



INTERNATIONAL SCHOOL OF SPACE SCIENCE

L'Aquila - ITALY

THE POLAR UPPER ATMOSPHERE: FROM SCIENCE TO OPERATIONAL ISSUES

17-21 September 2018, L'Aquila (Italy)



Programme and Lecturers

THE UPPER ATMOSPHERE: OVERVIEW

M. Mendillo (Boston University, USA)
Upper Atmosphere I and II

GROUND BASED MONITORING INFRASTRUCTURES AT POLAR LATITUDES

V. Romano (INGV, Rome, Italy)
Ionosondes and GNSS network

D. Di Mauro (INGV, Rome, Italy)
Geomagnetic network (instruments and data)

M. F. Marcucci (INAF, Rome, Italy)
SuperDARN (instruments and data)

M. Clilverd (BAS, UK)
The Antarctic-Arctic Radiation-belt (Dynamic) Deposition

IONOSPHERIC MODELLING

B. Nava (ICTP, Trieste, Italy)
Ionospheric Modelling I: Nequick model and data assimilation

TBD (INGV, Rome, Italy)
Ionospheric Modelling II: short term forecasting/long term climatology

PERTURBED GEOSPACE AND ITS EFFECTS ON TERRESTRIAL SYSTEMS

A. Wood (Nottingham Trent University, UK)
Overview of Space Weather effects on the ionosphere

D. Del Moro (Tor Vergata University-Rome, Italy)
Coronal Mass Ejection modelling and forecasting

P. Brekke (Norwegian Space Centre, Oslo, Norway)
Space Weather effects on critical operations and activity in the High North

S. V. Veetil (University of Nottingham, UK)
Ionospheric effects on GNSS applications and their mitigation

INTERNATIONAL PROGRAM - SCAR

A. Meloni (INGV, Rome, Italy)
Overview of the SCAR Program

L. Alfonsi (INGV, Rome, Italy)
Overview of the GRAPE/RESOURCE activities within SCAR

TEAM BUILDING

F. La Longa (INGV, Rome, Italy)
Team Building I & II

M. Crescimbene (INGV, Rome, Italy)
Students-Teams (ST) identification

G. De Franceschi (INGV, Rome, Italy)
First Iteration of a Project Proposal

BOARD OF DIRECTORS:

G. De Franceschi giorgiana.defranceschi@ingv.it
Istituto Nazionale di Geofisica e Vulcanologia, Rome, IT

M. Mendillo mendillo@bu.edu
Boston University, Center for Space Physics, Boston, MA, USA

C. Mitchell cathryn.mitchell@googlemail.com
University of Bath, Bath, UK

LOCAL ORGANIZATION:

L. Alfonsi lucilla.alfonsi@ingv.it

D. Di Mauro domenico.dimauro@ingv.it

M. Piersanti mirko.piersanti@aquila.infn.it

THE DIRECTOR OF THE SCHOOL:

U. Villante umberto.villante@aquila.infn.it

SCHOOL RATIONALE

The goal of the school is to foster excitement and encourage involvement of the next generation of space researchers in studies of the geospace environment of Polar Regions. The importance of these regions is rapidly growing due to modern society's dependence on Global Navigation Satellite Systems (GNSS) services and products, strongly affected by ionospheric variability at high latitudes. Topics will focus on the infrastructures for multi-instrument monitoring, data management from sub auroral to polar latitudes, the need for specialized models of the upper atmosphere, and the development of mitigation algorithms to improve GNSS services and products. The school is mainly addressed to graduate and post-graduate students with enthusiastic interest on this topic. Students-teams will be organized through an "inside team building" activity scheduled on the first day of the school. This initial activity will formulate, under the supervision of experts, the "first iteration" of student-led project proposals. The establishment of the student-teams aims to both stimulate the interaction among the new generation of scientists from different countries and furnish the preliminary tools to build successful project proposals. On the final day the students-teams will present their proposals and participate in their evaluation by the School Program and Organization Committees.

GENERAL INFORMATION

School activities will be held at Gran Sasso Science Institute in L'Aquila (<http://www.gssi.infn.it>).

Applications, including a brief curriculum vitae, are due before **May 6th, 2018** through the website www.cifs-iss.org/application.asp

The fee of **800 Euro** includes board and lodging at nearby hotels.

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. Successful applicants will be notified by e-mail.