



Monitoring of active processes in seismic and volcanic zones

Workshop ERI-IPGP - 3-5 October 2017

Earthquake Research Institute

The University of Tokyo

(Seminar Room, Bldg. 1)

WG1: Earthquake and Tsunamis (Kenji Satake, Giovanni Occhipinti)

IPGP: 9 (5 researchers, 4 students/post-doc), ERI: 16 (9 researchers, 7 students)

WG2: Volcanology, Environmental Seismology (Mie Ichihara, Anne Le Friant)

IPGP: 3 (researchers), ERI: 4 (3 researchers, 1 student),

WG3: Structure and Multiscale Geodynamic Processes (Takashi Iidaka, Nobuaki Fuji)

IPGP: 4 (3 researchers, 1 students), ERI: 7 (4 researchers, 3 students)

Participants: IPGP: 16 (11 researchers, 4 students, 1 post-doc)

ERI 27: (16 researchers, 11 students)

Preliminary Program

Tuesday, October 3: Day 1

8:30 - 9:00

Reception

9:00 - 09:30

Introduction and welcome talks (ERI & IPGP) – Jean-Paul Montagner & Masa Kinoshita

Session WP1: Earthquake and Tsunamis

Chair: Kenji Satake, Giovanni Occhipinti

09:30 - 09:50

Takashi Iidaka: *Seismic image at the source fault area of the 1891 Nobi earthquake: Implication for the generation of M8 earthquake*

09:50 - 10:10

Kazushige Obara: *Monitoring of slow earthquakes, possible connection to huge earthquakes*

10:10 - 10:30

Jean-Pierre Vilotte: *Automatic detection and location for restoring Low- frequency earthquakes activity and the extended source emissivity area during tectonic tremor episodes in southwestern Japan*

10:30 - 11:10

Coffee/Tea Break

11:10 - 11:30

Akito Araya: *Seismic and geodetic observation using a long-baseline laser strainmeter constructed at an underground site in Kamioka, Japan*

11:30 - 11:50

Pascal Bernard: *Imaging energy radiation of faulting surfaces from regional records*

11:50 – 14:00

Lunch (with poster viewing)

Session WP3: Structure and Multiscale Geodynamic Processes

Chair: Takashi Iidaka, Nobuaki Fuji

- 14:00 - 14:20** **Jean-Paul Montagner:** *Anisotropic tomographic structure of continents- the case of India*
- 14:20 - 14:40** **Nozomu Takeuchi:** *Determination of Intrinsic Attenuation in the Oceanic Lithosphere
Asthenosphere System*
- 14:40 - 15:00** **Nobuaki Fuji:** *Towards waveform seismic filtering to unveil the Earth's mantle's evolution*
- 15:00 - 15:20** **Hitoshi Kawakatsu:** *A new fifth parameter for transverse isotropy*
- 15:20 - 16:00** **Coffee/Tea Break**
- 16:00 - 16:20** **Eleonore Stutzmann:** *Monitoring the ocean activity from seismic signal*
- 16:20 - 16:40** **Kiwamu Nishida:** *The global source location of P-wave microseisms using Hi-net data from
2005 to 2011*
- 16:40 - 17:00** **Jérôme Dymont:** *Getting better constraints on subducting slabs from marine magnetics –
investigations off Sumatra and Japan*
- 17:00 - 17:20** **Takeshi Akuhara:** *Toward understanding megathrust faults: A new approach using high-
frequency receiver function analysis with OBS data*
- 17:20 – 18:10** **Presentation Poster (2 min each)**
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- 18:30 – 20:30** **Reception at Abreuvoir**

Wednesday, October 4: Day 2

Session WP1: Earthquake and Tsunamis

Chair: Kiwamu Nishida, Giovanni Occhipinti

- 9:00 - 9:20** **Giovanni Occhipinti:** *Ionospheric detection of tsunami earthquakes: Ideas for future early
warning*
- 9:20 - 09:40** **Shingo Watada:** *Tsunamis without tsunami sources: Tsunami Interferometry*
- 09:40 - 10:00** **Nathalie Feuillet:** *Megathrust seismic cycles at the Ryukyu trench: insight from micro atoll
corals and reef terraces*
- 10:00 – 10:40** **Coffee/Tea Break**
- 10:40 - 11:00** **Takashi Furumura:** *Unusual strong ground motion across Japan from the 680 km deep 30
May 2015 Ogasawara Island earthquake*
- 11:00 - 11:20** **Virgile Rakoto:** *Atmospheric resonance of the tsunami normal modes and estimation of the
tsunami height from the TEC perturbation induced by a tsunami using a least square
inversion method*
- 11:30 – 13:30** **Lunch & Posters**

Session WP2: Volcanology, Environmental Seismology

Chair: Mie Ichihara, Anne Le Friant.

