



FINAL REPORT

Workshop ERI-IPGP

Geodynamics, earthquakes and volcanic eruptions
(global/planetary perspectives, interactions and triggering)

23-25 september 2015: Auditorium I.P.G.-Paris

Scientific Programme

Wednesday, September 23: Day 1

Session 1: Earthquakes and Tsunami

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| 8:30 - 9:00 | Reception |
| 9:00 - 9:20 | Introduction and welcome talks (ERI & IPGP) Claude JAUPART- Kenji SATAKE(?)
chair: Giovanni Occhipinti |
| 9:20 - 9:40 | Kenji SATAKE: Historical and geological evidence of recurrent earthquakes and tsunamis in subduction zones |
| 9:40 - 10:00 | Jennifer WEIL- ACCARDO & Nathalie FEUILLET: Secular relative sea-level changes recorded by coral microatolls: implications for Lesser Antilles megathrust seismic behaviour |
| 10:00 - 10:20 | Takashi FURUMURA: Slab guided high-frequency wave and development of anomalously large intensity during deep events |
| 10:20 - 10:50 | Poster session: short introduction (Poster will be hanged up during the whole workshop) |
| 10:50 - 11:10 | Coffee Break |
| | chair: Takashi Furumura |
| 11:10 - 11:30 | Giovanni OCCHIPINTI: Tohoku-Oki 2011: what we learn about Tsunami detection by ionospheric sounding |
| 11:30 - 11:50 | Clément NARTEAU: Dependence on stress for the statistics of granular avalanches and earthquakes |
| 11:50 - 12:10 | Takeshi IIDAKA: Stress field in the Tohoku region estimated from shear-wave splitting analysis |
| 12:10 - 12:30 | Martin VALLEE: Seismo-geodetic inversion of the rupture process of the Gorkha earthquake (Nepal, 2015/04/25, Mw=7.9) |
| 12:40 - 14:00 | Lunch |
| | chair: Martin Vallée |
| 14:00 - 14:20 | Claudio SATRIANO - Natalia POIATA: Imaging seismic sources through multi-scale seismic antenna analysis |
| 14:20 - 14:40 | Junichi FUKUDA: Imaging the spatiotemporal evolution of slow slip events using GPS time series data |
| 14:40 - 15:00 | William FRANK & N. SHAPIRO: Exploring the slow-slip cycle in Guerrero through low-frequency earthquakes |

- 15:00 - 15:20** Harsha BHAT: Incorporating realistic physics in modeling earthquakes
- 15:20 - 15:40** Tea/Coffee Break
chair: Junichi Fukuda
- 15:50 - 16:10** Pascal BERNARD & Frederic BOUDIN : Detection and characterization of slow slip events during the precursory phase of the M=8.2, Iquique 2014 earthquake.
- 16:10 - 16:30** Jean-Pierre VILOTTE: Detection and characterization of low-magnitude seismicity during the precursory phase of the M=8.2, Iquique 2014 earthquake.
- 16:30 - 16:50** Makiko OTANI: A fast computation method and its application to earthquake modeling
- 16:50 - 17:10** Anne MANGENEY: Observation and simulation of Landquakes
- 17:10 - 17:30** General Discussion of session 1
- 18:30-21:00** Dinner Buffet at IPGP -
IPGP Orchestra

Thursday, September 24: Day 2

Session 2: Volcanology

- chair: Yosuke Aoki
- 9:00 - 9:20** Minoru TAKEO: long-period seismic signals and volcanic gas at Asama volcano
- 9:20 - 9:40** Anne le FRIANT & Georges BOUDON: Submarine record of volcanic island construction and collapse in the Lesser Antilles: First scientific drilling of submarine volcanic island landslides by IODP Expedition 340
- 9:40 - 10:00** Mie ICHIHARA: A linear relation between powers of seismic and infrasonic eruption tremor and magma discharge rates
- 10:00 - 10:20** Patrick ALLARD: Gas precursors of volcanic eruptions and relationship with geophysical signals
- 10:20 - 11:20** Coffee Break- Poster session
chair: Patrick Allard
- 11:20 - 11:40** Steve TAIT, Edouard KAMINSKI Guillaume CARAZZO: Dynamics of Volcanic Umbrella Clouds
- 11:40 - 12:00** Yosuke AOKI: Lithosphere-atmosphere-ionosphere coupling excited by an explosive eruption
- 12:00 - 12:20** Florent BRENGUIER: The high susceptibility of volcanic regions of Japan to seismic shaking
- 12:20 - 12:40** Satish SINGH: Trans-Atlantic Imaging of the Lithosphere-Asthenosphere Boundary: A Dream Comes True
- 12:40 - 13:00** General discussion of session 2
- 13:00 - 14:00** Lunch

