The Abdus Salam International Centre for Theoretical Physics

9th Workshop on Three-Dimensional Modelling of Seismic Waves Generation, Propagation and their Inversion

Organizer(s): Directors: B. Bukchin, G. F. Panza
Trieste - Italy, 22 September 2008 - 4 October 2008

Final programme

Monday, 22 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

22 September 2008

09:00 - 09:30	**OPENING (Prof. B. Bukchin - IIEP, Moscow / Prof. G.F. Panza - University of Trieste/ICTP)**
09:30 - 10:30	(Room: Adriatico Guest House (Lower Level 1)) --- REGISTRATION ---
10:30 - 12:00	--- Registration Formalities (Fermi Building) ---
12:00 - 13:30	--- Lunch ---
13:30 - 14:15	**T. Yanovskaya** / *(St. Petersburg State University, Russia)* **Introduction to the theory of seismic wave propagation**
14:15 - 14:30	--- Coffee Break ---
14:30 - 15:15	**T. Yanovskaya** / *(St. Petersburg State University, Russia)* **Introduction to the theory of seismic wave propagation**
15:15 - 15:30	--- Break ---
15:30 - 16:15	**T. Yanovskaya** / *(St. Petersburg State University, Russia)* **Introduction to the theory of seismic wave propagation**
16:15 - 16:30	--- Break ---

16:30 - 19:00 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:00 - 20:30 **Small Reception**

Tuesday, 23 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

23 September 2008

09:00 - 09:45 **A. Levshin** / *(University of Colorado, USA)*
Surface waves in laterally inhomogeneous media

09:45 - 10:00 --- Break ---

10:00 - 10:45 **A. Levshin** / *(University of Colorado, USA)*
Surface waves in laterally inhomogeneous media

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **A. Levshin** / *(University of Colorado, USA)*
Surface wave tomography

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **F. Romanelli** / *(Dept. of Earth Sciences/ICTP)*
Seismic waves physics: a (partially) guided tour

14:15 - 14:30 **Coffee Break**

14:30 - 15:15 **F. Romanelli** / *(Dept. of Earth Sciences/ICTP)*
Seismic waves physics: a (partially) guided tour

15:15 - 15:30 --- Break ---

15:30 - 16:15 **F. Romanelli** / *(Dept. of Earth Sciences/ICTP)*
Seismic waves physics: a (partially) guided tour

16:15 - 16:45 --- Break ---

16:45 - 19:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:30 - 20:30 --- Dinner ---

20:30 - 21:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Wednesday, 24 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

24 September 2008

09:00 - 09:45 **C. Doglioni** / *(Universita' degli Studi di Roma, Italy)*
Geodynamics of Mediterranean

09:45 - 10:00 --- Break ---

10:00 - 10:45 **C. Doglioni** / *(Universita' degli Studi di Roma, Italy)*
Geodynamics of Mediterranean

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **S. Ward** / *(University of California, USA)*
Physics of tsunamis 1

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **S. Ward** / *(University of California, USA)*
Physics of tsunamis 2

14:15 - 14:30 --- Coffee Break ---

14:30 - 15:15 **F. Cornet** / *(Institute du Physique du Globe, Paris)*
Regional stress field Determination

15:15 - 15:30 --- Break ---

15:30 - 16:15 **F. Cornet** / *(Institute du Physique du Globe, Paris)*
Regional stress field Determination

16:15 - 16:45 --- Break ---

16:45 - 19:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:30 - 20:30 --- Dinner ---

20:30 - 21:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Thursday, 25 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

25 September 2008

09:00 - 09:45 **J.P. Montagner** / *(Institut du Physique du Globe, Paris)*
Upper mantle anisotropy from surface wave studies

09:45 - 10:00 --- Break ---

10:00 - 10:45 **J.P. Montagner** / *(Institut du Physique du Globe, Paris)*
Upper mantle anisotropy from surface wave studies

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **J.P. Montagner** / *(Institut du Physique du Globe, Paris)*
Upper mantle anisotropy from surface wave studies

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **G. Nolet** / *(Universite de Nice, France)*
Fundamentals of tomographic inversion

14:15 - 14:30 --- Coffee Break ---

14:30 - 15:15 **G. Nolet** / *(Universite de Nice, France)*
Fundamentals of tomographic inversion

15:15 - 15:30 --- Break ---

15:30 - 16:15 **G. Nolet** / *(Universite de Nice, France)*
Fundamentals of tomographic inversion

