

Todai Forum: New Horizons in Earth Sciences

Imaging and Monitoring Active Subduction Zones and Volcanoes

IPGP/ERI Workshop, 18 – 19 October 2011: Auditorium, I.P.G. Paris

Monday, October 17: College de France (session on Tohoku earthquake 16:45 -17:45, Barbara Romanowicz, Kenji Satake, Jean-Pierre Vilotte)

Tuesday, October 18: Day 1 at IPGP

Session 1: Volcanoes

- 8:30 - 9:00 Reception
- 9:00 - 9:20 Introduction and welcome talks (ERI & IPGP)
- 9:20 - 9:40 Minoru TAKEO: Magma plumbing system and magma chamber beneath Mt. Asama volcano
- 9:40 - 10:00 Edouard KAMINSKI: Dynamics of volcanic plumes above basaltic eruptions
- 10:00 - 10:20 Yosuke AOKI: Monitoring Piton de la Fournaise, La Reunion island, with ambient noise
- 10:20 - 10:40 Florent BRENGUIER: Monitoring the Earth's Interiors using ambient seismic noise
- 10:40 - 11:00 Coffee Break
- 11:00 - 11:20 Mie ICHIHARA and John LYONS: Laboratory modeling for generation of harmonic tremor in the ground and in the air
- 11:30 - 11:50 François BEAUDUCEL: Title to be confirmed
- 11:50 - 12:10 Benoit TAISNE: Real time magma transport imaging and earthquake localization using seismic amplitude ratio analysis
- 12:10 - 12:30 Shingo WATADA: Acoustic resonant oscillations between the atmosphere and the solid earth during the 1991 Mt. Pinatubo eruption
- 12:30 - 12:50 Giovanni OCCHIPINTI: From Sumatra 2004 to Tohoku-OkI 2011: what we learn about tsunami detection by ionospheric sounding
- 12:50 - 14:00 Lunch
- 14:00 - 15:00 Poster session: short introduction (Poster will be hanged up during the whole workshop)
- 13:00 - 15:00 Meeting of Directors ERI-IPGP + Organizing committee (in parallel)

Session 2: Tohoku earthquake and active Subduction zones

- 15:00 - 15:20 Kenji SATAKE: Variable recurrence of great earthquakes and tsunamis in subduction zones
- 15:20 - 15:40 Philippe LOGNONNE: Atmospheric/ionospheric coupling of slow and fast seismic ruptures of Tohoku-OkI
- 15:40 - 16:00 Hiroe MIYAKE: Frequency-dependent source processes for the 2011 Tohoku earthquake
- 16:00 - 16:20 Claudio SATRIANO: Source imaging of the great Tohoku earthquake
- 16:20 - 16:40 Teruyuki KATO: Crustal deformation and its modeling due to the 2011 Tohoku earthquake based on GPS observations
- 16:40 - 17:10 Tea Break

- 17:10 - 17:30** Anne SOCQUET, Rolando ARMIJO, Robin LACASSIN and Christophe VIGNY: Rupture of megathrust earthquakes from geodetic and tectonic study of Maule earthquake
- 17:30 - 17:50** Pascal BERNARD and Jean-Pierre VILOTTE: Lessons from the Tohoku earthquake in Japan and the Maule and Tocopilla earthquakes in Chile
- 17:50 - 18:10** Hitoshi KAWAKATSU: Seismic imaging of Japanese subduction zone
- 18:10 - 18:30** Mireille LAIGLE and Alfred HIRN: New images of seismic activity and structure of the Lesser Antilles subduction: similarities with the east Honshu context and the Tohoku megathrust earthquake
- 19:00-21:00** Diner Buffet at IPGP