Session 3: Global and Planetary Seismology

- chair: Kiwamu Nishida
- 14:00 - 14:20** Hitoshi KAWAKATSU: Lithosphere/asthenosphere system of "normal" oceanic mantle
- 14:20 - 14:40** Barbara ROMANOWICZ: Numerical wavefield computations and global seismic tomography: insights on mantle plumes
- 14:40 - 15:00** Nozomu TAKEUCHI: Seismic Tomography by Statistical Approach
- 15:00 - 15:20** Nobuaki FUJI: Towards waveform inversion with small boxes
- 15:20 - 15:40** Tea/Coffee Break
chair: Nobuaki Fuji
- 15:40 - 16:00** Eleonore STUTZMANN: The composition of broadband seismic noise

- 16:00 - 16:20** **Kiwamu NISHIDA:** Microseisms: Teleseismic body-wave microseisms from a distant storm
- 16:20 - 16:40** **Jean-Paul MONTAGNER:** Prompt gravity signal associated with earthquakes detected by superconducting gravimeter.
- 16:40 - 17:00** **Akito ARAYA:** Broadband seismic and geodetic observation using long-baseline laser strainmeters
- 17:00 - 17:20** **Philippe LOGNONNE:** The InSight Mars seismometer and Geophysical Observatory.
- 17:20 - 18:00** **General discussion of session 3**
- 19:30-22:00** **Dinner Restaurant**

Friday, September 25: Day 3

- 10:00 - 10:30** **Coffee Break**
- 10:30 - 13:00** **Meeting of Working Groups WG1 (Earthquake & Tsunami), WG2 (Volcanology), WG3 (Global & Planetary Sciences)**
- 13:00 - 14:00** **Lunch**
- 14:00 - 16:00** **Plenary session: General Discussion and Conclusions**
- Saturday, September 26: Optional Day**
Exchange meeting between students from ERI and IGP

Poster Session:

- Yukihiro NAKATANI:** Automated detection method for interplate aftershocks of the 2011 Tohoku earthquake using ocean bottom seismometer network
- Loic VIENS:** Toward complete extraction of basin-scale Green's functions from the ambient seismic field recorded by MeSO-net stations
- Osamu SANDAMBATA:** Step-wise temporal change in the frequency-amplitude distribution of volcanic long period tremors at Aso volcano
- Yifei WU:** A high resolution normal mode solution, synthetic tsunami waveform and characterization of tsunami sources in Japan Sea
- Yu TAKAGI:** Theoretical computation of internal co-seismic deformation in a spherical earth
- Yo KANNO:** Sawtooth wave-like pressure change and cyclic out-gassing observed in laboratory experiment
- Agnès CHOUNET:** Systematic characterization of Radiated Energy and Static Stress Drop of Global Subduction Earthquakes from Source Time Functions Properties
- Navid HEDZAJIAN:** A Study of the Link Between Seismic Anisotropy and the G Discontinuity Based on LPO Modeling in Oceanic Basins
- Kevin JUHEL:** Prompt earthquake detection based on transient gravity signals.
- Taichi KAWAMURA:** Enigmatic Deep Moonquakes: Their Source Mechanism and implication for the lunar thermal mode
- Alessandro MAZZULLO:** Anisotropic Tomography around La Reunion Island from Surface waves
- Satish MAURYA:** Surface Wave Tomography of the Indian Continent.
- Hélène MIALLOT:**
- Yasuhiro NISHIKAWA:** Normal modes Hum on Mars
- Virgile RAKOTO:** Inversion of Tsunami waveform and height using ionospheric observations.
- Maria SAADE:** Monitoring of seismic anisotropy at the time of 2008 Iwate-Miyagi earthquake.
- Céline VIDAL:** Degassing budget of the 1257 A.D. plinian eruption of Samalas (Lombok, Indonesia)