The Abdus Salam International Centre for Theoretical Physics

Summer College on Plasma Physics

Organizer(s): Directors: R. Bingham, S.M. Mahajan, P.K. Shukla, L. Stenflo, Z. Yoshida. Local Organizer: J. Niemela
Trieste - Italy, 10 - 28 August 2009

Venue: Leonardo da Vinci Building Main Lecture Hall

Final programme

10 - 14 August 2009, Magnetic Fusion Plasmas (Room:Leonardo da Vinci Building Main Lecture Hall)

10 August 2009

08:30 - 09:15 (Room: Leonardo da Vinci Building, Lobby)
--- REGISTRATION ---

09:15 - 09:30 **Welcome by ICTP and Plasma College Directors**

Monday, 10 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Swadesh M. Mahajan

10 August 2009

09:30 - 10:30 **Friedrich Wagner** / *Max-Planck-Institut für Plasmaphysik (Germany)*
The Power of Plasmas

10:30 - 11:30 **Swadesh M. Mahajan** / *The University of Texas at Austin (USA)*
Relativistically Induced Self-Transparency - A Covariant formalism

11:30 - 12:30 **A. Thyagaraja** / *UKAEA (UK)*
Plasma physics in noninertial frames - Part I

12:30 - 14:00 --- Lunch Break ---

Monday, 10 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: George Tynan

10 August 2009

14:00 - 15:00 **Ian Hutchinson** / *NSE, MIT (USA)*
Electric Probes in Magnetized and Flowing Plasmas

15:00 - 17:00 (Room: Computer Lab. (LB))
Bengt Eliasson / *Ruhr-Universität Bochum (Germany)*
Computer course
Introduction to Matlab 55'
Simulation of ordinary differential equations 55'

18:30 - 20:30 (Room: Adriatico Guest House Cafeteria)
--- RECEPTION ---

Tuesday, 11 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Ian Hutchinson

11 August 2009

09:00 - 10:00 **Frank Jenko** / *Max-Planck-Institut für Plasmaphysik (Germany)*
A primer on gyrokinetic theory and simulation

10:00 - 11:00 **Reinhard Schlickeiser** / *Ruhr Universität Bochum (Germany)*
Plasma physics of cosmic collisionless explosions: The role of the relativistic filamentation and Weibel instabilities

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Amanda Hubbard** / *Plasma Science and Fusion Center, MIT (USA)*
Physics of edge transport barriers and importance for fusion experiments

12:30 - 14:00 --- Lunch Break ---

Tuesday, 11 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: T.S. Hahm

11 August 2009

14:00 - 15:00 **Ian Hutchinson** / *NSE, MIT (USA)*
Spectroscopic Plasma Diagnostics

15:00 - 16:00 **George R. Tynan** / *University of California San Diego (USA)*
Turbulence in magnetically confined plasmas (Part I)

16:00 - 16:30 --- Break ---

16:30 - 18:00 (Room: Computer Lab. (LB))
Bengt Eliasson / *Ruhr-Universität Bochum (Germany)*
Computer course
Simulation of partial differential equations 55'

Wednesday, 12 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Jan Weiland

12 August 2009

09:00 - 10:00 **A. Thyagaraja** / *UKAEA (UK)*
Plasma physics in noninertial frames - Part II

10:00 - 11:00 **Thomas Klinger** / *Max-Planck-Institut für Plasmaphysik (Germany)*
Introduction to drift waves

11:00 - 11:30 --- Break ---

11:30 - 12:30 **T.S. Hahm** / *Princeton University (USA)*
Nonlinear Gyrokinetic Theory and Applications

12:30 - 14:00 --- Lunch Break ---

Wednesday, 12 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Swadesh M. Mahajan & George Tynan

12 August 2009

14:00 - 18:00 **Working Group on Magnetic Fusion**

Thursday, 13 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Thomas Klinger

13 August 2009

09:00 - 10:00 **Frank Jenko** / *Max-Planck-Institut für Plasmaphysik (Germany)*
Gyrokinetic simulations of laboratory and astrophysical plasmas

