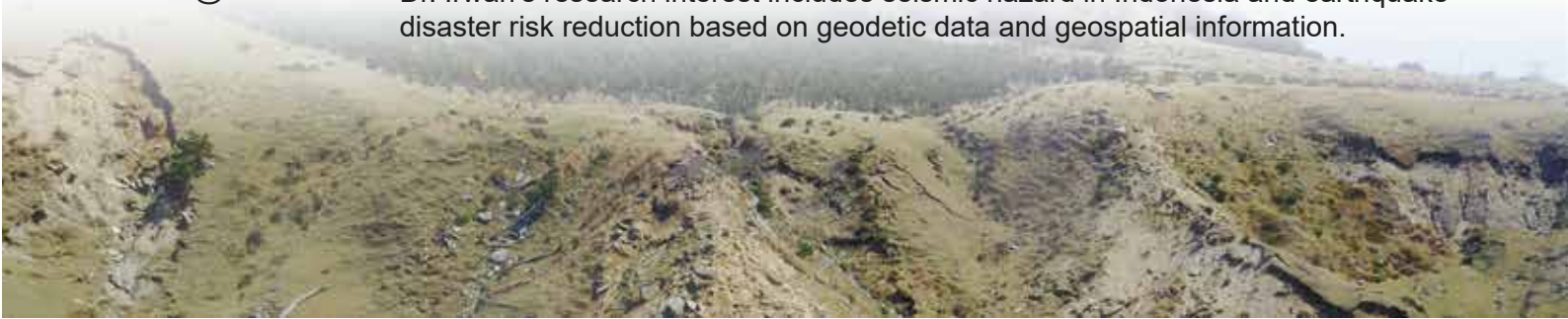
Dean of Faculty of Earth Science and Technology,
Institut Teknologi Bandung (ITB)

Chairperson of the Geodesy Working Group, National Team for Earthquake Maps

National Coordinator for Disaster Topic, AUN/SEED-Net
ASEAN University Network (2015- 2020)

M.Sc. and Ph.D. in Earth Science, Nagoya University, Japan
Bachelor in Geodesy Engineering, ITB

Dr. Irwan's research interest includes seismic hazard in Indonesia and earthquake disaster risk reduction based on geodetic data and geospatial information.



IELP/GP-RSS Joint Seminar with ITB
Graduate School of Environmental Studies

Guest Lecture 2

From Community and Science to Policy Change: Improvement of Tsunami Warning Chain

Ir. Harkunti P. Rahayu, Ph.D.

In the past few decades, Indonesia have suffered a lot of casualties from tsunami. Despite having been fully operated since 2008, the Indonesian Tsunami Early Warning System (InaTEWS) still needs extensive work especially in the *downstream component.* Meanwhile, the Indonesian constitution have mandated the responsibility to save people's lives against natural disasters to local government in the city and regency level. In Padang City, the existing regulation related to early warning system—Padang Mayor Regulation 14/2010—mainly considers inter-agency in provincial and city level while only utilizes mass communication ways methods such as siren and mass media for disseminating evacuation orders. This raised a problem as people-centered approach has been the main agenda for early warning systems and have also been shown to increase resilience. This study aims to identify the gaps in the current policy and propose a viable framework for policy improvement regarding people-centered tsunami early warning chain in Padang City. The study found that the existed regulation lacks extension nodes to relay warnings to the last mile population. Moreover, receiving warning information from both formal and informal sources is important to mobilize people evacuation more effectively during an emergency. The study found that community masjid and disaster preparedness leaders are the potential actors who should be involved in the local early warning chain. The research finding was presented as a recommendation to Padang City government and have been legalized as the new tsunami early warning chain procedure in the Padang City Mayor Regulation 19/2018.

✉ harkunti@pl.itb.ac.id

Ir. Harkunti P. Rahayu, Ph.D.

Lecturer and researcher at School of Architecture, Planning and Policy Development, Institut Teknologi Bandung (ITB)

Chair of Indonesian Disaster Expert Association (IABI), 2017-2021

Member of National Research Council (2019 - 2022),
Chair of Environmental and Disaster Technical Committee

Member of Advisory Board for Society of Social Management System – SSMS, Japan (2015 - now)

PhD in engineering, Kochi University of Technology, Japan
Bachelor in Civil Engineering, ITB

Dr. Harkunti is active in producing publications and conducting international collaborative research in coastal hazard mitigation and management, behavioral science in disaster riskreduction, and green energy.