- 13:30 - 13:50** **Anne Le Friant:** *Record of volcanic construction and collapses of the Lesser Antilles
volcanoes from submarine (Expedition IODP 340) and field trip investigations*
- 13:50 - 14:20** **Mie Ichihara:** *Variety of acoustic waves generated by continuous gas flow in fluid*
- 14:20 - 14:40** **Jean-Christophe Komorowski:** *New insights on unrest and hazards from hydrothermal and
failed-magmatic eruptions at La Soufrière de Guadeloupe (Lesser Antilles) in light of lessons
learned from Japanese examples at Bandai (1888) and Ontake (2014)*
- 14:40 - 15:00** **Fukashi Maeno:** *Nature, dynamics and hazards of phreatic eruptions: Insights from the Ont
ake eruption in 2014*
- 15:00 - 15:40** **Coffee/Tea Break**
- 15:40 - 16:00** **Yosuke Aoki:** *Recent uplift of Iwo-yama, Kirishima Volcanic Complex, Southwest Japan*
- 16:00 - 16:20** **Anne Mangeney:** *How the seismic signal can be used to detect, localize and characterize
gravitational flows and their link with volcanic, seismic and climatic activity.*
- 16:20 - 18:00** **Poster Session**

Free Night / Free Dinner

Thursday, October 5: Day 3

9:00 - 10:00 **General Discussion animated by the WG Chairs & Conveners.**

WP1: Earthquake and Tsunamis

Chair: Kenji Satake, Giovanni Occhipinti, Kiwamu Nishida

WP2: Volcanology, Environmental Seismology

Chair: Mie Ichihara, Anne Le Friant

WP3: Structure and Multiscale Geodynamic Processes

Chair: Takashi Iidaka, Nobuaki Fuji

Conveners

Jean-Paul Montagner, Masa Kinoshita

10:00 - 11:30 **Meeting of WG and first draft-rapport redaction**

11:30 - 12:00 **Final Discussion, Conclusion, Perspectives**

Adjourn

LIST OF POSTERS

Agnès Chounet: *Global database of rupture propagation parameters shows anticorrelation between stress drop and rupture velocity*

Sophie Debaecker: *Characterization of vertical deformations in the Central Ryukyu islands using reef terraces*

Kurama Okubo: *Off-fault fracture network -induced by dynamic earthquake rupture: implications for ground motion and energy budget*

Tristan Deleplanque: *Source rupture imaging using strong motion records*

Virgile Rakoto: *Tsunami wave height estimation from GPS-derived ionospheric data*

Masaya Kimura: *Absence of prompt gravity signal induced by the 2011 Tohoku-Oki earthquake in data recorded by gravimeters, seismometers, and tiltmeters*

Yuta Mizutani: *Temporal change of subsurface structure near Mt. Aso inferred from seismic interferometry using V-net vertical array data*

Tungcheng Ho: *Improved Phase Corrections for Transoceanic Tsunami Data in Source Estimation: Application to the 2011 Tohoku Earthquake*

Wang Yuchen: *Fast Tsunami Data Assimilation based on Green's Function*

Ryo Kurihara: *Comprehensive detection and characteristic activities of triggered tremor in southwestern Japan subduction zone*

Yuriko Iwasaki: *Continuous shear wave signal detected by OBSs following 2014 Mw 6.8 slow-slip event in the Hikurangi subduction margin offshore New Zealand*

Hatsuki Yamauchi, Yasuko Takei: *Experimental study of polycrystal anelasticity at near-solidus temperatures and its seismological applications*

Long Xin: *A sharp structural boundary in lowermost mantle beneath Alaska detected by core phase differential travel times for the anomalous South Sandwich Islands to Alaska Path*

Hitoshi Kawakatsu: *Pacific Array 2017 -plans, proposals & perspectives-*

Jing Wu: *Complex seismic anisotropy beneath western Tibet and its tectonic significances*

Osamu Sandanbata: *Tsunami Source Modeling of the 2015 Volcanic Tsunami Earthquake near Torishima, South of Japan*

Yifei Wu: *Grouping the normal modes, a way to characterize tsunami sources in Japan Sea*

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