



IL MIO VOLER CERCAR  
OLTRE LA META

# INTERNATIONAL SCHOOL OF SPACE SCIENCE

## L'Aquila - ITALY

### Radiation Belt Dynamics and Remote Sensing of the Earth's Plasmasphere

26-30 September 2022

#### Programme and Lecturers

##### THE RADIATION BELTS

- G. Reeves - Los Alamos National Laboratory, Los Alamos, USA  
*The Radiation Belt Revolution*
- R. Home - British Antarctic Survey, Cambridge, UK  
*Acceleration of radiation belt electrons by VLF Chorus and magnetosonic waves*
- J.-F. Ripoll - CEA/DAM/DIF, Arpajon, France  
*Interaction of radiation belt energetic particles with VLF hiss*
- M. Usanova - University of Colorado, Boulder, USA  
*The role of EMIC waves in the inner magnetosphere dynamics*
- A. Drozdov - University of California, Los Angeles, USA  
*Numerical modeling of radiation belt dynamics*
- E. Kilpua - University of Helsinki, Helsinki, Finland  
*Solar wind driving of radiation belt dynamics*
- C. Rodger - University of Otago, Dunedin, New Zealand  
*Electron precipitation from the radiation belts into the atmosphere*
- M. A. Clilverd - British Antarctic Survey, Cambridge, UK  
*The role of plasmaspheric dynamics in electron precipitation occurrence*

##### BOARD OF DIRECTORS:

- J. Lichtenberger - Eötvös Loránd University, Budapest, Hungary
- G. Reeves - Los Alamos National Laboratory, Los Alamos, USA
- M. Vellante - University of L'Aquila, L'Aquila, Italy

##### THE PLASMASPHERE

- J. Krall - Naval Research Laboratory, Washington, USA  
*An overview of plasmasphere dynamics*
- J. Lichtenberger - Eötvös Loránd University, Budapest, Hungary  
*Remote sensing of the plasmasphere by VLF whistlers*
- M. Golkowski - University of Colorado, Denver, USA  
*Whistlers detection by neural networks*
- M. Vellante - University of L'Aquila, L'Aquila, Italy  
*Remote sensing of the plasmasphere by ground-based observations of geomagnetic field line resonances*
- K. Takahashi - Johns Hopkins University Applied Physics Laboratory, Laurel, USA  
*Monitoring the plasmasphere by spacecraft observations of toroidal mode standing Alfvén waves*
- B. Heilig - Eötvös Loránd University, Budapest, Hungary  
*Remote sensing the plasmopause by means of monitoring conjugated ionospheric phenomena*
- A. Jorgensen - New Mexico Institute of Mining and Technology, Socorro, USA  
*Modeling the Plasmasphere Dynamics with Data Assimilation*

##### SCHOOL SECRETARIAT:

ssc@aquila.infn.it

##### THE DIRECTOR OF THE SCHOOL:

U. Villante

##### SCHOOL RATIONALE

The course is designed for PhD students and young post-doctoral researchers. It will offer an overview of the current knowledge of a key Space Weather region, the radiation belts, and in particular on its related energization and loss processes due to wave-particle interactions, and particle precipitation into the atmosphere. These processes are strongly governed by the properties of the plasmasphere (the outward extension of the ionosphere) which is partially overlapping with the radiation belts. Part of the course will be then devoted to present, both from a theoretical and observational point of view, as well as through modelling, the basic plasmasphere dynamics, including its coupling with the ionosphere.

##### GENERAL INFORMATION

The School will be held at the Università degli Studi dell'Aquila.  
Applications, including a brief curriculum vitae, are due **before 5th June, 2022**. See the website [www.cifs-iss.org/application.asp](http://www.cifs-iss.org/application.asp) for details.  
The fee of 1000 Euro includes board and lodging in shared double rooms at nearby hotels and B&Bs. Some financial support will be available for a limited number of students on request.  
Applications will be evaluated by the Scientific Committee of the International School of Space Science. All applicants will be notified by e-mail.

All participants must be aware of the measures adopted in Italy for the epidemiological emergency from Covid-19.  
<https://www.salute.gov.it/portale/nuovocoronavirus/homeNuovoCoronavirus.jsp?lingua=english>

##### INTERNATIONAL SCHOOL OF SPACE SCIENCE

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##### THE INTERNATIONAL SCHOOL OF SPACE SCIENCE IS SUPPORTED BY:

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