10:00 - 11:00 **George R. Tynan** / *University of California San Diego (USA)*
Turbulence in magnetically confined plasmas (Part II)

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Abhijit Sen** / *Institute for Plasma Research, Gujarat (India)*
Physics of NTMs and their importance for tokamak confinement

12:30 - 14:00 --- Lunch Break ---

Thursday, 13 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Abhijit Sen

13 August 2009

14:00 - 15:00 **Jan Weiland** / *Chalmers University of Technology (Sweden)*
Turbulent transport in fusion plasmas, effects of toroidicity and fluid closure

15:00 - 16:00 **Thomas Klinger** / *Max-Planck-Institut für Plasmaphysik (Germany)*
Experiments on drift waves

16:00 - 17:00 **Swadesh M. Mahajan** / *The University of Texas at Austin (USA)*
Fusion-Fission Hybrids - Maturing of an Old Idea

14 - 15 August 2009, Minisymposium on Advanced Mathematical Methods in Nonlinear Plasma Theory (Room:Leonardo da Vinci Building Main Lecture Hall)

Friday, 14 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Hamid Saleem

14 August 2009

09:00 - 10:00 **Zensho Yoshida** / *University of Tokyo (Japan)*
Introduction to Advanced Mathematical Methods in Nonlinear Plasma Theory

10:00 - 11:00 **Philip Morrison** / *The University of Texas at Austin (USA)*
Hamiltonian and action principles for plasma dynamics (Part I)

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Koji Ohkitani** / *The University of Sheffield (UK)*
Euler equations as an infinite dimensional Hamiltonian system: Numerical approaches (Part I)

12:30 - 14:00 --- Lunch Break ---

Friday, 14 August 2009 - Workshop on Modern Mathematical Physics (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Swadesh M. Mahajan

14 August 2009

14:00 - 15:00 **Makoto Hirota** / *JAEA (Japan)*
A spectral method for action-angle representation of linear waves in plasmas

15:00 - 16:00 **Tatiana Gateva-Ivanova** / *Bulgarian Academy of Science & AUBG (Bulgaria)*
Yang Baxter Equation and Related Algebraic Structures (Part I)

16:00 - 16:30 --- Break ---

16:30 - 17:30 **Fernando R. Dobarro** / *Università degli Studi di Trieste (Italy)*
About nonlinear elliptic problems in plasma physics

Friday, 14 August 2009 - Workshop on Modern Mathematical Physics (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Hamid Saleem

14 August 2009

17:30 - 18:00 **Discussions**

Saturday, 15 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall) (**Saturday**)
Chairperson: Zensho Yoshida

15 August 2009

09:00 - 10:00 **Philip Morrison** / *The University of Texas at Austin (USA)*
Hamiltonian and action principles for plasma dynamics (Part II)

10:00 - 11:00 **Tatiana Gateva-Ivanova** / *Bulgarian Academy of Science & AUBG (Bulgaria)*
Yang Baxter Equation and Related Algebraic Structures (Part II)

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Koji Ohkitani** / *The University of Sheffield (UK)*
Euler equations as an infinite dimensional Hamiltonian system: Numerical approaches (Part II)

12:30 - 12:45 **Zensho Yoshida** / *University of Tokyo (Japan)*
Closing of the Minisymposium on Mathematical Methods in Nonlinear Plasma Theory

17 - 21 August 2009 - ICF, Plasma Accelerators & Beam Physics (Room:Leonardo da Vinci Building Main Lecture Hall)

Monday, 17 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)

17 August 2009

08:30 - 08:50 --- REGISTRATION ---
c/o College Secretariat

08:50 - 09:00 **Welcome by the Plasma College Directors**

Monday, 17 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Padma K. Shukla

17 August 2009

09:00 - 10:00 **Toshiki Tajima** / *Ludwig Maximilian University (Germany)*
Laser Wakefield Accelerator: the Concept, Scope, and Future

10:00 - 11:00 **Francesco Pegoraro** / *Università di Pisa (Italy)*
Electromagnetic energy density manipulation and enhancement in a relativistic plasma: the role of relativistic nonlinearities (Part I)