16:15 - 16:45 --- Break ---

16:45 - 19:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:30 - 20:30 --- Dinner ---

20:30 - 21:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Friday, 26 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

26 September 2008

09:00 - 09:45 **D. Komatitsch** / *(Universite de Pau et des Pays de 'Adour, France)*
Spectral-element method & three-dimensional seismology

09:45 - 10:00 --- Break ---

10:00 - 10:45 **D. Komatitsch** / *(Universite de Pau et des Pays de 'Adour, France)*
Spectral-element method & three-dimensional seismology

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **D. Komatitsch** / *(Universite de Pau et des Pays de 'Adour, France)*
Spectral-element method & three-dimensional seismology

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **N. Shapiro** / *(Institut du Physique du Globe, Paris)*
Seismic imaging from ambient seismic noise

14:15 - 14:30 --- Coffee Break ---

14:30 - 15:15 **N. Shapiro** / *(Institut du Physique du Globe, Paris)*
Seismic imaging from ambient seismic noise

15:15 - 15:30 --- Break ---

15:30 - 16:15 **N. Shapiro** / *(Institute du Physique du Globe, Paris)*
Seismic imaging from ambient seismic noise

16:15 - 16:45 --- Break ---

16:45 - 19:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:30 - 20:30 **Dinner**

20:30 - 21:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Saturday, 27 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall) (**Saturday**)

27 September 2008

09:00 - 09:45 **B. Bukchin** / *(IIEP, Moscow)*
Surface wave inversion for earthquake source study

09:45 - 10:00 --- Break ---

10:00 - 10:45 **B. Bukchin** / *(IIEP, Moscow)*
Surface wave inversion for earthquake source study

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **B. Bukchin** / *(IIEP, Moscow)*
Surface wave inversion for earthquake source study

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **R. Sabadini** / *(University of Milano, Italy)*
Plate deformation in Europe & Mediterranean regions, from modelling & GPS analyses

14:15 - 14:30 --- Coffee Break ---

14:30 - 15:15 **R. Sabadini** / *(University of Milano, Italy)*
Plate deformation in Europe & Mediterranean regions, from modelling & GPS analyses

15:15 - 15:30 --- Break ---

15:30 - 16:15 **R. Sabadini** / *(University of Milano, Italy)*
Plate deformation in Europe & Mediterranean regions, from modelling & GPS analyses

16:15 - 16:45 --- Break ---

16:45 - 19:30 **Student Presentations**

19:30 - 20:30 --- Dinner ---

Monday, 29 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

29 September 2008

09:00 - 09:45 **K. Irikura** / *(Kyoto University, Japan)*
Achievements of strong motion seismology and its future directions

09:45 - 10:00 --- Break ---

10:00 - 10:45 **K. Irikura** / *(Kyoto University, Japan)*
Achievements of strong motion seismology and its future directions

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **K. Irikura** / *(Kyoto University, Japan)*
Achievements of strong motion seismology and its future directions

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **T. Dahm** / *(Universitat Hamburg, Germany)*
Studies of seismic swarms associated with fluid instrusions

14:15 - 14:30 --- Coffee Break ---

14:30 - 15:15 **T. Dahm** / *(Universitat Hamburg, Germany)*
Studies of seismic swarms associated with fluid instrusions

15:15 - 15:30 --- Break ---

15:30 - 16:15 **T. Dahm** / *(Universitat Hamburg, Germany)*
Studies of seismic swarms associated with fluid intrusions

16:15 - 16:45 --- Break ---

16:45 - 19:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:30 - 20:30 --- Dinner ---

20:30 - 21:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Tuesday, 30 September 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

30 September 2008

09:00 - 09:45 **L. Vinnik** / *(Institute of Physics of the Earth, Moscow)*
Receiver function analysis and SV/SH splitting

09:45 - 10:00 --- Break ---

10:00 - 10:45 **L. Vinnik** / *(Institute of Physics of the Earth, Moscow)*
Receiver function analysis and SV/SH splitting

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **L. Vinnik** / *(Insitute of Physics of the Earth, Moscow)*
Receiver function analysis and SV/SH splitting

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **A. Gusev** / *(Institute of Vulcanology & Seismology, Russia)*
Theoretical and observed envelopes of scattered high-frequency seismic waves at local to regional distances

