The Abdus Salam International Centre for Theoretical Physics

School on Astrophysical Turbulence and Dynamos

Organizer(s): Directors: A. Shukurov, S. Sridhar, K. Subramanian; Local Organizer: K.R. Sreenivasan
Trieste - Italy, 20 - 30 April 2009

Venue: Adriatico Guest House Kastler Lecture Hall

Final programme

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

20 April 2009

09:00 - 10:30	--- Registration, outside Kastler Lecture Hall ---
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**S. Sridhar** / *Raman Research Institute, Bangalore, India* **Basic Fluid Dynamics**
12:30 - 14:00	--- Lunch Break ---
14:00 - 15:30	**A. Shukurov** / *University of Newcastle, U.K.* **Galaxies and the Universe**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**T.D. Saini** / *Indian Institute of Science, Karnataka, India* **Tutorial 1: Basic Fluid Dynamics**

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

21 April 2009

09:00 - 10:30	**K. Subramanian** / *Inter-University Center for Astronomy and Astrophysics, Pune, India* **MHD**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**S. Sridhar** **Basic Fluid Dynamics**
12:30 - 14:00	--- Lunch Break ---
14:00 - 15:30	**A. Brandenburg** / *NORDITA, Stockholm, Sweden* **Numerical Experiments (Tutor: B. Dintrans / Obs-Mip, Toulouse, France)**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**T.D. Saini** **Tutorial 2: Basic Fluid Dynamics**

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

22 April 2009

09:00 - 10:30	**K. Subramanian** **MHD**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**S. Sridhar** **Fluid Turbulence**
12:30 - 14:00	--- Lunch Break ---
14:00 - 15:30	**A. Brandenburg** **Numerical Experiments (Tutor: B. Dintrans)**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**S. Sur** / *Inter-University Center for Astronomy and Astrophysics, Pune, India* **Tutorial 3: MHD**

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

23 April 2009

09:00 - 10:30	**S. Sridhar** **Fluid Turbulence**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**K. Subramanian** **Dynamo Theory**
12:30 - 14:00	--- Lunch Break ---

14:00 - 15:30	**A. Shukurov** **Galaxies and the Universe**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**T.D. Saini** **Tutorial 4: Fluid Turbulence**

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

24 April 2009

09:00 - 10:30	**K. Subramanian** **Dynamo Theory**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**A. Fletcher** / *University of Newcastle, U.K.* **Tutorial 5: Galaxies and the Universe**
12:30 - 14:00	--- Lunch Break ---
14:00 - 14:45	**D. Gomez** / *IAFE, Conicet, Buenos Aires, Argentina* **Hall MHD**
14:45 - 15:30	**A. Shukurov** **Galaxies and the Universe**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**Presentations by Participants**

Saturday, 25 April (Room:Adriatico Guest House Kastler Lecture Hall) (**Saturday**)

25 April 2009

09:00 - 10:30	**Presentations by Participants**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**Presentations by Participants**

Monday, 27 April (Room:Adriatico Guest House Kastler Lecture Hall)

27 April 2009

09:00 - 10:30	**K. Subramanian** **Dynamo Theory**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**S. Sridhar** **MHD Turbulence**

12:30 - 14:00	--- Lunch Break ---
14:00 - 15:30	**A. Brandenburg** **Numerical Experiments (Tutor: B. Dintrans)**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**S. Sur and A. Fletcher** **Tutorial 6: MHD and Dynamo Theory**

Tuesday, 28 April (Room:Adriatico Guest House Kastler Lecture Hall)

28 April 2009

09:00 - 10:30	**A. Shukurov** **Galactic Dynamos**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**A. Brandenburg** **Solar Dynamo**
12:30 - 14:00	--- Lunch Break ---
14:00 - 15:30	**A. Brandenburg** **Numerical Experiments (Tutor: B. Dintrans)**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**Tutorial 7: Dynamo Theory(A. Fletcher and S. Sur); Solar Dynamo (B. Dintrans)**

Wednesday, 29 April (Room:Adriatico Guest House Kastler Lecture Hall)

29 April 2009

09:00 - 10:30	**L. Kitchatinov** / *Institute of Solar Terrestrial Physics, Irkutsk, Russian Federation* **MRI Turbulence**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:30	**A. Shukurov** **Cluster Dynamos**
12:30 - 14:00	--- Lunch Break ---
14:00 - 15:30	**A. Brandenburg** **Numerical Experiments (Tutor: B. Dintrans)**
15:30 - 16:00	--- Coffee Break ---
16:00 - 17:30	**A. Fletcher** **Tutorial 8: Galactic and Cluster Dynamos**

Thursday, 30 April: Symposium on Astrophysical Turbulence and Dynamos (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: S. Sridhar

30 April 2009

09:00 - 09:35 **Andrew Fletcher** / *University of Newcastle, U.K.*
Random fluctuations in the diffuse interstellar medium

09:35 - 10:10 **Axel Brandenburg** / *Nordita, Stockholm, Sweden*
Large-scale dynamos in convection with and without shear

10:10 - 10:45 **Alex Schekochihin** / *University of Oxford, U.K.*
Magnetised plasma turbulence: from MHD to kinetic

10:45 - 11:00 --- Coffee Break ---

Thursday, 30 April 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: T.D. Saini

11:00 - 11:35 **Sharanya Sur** / *IUCAA, Pune, India*
Galactic dynamo action in presence of stochastic alpha and shear

11:35 - 12:10 **S. Sridhar** / *RRI, Bangalore, India*
The shear dynamo problem

12:10 - 12:45 **Boris Dintrans** / *Obs-Mip, Toulouse, France*
Star-in-a-box simulations of stellar dynamos

12:45 - 14:00 --- Lunch Break ---

Thursday, 30 April 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: K. Subramanian

14:00 - 14:35 **Alex Schekochihin**
Towards understanding shear dynamo: magnetic field generation by shearing waves

14:35 - 15:10 **Leonid Kitchatinov** / *ISTP, Irkutsk, Russian Federation*
Stellar differential rotation: origin and models

15:10 - 15:45 **Anvar Shukurov** / *Univiversity of Newcastle, U.K.*
Flux rope dynamos

15:45 - 16:00 --- Coffee Break ---

16:00 - 17:30 **CHANDRA: The Journey of a Star (Special Program, see poster), followed by a small reception**

Thursday, 30 April 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Anvar Shukurov

18:00 - 19:00 **K.R. Sreenivasan** / *Director, ICTP*
Cryogenic turbulence