11:00 - 11:30 --- Break ---

Monday, 17 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Bengt Eliasson

17 August 2009

11:30 - 12:30 **Marco Borghesi** / *The Queen's University of Belfast (UK)*
Laser-driven ion acceleration and applications

12:30 - 14:00 --- Lunch Break ---

Monday, 17 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Robert Bingham

17 August 2009

14:00 - 15:00 **Milos Skoric** / *National Institute for Fusion Science (Japan)*
Relativistic Laser-Plasma Interactions (Part I)

15:00 - 16:00 **Mikhail S. Ruderman** / *The University of Sheffield (UK)*
Resonant MHD waves in one-dimensional equilibrium

16:00 - 16:30 --- Break ---

16:30 - 17:30 **Adrian Cross** / *SUPA, University of Strathclyde (UK)*
Collective interactions between non-neutral plasmas and electromagnetic waves

18:30 - 20:30 (Room: Leonardo da Vinci Building Terrace)
--- RECEPTION ---

Tuesday, 18 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Francesco Pegoraro

18 August 2009

09:00 - 10:00 **Peter H. Yoon** / *University of Maryland (USA)*
Tutorial on the theory of plasma turbulence (Part I)

10:00 - 11:00 **Igor D. Kaganovich** / *Princeton University (USA)*
Collective effects of intense ion and electron flows propagating through a background plasma

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Vladimir Tikhonchuk** / *CELIA, Université de Bordeaux 1 (France)*
The physics of laser-assisted ion acceleration and applications

12:30 - 14:00 --- Lunch Break ---

Tuesday, 18 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Vladimir Tikhonchuk

18 August 2009

14:00 - 15:00 **Francesco Pegoraro** / *Università di Pisa (Italy)*
Electromagnetic energy density manipulation and enhancement in a relativistic plasma: the role of relativistic nonlinearities (Part II)

15:00 - 15:30 **Hamid Saleem** / *Quaid-i-Azam University (Pakistan)*
Creation of Magnetic Fields by Electrostatic and Thermal Fluctuations

15:30 - 16:00 --- Break ---

16:00 - 16:30 **Robert Bingham** / *Rutherford Appleton Laboratory (UK)*
HiPER Laser Fusion (Fast Ignition)

16:30 - 18:00 **Presentations by Selected Participants**

Wednesday, 19 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Frank Verheest

19 August 2009

09:00 - 10:00 **Karen Z. Hatsagortsyan** / *Max-Planck-Institut für Kernphysik (Germany)*
Relativistic multiphoton dynamics in super-strong laser fields: from ionization and high-order harmonic generation to pair production and vacuum polarization effects

10:00 - 11:00 **Milos Skoric** / *National Institute for Fusion Science (Japan)*
Relativistic Laser-Plasma Interactions (Part II)

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Marco Borghesi** / *The Queen's University of Belfast (UK)*
Proton radiography: studies of relativistic interactions and nonlinear dynamics

12:30 - 14:00 --- Lunch Break ---

Wednesday, 19 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)

19 August 2009

14:00 - 15:30 **Presentations by Selected Participants**

15:30 - 18:00 (Room: Computer Lab. (LB))
Bengt Eliasson / *Ruhr-Universität Bochum (Germany)*
Computer course
Solution of nonlinear systems of equations 55'

Thursday, 20 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Mikhail S. Ruderman

20 August 2009

09:00 - 10:00 **Frank Verheest** / *Universiteit Gent (Belgium)*
Solitary electrostatic waves in space plasmas with dust size distributions

10:00 - 11:00 **Christopher Murphy** / *University of Oxford (UK)*
X-ray scattering to study planetary interiors and laboratory astrophysics

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Ioannis Kourakis** / *The Queen's University of Belfast (UK)*
Electrostatic solitary waves in superthermal plasmas

12:30 - 14:00 --- Lunch Break ---

Thursday, 20 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Peter H. Yoon & Padma K. Shukla

20 August 2009

14:00 - 17:00 **Working Group on Plasma Turbulence**

17:00 - 18:30 **Round Table Discussions**

Friday, 21 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Lennart Stenflo

21 August 2009

09:00 - 10:00 **Mikhail S. Ruderman** / *The University of Sheffield (UK)*
Transverse oscillations of coronal loops