Wednesday October 19: Day 2 at IPGP

Session 3: Subduction zones

- 09:00 - 09:20** Takashi IIDAKA: Seismic structure at the subduction zone in southwestern Japan
- 09:20 - 09:40** Satish SINGH: Tsunamigenic or frontal thrusting earthquakes in Sumatra and Japan?
- 09:40 - 10:00** Kimihiro MOCHIZUKI: Crustal heterogeneity around fault segment boundaries of large subduction-zone earthquakes
- 10:00 - 10:20** Marie-Paul BOUIN and the French Lesser Antilles Observatories: Seismicity and deformation processes in the Lesser Antilles subduction zone
- 10:20 - 10:40** Coffee Break
- 10:40 - 11:00** Kazushige OBARA: Monitoring of slow earthquakes in the Nankai subduction zone
- 11:00 - 11:20** Nikolai SHAPIRO: Studies of non-volcanic tremors in the Mexican subduction zone
- 11:20 - 11:40** Kiwamu NISHIDA: Very low frequency tremors beneath Shonai plain revealed by Hi-net tiltmeters
- 11:40 - 12:00** Bruno REYNARD (ENS Lyon): Plastic creep of hydrated rocks at the plate interface
- 12:00 - 12:20** Teruo YAMASHITA: Effects of permeability anisotropy on the generation of slow slip
- 12:20 - 12:40** Takahiro HATANO: Seismicity in a model crust
- 12:40 - 14:00** Lunch

Session 4: Gravity flows, Seismic sources and instrumentation

- 14:00 - 14:20** Pascal ALLEMAND: Monitoring riverine sediment fluxes during extreme climatic events: new tools and methods
- 14:20 - 14:40** Anne MANGENEY: Landslide detection and characterization using the generated seismic waves
- 14:40 - 15:10** Eléonore STUTZMANN: Observing and modeling seismic noise
- 15:10 - 15:30** Akito ARAYA: Development of a laser-interferometric broadband seismometer for deep underground observations
- 15:30 - 15:50** Sebastien de RAUCOURT: The SELENE2 VBB seismometer
- 15:50-16:10** Tea Break
- 16:10-18:00** General Discussion and conclusion

New horizons in the Earth Sciences - Deep Earth geodynamics Program

Thursday 20 October 2011

- 8.50 - 9.00 Introduction by Hisayoshi Shimizu and Bruno Reynard
9.00 - 9.45 "Boundary-controlled mantle convection model" by Kei Kurita
9.45 - 10.30 "Core-mantle boundary dynamics" by Stéphane Labrosse
10.30 - 11.00 break
11.00 - 11.45 "A measure of brittleness of fracture in viscoelastic fluid and its applications to earth phenomena" by Mie Ichihara
11.45 - 12.30 "Theoretical laws for mantle rheology" by Yanick Ricard
12.30 - 14.00 lunch
14.00 - 14.45 "Seismic Structure of the Western Pacific Regions" by Nozomu Takeuchi
14.45 - 15.30 "Global tomography" by Eric Debayle
15.30 - 16.00 break
16.00 - 16.45 "Origins of seismic hum" by Kiwamu Nishida
16.45 - 17.30 "Anisotropy in the Earth" by Jean-Paul Montagner
20.00 dinner

Friday 21 October 2011

- 9.00 - 9.45 "Seismological views on the oceanic asthenosphere and the LAB above" by Hitoshi Kawakatsu
9.45 - 10.30 "Hotspots: a window into the Earth's mantle" by Cinzia Farnetani
10.30 - 11.00 break
11.00 - 11.45 "Mantle conductivity structure" by Hisayoshi Shimizu
11.45 - 12.30 "Crystallisation of the core" by Thierry Alboussière
12.30 - 14.00 lunch
14.00 - 14.15 "Uppermost mantle structure from data of broadband ocean bottom seismometers" by Akiko Takeo
14.15 - 14.30 "Seismic attenuation in the Earth's mantle" by Stephanie Durand
14.30 - 14.45 "Mars internal structure exploration and Mars planetary free oscillation" by Yasuhiro Nishikawa

14.45 - 15.00 "Phase diagram of the binary H₂O-NaCl and salty ice VII at pressure and temperature conditions of extra-solar ocean planets and large icy moons" by Baptiste Journaux

15.00 - 15.15 "Classification of Martian volcanoes in terms of geomorphological characteristics" by Sumito Higuchi

15.15 - 15.30 "Melting and solidification coupled with transient convection" by Martina Ulrova

15.30 - 16.00 break

16.00 - 16.15 "Development of Tin Isotope Analysis for Geochemistry and Archaeology" by Erika Yamazaki

16.15 - 16.30 "The minor elements from the Earth's core" by Alejandra Vargas Calderon

16.30 - 16.45 "Thermal Inertia of micron-sized particle - Shallow Planet geophysics" by Takenori Toyota

16.45 - 17.00 "Dynamics and evolution of the inner core" by Marine Lasbleis

Farewell