



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

20 to 24 July 2009  
Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics is organizing a **Conference on From Core to Crust: Towards an Integrated Vision of Earth's Interior** from 20 to 24 July 2009. It will be directed by **A. Aoudia** (Earth System Physics Section, ICTP), **J. Niemela** (Applied Physics Section, ICTP), and **S. Scandolo** (Condensed Matter Section, ICTP).

The chemical, thermal, and structural evolutions of the interior of our planet are processes that are coupled to one another as a result of complex interactions between the core, mantle and crust. It is clear that the Earth heterogeneity at many scales, from 1000's of km down to that of crystal structures very likely plays a crucial role in the evolution and dynamics of the whole planet. While experimental and theoretical studies have made specific findings within each of the three main Earth interior layers, predicting geodynamic relationships that link shallow and deep Earth processes requires input from numerous disciplines. Bringing together researchers across disciplines, such as geodynamics, geochemistry, petrology, mineral physics, fluid dynamics, tectonics, and seismology, is not only exciting, it is a necessary step in elucidating the origin, evolution, and present state of the interior of our planet at all scale lengths. While some of these disciplines are equipped to reveal the timing, evolutionary and compositional aspects the others contribute understanding of the present state of the planet and its internal dynamics. Progress has come and will come from the interfacing of these disciplines. This Conference will help elucidate the dynamics of the core, mantle, and crust, as well as their interactions with one another.

### TOPICS:

- Observational studies on elastic and rheological properties of the Earth interior
- Experimental and theoretical studies on material properties at high pressure
- Specific studies on the mechanical, chemical and thermal interactions between the Earth layers
- Laboratory and numerical models on viscous flow in the Earth
- Shallow and deep processes in the Earth and global geodynamic models
- Experimental, numerical and theoretical works on turbulent dynamo models

### CALL FOR PAPERS

For those interested in presenting a contribution in oral or poster form during the Conference, kindly submit a one-page abstract (size A4) with the online application form, not later than 20 April 2009. File attachments should be in PDF format. Board size: mts 1,20 (width) x 1,90 (height).

### PARTICIPATION:

Scientists and post-graduate fellows from all countries that are members of the United Nations, UNESCO or IAEA may attend the activity. The activity will be conducted in English.

Limited funds are available for some participants, who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those who attend the entire activity. **There is no registration fee.**

### HOW TO APPLY FOR PARTICIPATION

The application form can be accessed at the activity website

<http://agenda.ictp.it/smr.php?2048>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

Deadline for requesting participation: **20 April 2009 (requesting support)**  
**31 May 2009 (not requesting support)**

### ACTIVITY SECRETARIAT:

Telephone: +39-040-2240576  
E-mail: [smr2048@ictp.it](mailto:smr2048@ictp.it)

Telefax: +39-040-2240585  
ICTP Home Page: <http://www.ictp.it/>

### Co-Sponsor

*International Association of  
Seismology and Physics of  
the Earth's Interior*

### Organisers

**A. Aoudia**  
Earth System Physics, ICTP  
**J. Niemela**  
Fluid Dynamics, ICTP  
**S. Scandolo**  
Condensed Matter Physics, ICTP

### Invited Speakers

<b>D. Anderson</b>	Caltech, USA
<b>J. Badro</b>	IPGP, France
<b>L. Boschi</b>	ETH, Switzerland
<b>D. Dobson</b>	UCL, UK
<b>L. Dubrovinsky</b>	Bayreuth U., Germany
<b>G. Foulger</b>	Durham U., UK
<b>E. Garnero</b>	ASU, USA
<b>C. Lithgow-Bertelloni</b>	UCL, UK
<b>D. Mainprice</b>	CNRS, France
<b>J. Mitrovica</b>	Toronto U., Canada
<b>J.P. Montagner</b>	IPGP, France
<b>G. Nolet</b>	Nice U., France
<b>G. Panza</b>	Trieste U., Italy
<b>J.F. Pinton</b>	ENS, France
<b>P. Roberts</b>	UCLA, USA
<b>R. Sabadini</b>	Milan U., Italy
<b>S. Speziale</b>	GFZ, Germany
<b>G. Steinle-Neumann</b>	Bayreuth U., Germany
<b>L. Stixrude</b>	UCL, UK
<b>P.J. Tackley</b>	ETH, Switzerland

### DEADLINE for requesting participation

**20 April 2009**

(if financial support and/or visa are needed)

**31 May 2009**

(if neither financial support nor visa are needed)