10:00 - 11:00 **Peter H. Yoon** / *University of Maryland (USA)*
Tutorial on the theory of plasma turbulence (Part II)

11:00 - 11:30 --- Break ---

11:30 - 12:30 **Bengt Eliasson** / *Ruhr-Universität Bochum (Germany)*
Nonlinear vortical structures and light-plasmon turbulence in quantum plasmas

12:30 - 14:00 --- Lunch Break ---

Friday, 21 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)

21 August 2009

15:30 - 17:00 **ICTP Diploma Programme Ceremony**
For further details please contact diploma@ictp.it.

Sunday, 23 August 2009 - Minisymposium on New Aspects of Nonlinear Physics (Room:Adriatico Guest House Kastler Lecture Hall) (**Sunday**)

23 August 2009

09:00 - 09:10 **Mattias Marklund & Padma K. Shukla**
Welcome by the ICTP and Symposium Directors

Sunday, 23 August 2009 (Room:Adriatico Guest House Kastler Lecture Hall) (**Sunday**)
Chairperson: Padma K. Shukla

23 August 2009

09:10 - 09:50 **Robert Bingham** / *Rutherford Appleton Laboratory (UK)*
Nonlinear photon, electron and neutrino interactions in plasmas

09:50 - 10:30 **Mattias Marklund** / *Umea University (Sweden)*
High-intensity physics: current and future possibilities

10:30 - 11:00 **Oleg A. Pokhotelov** / *UIPE, RAS (Russia)*
Nonlinear dynamics of mirror instability: solitons and cnoidal waves

11:00 - 11:30 --- Break ---

Sunday, 23 August 2009 (Room:Adriatico Guest House Kastler Lecture Hall) (**Sunday**)
Chairperson: Mattias Marklund

23 August 2009

11:30 - 12:00 **Renato Fedele** / *University of Naples (Italy)*
Localized and periodic waves of the generalized nonlinear Schroedinger equation by means of the Madelung's fluid method

12:00 - 12:30 **Gert Brodin** / *Umea University (Sweden)*
Spin kinetics: Quantum plasma effects in new regimes

12:30 - 13:00 **Bengt Eliasson** / *Ruhr-Universität Bochum (Germany)*
Laser acceleration of monoenergetic protons by relativistic radiation pressure on an ultra-thin foil

13:00 - 13:30 **Fernando Haas** / *Universidade Do Vale Do Rio Dos Sinos (Brazil)*
Periodic nonlinear surface waves in plasmas

13:30 - 13:40 **Robert Bingham** / *Rutherford Appleton Laboratory (UK)*
Closing the Minisymposium

24 - 28 August 2009, International Symposium on Cutting Edge Plasma Physics (Room:Leonardo da Vinci Building Main Lecture Hall)

24 August 2009

08:30 - 08:50 (Room: Leonardo da Vinci Building, Lobby)
--- REGISTRATION ---

08:50 - 09:00 **Welcome by the ICTP & Plasma College Directors**

Monday, 24 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Roald Z. Sagdeev

24 August 2009

09:00 - 09:40 **K. R. Sreenivasan** / *ICTP Director*
Plasma Physics at the Abdus Salam ICTP

09:40 - 10:40 **Chandrashekhar Joshi** / *UCLA (USA)*
Positron-Plasma Interactions

10:40 - 11:00 --- Break ---

Monday, 24 August 2009
Chairperson: Troy Carter

24 August 2009

11:00 - 11:30 **Bo Lehnert** / *KTH (Sweden)*
A Possible Interpretation of Dark Energy and Matter of the Expanding Universe

11:30 - 12:00 **Robert Alan Cairns** / *University of St Andrews (UK)*
Beam-plasma interactions - experiment and theory

12:00 - 12:30 **Allen Caldwell** / *Max-Planck-Institut für Physik (Germany)*
Proton Driven Plasma Wakefield Acceleration

12:30 - 14:00 --- Lunch Break ---

Monday, 24 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Chandrashekhar Joshi

