



The Abdus Salam
International Centre for Theoretical Physics



From Core to Crust: Towards an Integrated Vision of Earth's Interior

Local Organizer(s): A. Aoudia, S. Scandolo, J. Niemela
Trieste - Italy, 20 - 24 July 2009

Venue: Adriatico Guest House Kastler Lecture Hall

Final programme

Monday, 20 July (Room:Adriatico Guest House Kastler Lecture Hall)

20 July 2009

- 08:30 - 10:00** (Room: Adriatico Guest House - Kastler Lecture Hall Area (Lower Level 1))
Registration and Administrative Formalities
- 10:00 - 10:30** **Prof. K. R. Sreenivasan, Director, Local Organizers / ICTP, Trieste, Italy**
Opening Ceremony
- 10:30 - 11:00** (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---
- 11:00 - 12:00** **G. Nolet / University of Nice, Sophia Antipolis, France**
Seismic tomography and the dilemma of the Earth's heat budget
- 12:00 - 14:00** (Room: Adriatico Guest House Cafeteria)
--- Lunch Break ---
- 14:00 - 15:00** **P. Tackley / Inst. of Geophysics, ETH Honggerberg, Switzerland**
Simulating the thermal and chemical evolution and structure of Earth's mantle and core
- 15:00 - 16:00** **G. Steinle-Neumann / Universitat Bayreuth, Germany**
Computing deep Earth structure
- 16:00 - 16:30** (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---

16:30 - 17:30 **P. Roberts** / *University of California, Los Angeles, USA*
Some recent advances in dynamo and geodynamo theory

17:30 - 19:00 (Room: Adriatico Guest House - Kastler Lecture Hall Area (Lower Level 1))
POSTER SESSION

Tuesday, 21 July (Room:Adriatico Guest House Kastler Lecture Hall)

21 July 2009

09:00 - 10:00 **G. Panza** / *Universita di Trieste, Italy*
Structure and Non-Linear Dynamics of the Earth

10:00 - 10:30 (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---

10:30 - 11:30 **L. Boschi** / *Institute of Geophysics, ETH Honggerberg, Zurich, Switzerland*
Seismic tomographic mapping of the Earth's mantle at the global and regional scales

11:30 - 12:30 **L. Stixrude** / *University College London, UK*
Molten Earth: Magma in the Deep Mantle

12:30 - 14:00 (Room: Adriatico Guest House Cafeteria)
--- Lunch Break ---

14:00 - 14:30 **I. B. Bjarnason** / *University of Iceland, Reykjavik, Iceland*
Seismic structure of the Iceland hotspot: Main features and mysteries

14:30 - 15:00 **M. Coltorti** / *University of Ferrara, Italy*
Constraints on mantle flow in subduction systems as inferred from petrological features of magmas and mantle xenoliths

15:00 - 15:30 **B. Mitchell** / *Saint Louis University, USA*
Regional Variations of 1-Hz Lg Coda Q and Intermediate-period Rayleigh-wave Attenuation across Continents

15:30 - 16:00 **A. Khan** / *University of Copenhagen, Denmark*
On Mantle Chemical and thermal heterogeneities as mapped by inversion of global surface wave data

16:00 - 16:30 (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---

16:30 - 17:00 **G. Steinle-Neumann** / *University of Bayreuth, Germany*
Structure and elasticity of hydrous phase: lawsonite

17:00 - 17:30 **G. Capitani** / *Universita degli Studi di Milano Bicocca, Italy*
DFT study of antigorite up to 30 GPa: implications for water transport in subduction zones

17:30 - 18:00 **N. de Koker** / *University of Bayreuth, Germany*
Thermal Conductivity of MgO Periclase from Equilibrium First Principles Molecular Dynamics

18:00 - 19:00 (Room: Adriatico Guest House - Kastler Lecture Hall Area (Lower Level 1))
POSTER SESSION

19:00 - 21:00 (Room: Adriatico Guest House (Terrace))
--- RECEPTION ---

Wednesday, 22 July (Room:Adriatico Guest House Kastler Lecture Hall)

22 July 2009

09:00 - 10:00 **H. Tkalcić** / *The Australian National University, Canberra, Australia*
Earth's Core: Seismological Perspective

10:00 - 10:30 (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---

10:30 - 11:30 **L. Dubrovinsky** / *Universitat Bayreuth, Germany*
Iron Alloys at Extreme Conditions

11:30 - 12:30 **G. Sarson** / *University of Newcastle, UK*
Geomagnetic reversals: implications for the core and beyond

12:30 - 14:00 (Room: Adriatico Guest House Cafeteria)
--- Lunch Break ---

14:00 - 17:00 **Afternoon Trip to Grotta Gigante**

Thursday, 23 July (Room:Adriatico Guest House Kastler Lecture Hall)

23 July 2009

09:00 - 10:00 **R. Sabadini** / *Universita degli studi di Milano, Italy*
New appraisals on the Earth's interior from relaxation normal modes and long-term rotation

10:00 - 10:30 (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---

10:30 - 11:30 **C. Lithgow-Bertelloni** / *University College London, UK*
Coupling between Earth's interior structure, mantle dynamics and surface deformation

11:30 - 12:30 **S. Sobolev** / *Geoforschungszentrum Potsdam, Germany*
Towards self consistent models of plate tectonics

12:30 - 14:00 (Room: Adriatico Guest House (Terrace))
--- Lunch Break ---

14:00 - 15:00 **A. Tommasi** / *Universite Montpellier 2, France*
Deformation and anisotropy in the mantle

15:00 - 16:00 **S. Speziale** / *Helmholtz Centre Potsdam, Germany*
Elastic properties of Earth materials

16:00 - 16:30 (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---

16:30 - 17:30 **D. Dobson** / *University College London, UK*
Relative strength of perovskite and post perovskite from experiment and theory

17:30 - 17:30 **Evening Discussion Session**

Friday, 24 July (Room:Adriatico Guest House Kastler Lecture Hall)

24 July 2009

- 09:00 - 09:30** **C. Braitenberg** / *Universite de Trieste, Italy*
Investigating the driving mechanism of cratonic basins across the globe
- 09:30 - 10:00** **G. Iaffaldano** / *Harvard University, Cambridge, USA*
Testing geophysical hypotheses with global models of the coupled mantle-lithosphere system
- 10:00 - 10:30** (Room: Adriatico Guest House (Terrace))
--- Coffee Break ---
- 10:30 - 11:30** **J-F. Pinton** / *Ecole Normale Superieure de Lyon, France*
Von-Karman experimental dynamos
- 11:30 - 12:30** **I. El Tayeb** / *Sultan Qaboos University, Muscat, Oman*
The dynamics of compositional plumes
- 12:30 - 13:00** **Discussion and concluding Remarks**
- 13:00 - 14:30** (Room: Adriatico Guest House (Terrace))
FAREWELL RECEPTION