14:15 - 14:30 --- Coffee Break ---

14:30 - 15:15	**A. Gusev** / *(Institute of Vulcanology & Seismology, Russia)* **Theoretical and observed envelopes of scattered high-frequency seismic waves at local to regional distances**
15:15 - 15:30	--- Break ---
15:30 - 16:15	**A. Gusev** / *(Institute of Vulcanology & Seismology, Russia)* **Theoretical and observed envelopes of scattered high-frequency seismic waves at local to regional distances**
16:15 - 16:45	**Break**
16:45 - 19:30	**B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**
19:30 - 20:30	--- Dinner ---
20:30 - 21:30	**B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Wednesday, 1 October 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

1 October 2008

09:00 - 09:45	**B. Mitchell** / *(Saint Louis Univesity, USA)* **Regional Studies of Seismic anelasticity using body & surface waves**
09:45 - 10:00	**Break**
10:00 - 10:45	**B. Mitchell** / *(Saint Louis University, USA)* **Regional Studies of Seismic anelasticity using body & surface waves**
10:45 - 11:15	--- Coffee Break ---
11:15 - 12:00	**B. Mitchell** / *(Saint Louis University, USA)* **Regional Studies of Seismic anelasticity using body & surface waves**
12:00 - 13:30	--- Lunch ---
13:30 - 14:15	**F. Wu** / *(State University of New York, USA)* **Study of active tectonic regions**
14:15 - 14:30	--- Coffee Break ---
14:30 - 15:15	**F. Wu** / *(State University of New York, USA)* **Study of active tectonic regions**
15:15 - 15:45	--- Break ---
15:45 - 17:45	**B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**
17:45 - 18:00	--- Break ---
18:00 - 19:30	**B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:30 - 20:30 --- Dinner ---

20:30 - 21:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Thursday, 2 October 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

2 October 2008

09:00 - 09:45 **G. F. Panza** / *(Dept of Earth Sciences/ICTP)*
Structural models of the lithosphere-asthenosphere system in the Mediterranean and volcanic activity

09:45 - 10:00 --- Break ---

10:00 - 10:45 **G.F. Panza** / *(Dept. of Earth Sciences/ICTP)*
Structural models of the lithosphere-asthenosphere system in the Mediterranean and volcanic activity

10:45 - 11:15 --- Coffee Break ---

11:15 - 12:00 **G.F. Panza** / *(Dept. of Earth Sciences/ICTP)*
Structural models of the lithosphere-asthenosphere system in the Mediterranean and volcanic activity

12:00 - 13:30 --- Lunch ---

13:30 - 14:15 **S. Das** / *(University of Oxford, UK)*
Inverse problem of earthquake source mechanics

14:15 - 14:30 --- Coffee Break ---

14:30 - 15:15 **S. Das** / *(University of Oxford, UK)*
Inverse problem of earthquake source mechanics

15:15 - 15:30 --- Break ---

15:30 - 16:15 **H. Bungum** / *(NORSAR, Norway)*
An unstable stable continental region: Fennoscandian seismotectonics

16:15 - 16:30 --- Break ---

16:30 - 17:15 **H. Bungum** / *(NORSAR, Norway)*
3D modelling of the crust and upper mantle in the epicontinental Barents Sea region

17:15 - 17:45 --- Break ---

17:45 - 19:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**

19:30 - 20:30 --- Dinner ---

20:30 - 21:30 **B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, F. Vaccari, E. Zuccolo - Laboratory Exercises**

Friday, 3 October 2008 (Room:Adriatico Guest House Kastler Lecture Hall)

3 October 2008

09:00 - 09:45	**J. Woodhouse** / *(University of Oxford, UK)* **"Beno Gutenberg Lecture" Global Earth Structure from Seismic Imaging**
09:45 - 10:00	--- Break ---
10:00 - 10:45	**J. Woodhouse** / *(University of Oxford, UK)* **Normal modes and ray methods**
10:45 - 11:15	--- Coffee Break ---
11:15 - 12:00	**J. Woodhouse** / *(University of Oxford, UK)* **Normal modes and ray methods**
12:00 - 13:30	--- Lunch ---
13:30 - 14:15	**B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**
14:15 - 14:30	--- Coffee Break ---
14:30 - 17:30	**B. Bukchin, A. Mostinskiy, O. Novikova, T. Yanovskaya, A. Peresan, F. Vaccari, E. Zuccolo - Laboratory Exercises**
17:30 - 18:15	**A. Aoudia** / *ICTP, Trieste* **Continental Deformation & Earthquakes**