24 August 2009

14:00 - 14:30 **Nathaniel Fisch** / *Princeton University (USA)*
Compression of Wave Energy in Plasma

14:30 - 15:00 **Alan D. R. Phelps** / *University of Strathclyde (UK)*
Long wavelength free electron lasers: modelling and experiments

15:00 - 15:30 **Robert Bingham** / *Rutherford Appleton Laboratory (UK)*
The Plasma Universe

15:30 - 16:00 --- Break ---

Monday, 24 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Marcel Jean Rax

24 August 2009

16:00 - 16:30 **Sandra Chapman** / *CFSA, University of Warwick (UK)*
Turbulence and scaling in the solar wind

16:30 - 17:00 **Raoul Trines** / *Rutherford Appleton Laboratory (UK)*
Wave breaking of electrostatic waves in warm plasma

18:30 - 20:30 (Room: Leonardo da Vinci Building Terrace)
--- RECEPTION ---

Tuesday, 25 August 2009 - 20 Years of Dusty Plasma Physics (Room:Leonardo da Vinci Building Main Lecture Hall)

Tuesday, 25 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Jose Tito Mendonca

25 August 2009

09:00 - 10:00 **Padma K. Shukla** / *Ruhr-Universität Bochum (Germany)*
Discoveries in Dusty Plasmas

10:00 - 10:30 **Lin I** / *National Central University (Taiwan)*
Wave-particle micro-dynamics in self-organized nonlinear dust acoustic waves

10:30 - 11:00 --- Break ---

Tuesday, 25 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Wayne Scales

25 August 2009

11:00 - 11:30 **Catalin Mihai Ticos** / *INFLPR, Bucharest (Romania)*
Dust Crystal Interaction with Plasma Jets

11:30 - 12:00 **Svetlana Ratynskaia** / *KTH (Sweden)*
Dust in fusion devices

12:00 - 12:30 **Osamu Ishihara** / *Yokohama National University (Japan)*
Cyrogenic Complex Plasma Experiment

12:30 - 14:00 --- Lunch Break ---

Tuesday, 25 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Lin I

25 August 2009

14:00 - 14:30 **Robert Bingham** / *Rutherford Appleton Laboratory (UK)*
Neutrinos and Supernovae

14:30 - 15:00 **Sergey Khrapak** / *Max-Planck-Institut für Extraterrestrische Physik (Germany)*
Physics of ion-particle collisions and the ion drag force in complex plasmas

15:00 - 15:30 **Sergey I. Popel** / *Institute for Dynamics of Geospheres RAS (Russia)*
Plasma Processes in Earth's Environments Containing Nano- and Microscale Grains

15:30 - 16:00 --- Break ---

Tuesday, 25 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Sergey I. Popel

25 August 2009

16:00 - 16:30 **Tlek Ramazanov** / *Al-Farabi Kazakh National University (Kazakhstan)*
Effective interaction potentials and some physical properties of a complex plasmas

16:30 - 17:00 **Jose Tito Mendonça** / *IPFN (Portugal)*
Sachs-Wolfe Effect, the Role of Plasma

17:00 - 17:30 **Wayne Scales** / *Virginia Polytechnic Institute & State University (USA)*
Nonlinear evolution of intense ion-cyclotron turbulence generated by artificial plasma could release

17:30 - 18:00 **Boris Klumov** / *Max-Planck-Institut für Extraterrestrische Physik (Germany)*
Ionization properties of the dusty Earth's ionosphere

Wednesday, 26 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Lennart Stenflo

26 August 2009

09:00 - 10:00 **Roald Z. Sagdeev** / *University of Maryland (USA)*
KAM theorem, Chaos and Plasma Turbulence

10:00 - 10:30 **Jens Juul Rasmussen** / *Risø National Laboratory for Sustainable Energy (Denmark)*
Aspects of momentum transport and zonal flow generation in magntized plasmas

10:30 - 11:00 --- Break ---

Wednesday, 26 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Robert Alan Cairns

26 August 2009

11:00 - 11:30 **Richard Dendy** / *CFSA, University of Warwick & UKAEA (UK)*
Information theory and plasma turbulence

