Lectures by Foreign Speakers

Applications of Synchrotron Radiation

Giorgio Paolucci
- Synchrotron radiation for basic and applied sciences: Elettra and SESAME

Maya Pertova Kiskinova
- Synchrotron and FEL-based Imaging and Spectromicroscopy at Elettra
- Recent Advances of Synchrotron-based Photoelectron Microscopy in Addressing Properties of Morphologically Complex Materials and Nano-structures
- Microscopic insights on chemical state and morphology of key components in operating model fuel cells using synchrotron-based methods

Giuliana Aquilanti
- Fundamentals of X-ray absorption spectroscopy and applications to environmental and materials science.
- XAFS at Elettra: recent achievements and future projects

Plasma Physics

Joseph Niemela
- 50 years of the Abdus Salam ICTP and an International Year of Light

Peter H. Yoon
- Nonlinear Processes in Space Plasma II: Electromagnetic Effects
- Nonlinear Processes in Space Plasma III: Magnetized Plasmas

Mitsutoshi Aramaki
- Experimental study of strongly coupled plasma using ion trap and laser cooling technique"
- Precise plasma spectroscopy using a tunable diode laser.

Hafiz Nasr A. Mohamed
- Laser-Plasma Electron Acceleration Research at Shanghai Jiao Tong University

Mustapha Maamache
- A modified Quantum Damped oscillator model for electromagnetic fields in time-varying plasma

Hanan Sa’adeh
- Coincident Rutherford Backscattering Spectrometry

Wang Jiasheng
- Analysis of metal elements in solid wastes by calibration-free LIBS technique
**Rinda Hedwig**
- Review on the Experiment of Laser Induced Shock Wave Plasma Spectroscopy

**New Materials for Energy Applications**

**Muhammet Sadaka Toprak**
- Nanomaterials for Energy Applications
- Nanoengineered Thermoelectric Materials for Waste Heat Recovery
- Environmental Friendly Thermoelectric Materials

**Akrajas Ali Umar**
- Poriferous TiO2 Nanostructure for High Efficiency Dye-Sensitized Solar Cells

**Ahmed A. Moosa**
- Synthesis of Carbon Nanotubes for Nanocomposites
- Air Plasma Spraying (APS) of Aluminum-Silicon/ CNTs nanocomposite coating on Aluminum alloy.

**Md. Feroz Alam Khan**
- Magnetic properties of Fe/Cu sputtered nanoparticle thin film
- Spinodal decomposition and magneto-resistive properties of Alnico melt-spun magnetic ribbon
- Exchange bias effect in MnO magnetic nanoparticles fabricated by inert gas condensation (IGC) technique.

**Osman Adiguzel**
- Numerical and Physical Simulation of Phase Transformation in Ni-Al Alloy Model

**Earth Systems**

**Angelo De Santis**
- Geosystemics for an ever-changing world
- Entropy of Earthquakes and possible chaotic evolution of a seismic sequence

**Rhodora V. Azanza**
- Harmful Algal Blooms in Tropical Coastal Environments-
  - Research and Development on Toxic Algal Blooms Events in the Philippines

**Vladimir Kosobokov**
- Earthquake Prediction: 20 Years of Global Experiment.
- Spatial and Temporal Variations of Climate in Europe.
- Global Seismic Hazard Assessment Program Maps are Erroneous.
- On Solar Flares and Cycles 23 – 24
**Pavel Kalenda**
- Static vertical pendulum – apparatus for in-situ relative stress measurement
- Multiparametry observations of precursors before strong earthquakes (Tohoku 2011, Okhotsk Sea 2012, Iran-Pakistan 2013)
- Non-linear asperity model for earthquake prediction

**Shen Wenbin**
- Study of anomalous gravity signals prior to large earthquakes: a case study.
- Observation of Earth's low-frequency oscillation modes based on superconducting gravimeters records.

**Lixin Wu**
- Infrared Radiation Change of Stressed Rock to fracturing.
- Earthquake Anomaly Recognition with Multiple Parameters from GEOSS.

**Tariq Javaid Cheema**
- Environmental hydrological investigation of storing petroleum byproducts.
- Variation of hydraulic conductivity with depth in fractured aquifers.
- Environmental hydrological issues in reclaiming open pit mines.