



2011 Course on: **Frontiers of Space Science: from Solar Activity to NEOs** L'Aquila, April 17-22, 2011

Programme and Lecturers

FROM THE SUN TO THE SMALL BODIES OF THE SOLAR SYSTEM

M. Coradini F. Favata E. Flamini D. Mueller M. Velli R. Somma	ESA Programs Coordinator at JPL, Pasadena, USA ESA - Head of Science Planning and Community Coordination office, The Netherlands Agenzia Spaziale Italiana, Roma, Italy Science and Robotic Exploration Directorate, ESA, The Netherlands University of Firenze/NASA-JPL, Italy Thales Alenia Space Italia, Italy	New Horizons for the Exploration of the Planets New Frontier of European Space Science The Solar System Exploration JHelioviewer - Open Source Software for Discovery in the Petabyte Age Solar Probe Plus, NASA's First Mission to the Nearest Star Space Missions And NEOs
--	--	---

SOLAR ACTIVITY AND SPACE WEATHER

M. Velli F. Zuccarello G. Cauzzi I. Ermolli D. Del Moro S. Cesare	University of Firenze/NASA-JPL, Italy University of Catania, Italy INAF / Observatoty of Arcetri, Firenze, Italy INAF / Observatory of Roma, Italy University of Roma "Tor Vergata", Italy Thales Alenia Space Italia, Italy	Solar Coronal Heating and Wind Acceleration: Measurements, Theories, Models Emergence and evolution of solar magnetic field Dynamics of the solar atmosphere and explosive events The active sun Solar spectroscopy with Fabry-Perot Interferometer The Role of the Space Missions in the Sun monitoring: from SOHO to Solar Orbiter
--	---	---

SOLAR ACTIVITY: ORIGIN AND OBSERVATIONS

F. Berrilli P. Francia M. Casolino J.I. Lunine	University of Roma "Tor Vergata", Italy University of L'Aquila, Italy INFN / University of Roma "Tor Vergata", Italy University of Roma "Tor Vergata"/University of Arizona, USA	Multiscale analysis of solar magnetic field Solar wind and magnetosphere The two faces of cosmic rays: messengers of the galaxy and radiation hazard to space exploration Faint early Sun for Earth, Mars and Titan
---	---	--

NEAR EARTH OBJECTS

A. Milani A. Celletti D. Izzo	University of Pisa, Italy University of Roma "Tor Vergata", Italy ESA - Advanced Concepts Team - ACT, Leiden, The Netherlands	Near Earth Object Dynamic site Orbit determination Trajectories to NEOs
-------------------------------------	---	---

NEAR EARTH OBJECTS AND DEBRIS

A. Rossi E. Perozzi C. Portelli	IFAC-CNR, Firenze Et ISTI-CNR, Pisa, Italy Telespazio/Space Academy, Roma, Italy Agenzia Spaziale Italiana, Roma	Space debris The ESA Space Situational Awareness NEO Segment The SSA European scenario
---------------------------------------	--	--

The Director of the School **U. Villante**

Board of Directors **F. Berrilli, A. Celletti, E. Flamini, D. Mueller, E. Perozzi**

The school aims to bring together PhD students, young post-doctoral researchers and experienced scientists and engineers to provide an integrated overview of computational and experimental techniques applied in observation and forecast of Solar Activity and Near Earth Objects (NEO) dynamics. Solar Activity and NEOs have the potential to wipe out the technologically driven lives we've become so used to and are basic subjects of Space Situational Awareness regarding potential hazards to infrastructure in orbit, particularly related to the Human Spaceflight, and on the ground. The school will offer a hands-on approach to computational and experimental techniques applied in space observation of Solar Activity and NEO's dynamics, with an introductory tutorial in designing and building space instruments and mathematical tools. This course will be the first ISSS school after the massive 6 April, 2009 earthquake that devastated the city of L'Aquila and represents a first step to develop a cutting-edge scientific and industrial collaborative project for L'Aquila.

General Information

The fee of 650 Euro includes board and lodging.
Persons wishing to attend the course should apply to:
WWW.CIFS-ISSS.ORG/APPLICATION

INTERNATIONAL SCHOOL OF SPACE SCIENCE

c/o Dipartimento di Fisica, Università degli Studi dell'Aquila
Via Vetoio, 67010 COPPITO - L'AQUILA (ITALY)
Fax +39 0862 433033

E-mail: SSC@AQUILA.INFN.IT Web: WWW.CIFS-ISSS.ORG

E-MAIL ADDRESS OF THE BOARD OF DIRECTORS

F. Berrilli berrilli@roma2.infn.it
A. Celletti celletti@mat.uniroma2.it
E. Flamini enrico.flamini@asi.it
D. Mueller dmueller@rssd.esa.int
E. Perozzi ettore.perozzi@telespazio.com

Applications including a brief curriculum vitae are due before February 28, 2011. Some financial support will be available for a limited number of students. Applications will be evaluated by the Scientific Committee of the International School of Space Science, who will decide also on the financial support. Successful applicants will be notified by e-mail.