11:30 - 12:00 **Jose Tito Mendonça** / *IPFN (Portugal)*
Recent progress on ultra-cold and Rydberg plasmas

12:00 - 12:30 **Pierre-Louis Sulem** / *Observatoire de la Côte d'Azur (France)*
Alfvén wave filamentation and dispersive phase mixing

12:30 - 14:30 --- Lunch Break ---

Wednesday, 26 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Renato Fedele

26 August 2009

14:30 - 18:00 **POSTER SESSION**

20:00 - 22:30 (Room: Adriatico Guest House Cafeteria)
--- COLLEGE DINNER ---

IoP-PPCF Poster Prize Winner Ceremony (awarded to Dr. Wickramasinghege Janaki Manimecala SAMARANAYAKE - University of Kelaniya, Sri Lanka) 20'

*Award includes EUR 200.- cash, an ICTP Plasma College Certificate, and a Crest from PPCF
[PPCF - Plasma Physics Controlled Fusion published by Institute of Physics (IoP), Bristol, UK]*

ENSF Poster Prize Winner Ceremony (awarded to Ms. Sukhdeep KAUR - Indian Institute of Technology, India) 20'

EUR 200.- cash to the best poster prepared by young researcher, awarded by Prof. K. Tahir Shah, ENSF - The Emerging Nations Science Foundation, www.ensf-ngo.org

Best Presentation Prize (awarded to Dr. Svetlana RATYNSKAIA - Royal Institute of Technology KTH, Sweden) 20'

for an outstanding scientific presentation prepared by young researcher

Thursday, 27 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Richard Dendy

27 August 2009

09:00 - 09:30 **Thierry Passot** / *Observatoire de la Côte d'Azur (France)*
Simulation and modeling of nonlinear mirror modes

09:30 - 10:00 **Amnon Fruchtman** / *LPTP (France)*
Nonlinear dynamics in gas discharges due to coupled ionization and transport

10:00 - 10:30 **Lennart Stenflo** / *University of Umea (Sweden)*
Wave-Wave Interactions in Plasmas

10:30 - 11:00 **Renato Fedele** / *University of Naples (Italy)*
Some mathematical criteria in solving the controlled nonlinear Schroedinger equation by means of the controlling potential method

11:00 - 11:30 --- Break ---

Thursday, 27 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Vladimir Krasnoselskikh

27 August 2009

11:30 - 12:00 **Rikizo Hatakeyama** / *Tohoku University (Japan)*
A Novel Charged Medium Consisting of Gas-Liquid Interfacial Plasmas

12:00 - 12:30 **Michael Mond** / *Ben-Gurion University of the Negev (Israel)*
MHD and Hall-MHD instabilities in thin astrophysical disks

12:30 - 14:00 --- Lunch Break ---

Thursday, 27 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Rikizo Hatakeyama

27 August 2009

14:00 - 14:30 **Vladimir Krasnoselskikh** / *LPC2E, CNRS-Université d'Orleans (France)*
Beam-plasma interaction in strongly non-homogeneous space plasmas: Cluster, Wind and Stereo discoveries versus theoretical models

14:30 - 15:00 **Jovo Vranjes** / *LMCC, Leuven (Belgium)*
A new approach to the problem of the solar corona heating

15:00 - 15:30 --- Break ---

15:30 - 17:30 **Round Table Discussions**

Friday, 28 August 2009 (Room:Leonardo da Vinci Building Main Lecture Hall)
Chairperson: Robert Bingham

28 August 2009

09:00 - 09:30	**Madalena Vlad** / *National Institute of Laser Plasmas and Radiation Physics (Romania)* **Drift turbulence and structure generation**
09:30 - 10:00	**Charles Frederick Driscoll** / *University of California La Jolla (USA)* **Electron Acoustic Waves: Imaging Phase-Space Kinetic Effects**
10:00 - 10:30	**Troy Carter** / *UCLA (USA)* **Studies of nonlinear interactions between Alfven waves and drift-Alfven waves in a laboratory plasma**
10:30 - 10:45	--- CLOSING CEREMONY ---