

## CONFERENCE REPORT

### 3<sup>rd</sup> IAGA/ICMA Workshop on Vertical Coupling in the Atmosphere/Ionosphere System

September 18 – 22, 2006, Varna, Bulgaria

The 3<sup>rd</sup> IAGA/ICMA Workshop on “**Vertical Coupling in the Atmosphere/Ionosphere System**” was held at the five-star “Grand Hotel Varna” located in the famous Bulgarian seaside resort “St Konstantin and Elena” near Varna, Bulgaria, during September 18 – 22, 2006. The meeting was attended by a total of 77 senior and young scientists from 17 countries. During the 5 days of the workshop the participants presented 85 papers, from which 34 were solicited presentations.

The aim of this workshop was not only to address the physics behind the forcing mechanisms that originate in the lower atmosphere and play an important role on the upper atmosphere and ionosphere, but also to show the solutions of some of the problems which were only formulated during the 2<sup>nd</sup> IAGA/ICMA Workshop held two years ago in Bath, UK. The meeting was designed so that research experts from both the middle and upper neutral atmosphere and ionosphere communities come together in order to present their work and assess/debate ongoing issues relating to the theoretical, modelling and observational aspects of all kind of processes which transfer energy and momentum from the lower atmosphere to the upper atmosphere and ionosphere and vice versa.

The programme focussed on various aspects and topics of neutral dynamics as well as ionospheric electrodynamics and plasma physics. These included:

#### 1) Coupling processes in the middle atmosphere

- Coupling through planetary waves, mean flows and temperature variability
- Gravity wave and tidal forcing of the middle atmosphere
- The role of dynamics, solar variability and greenhouse gasses on the chemical structure and feedback processes

#### 2) Coupling processes in the atmosphere/ionosphere system

- Dynamical forcing of the ionosphere from below
- Electrodynamical coupling and plasma instabilities; the role of electrical processes in the coupling

This workshop brought together a mix of scientists doing mostly independent research on the fields of the MLT neutral atmosphere and the ionosphere, that is, on two collocated “spheres” of the near earth environment which remain closely coupled and on a continuous interaction. The meeting provided an excellent opportunity for these research communities to interact in a supplementary manner in reviewing and debating the progress done to date in the field of the upper atmosphere-ionosphere and come up with suggestions and ideas for further research on the vertical coupling of the atmosphere-ionosphere system.

Financial contributions to the workshop were made by the following organisations: **International Association of Geomagnetism and Aeronomy (IAGA)**, International Commission on the Middle Atmosphere (ICMA), International Union of Geodesy and Geophysics (IUGG), International Union of Radio Science (URSI) and the US Airforce European Office for Aerospace and Development (EOARD). In particular, the **IAGA** contributed with a grant of 1500 USD. This grant and part of the IUGG grant of 2500 USD was used to support the travel and living expenses of three young scientists who were chosen on the basis of their CV and extended abstracts. They were: (i) Dr. Khatuna Chargazia from Georgian Space Agency, Tbilisi, Georgia; (ii) Dr. Evgeny Ryabchenko from Kazan State University, Kazan, Russia, and (iii) Dr. T. Ramkumar from National Atmospheric Research Laboratory, India.

The presentations at this Workshop will be published in a special issue of JASTP. The team of Guest Editors includes: Daniel Marsh (NCAR, Boulder, USA), Mike Taylor (Utah State University, Logan, USA), Christos Haldoupis (University of Crete, Iraklion, Greece) and Dora Pancheva (University of Bath, Bath, UK).

In accordance with a decision of the IAGA Executive Committee in Toulouse I would like to inform you that the Programme Committee of the Workshop suggested to your attention the following young scientists who had very good presentations and were active in discussions:

- 1) Dr. Katie Coughlin from University of Reading, Reading, UK presented: *Isolating stratospheric warmings -from the mesosphere to the troposphere*
- 2) Dr. Tracy Moffat-Griffin from British Antarctic Survey, Cambridge, UK with co-authors M. Jarvis and R. Hibbins presented: *Wavelet analysis of imaging riometer data: Detecting gravity waves*
- 3) Dr. Evgeny Ryabchenko from Kazan State University, Kazan, Russia with a co-author O. Sherstyukov presented: *Influence of quasi-biennial oscillation of atmospheric circulations on sporadic E layer 2–32-day variations*. He presented two more papers with co-authors: O. Sherstyukov and A. Akchurin: (i) *Diurnal and seasonal features of sporadic E-layer height in connection with complex structure of atmospheric tides*, and (ii) *Investigation of short-period variations of virtual heights of the middle ionosphere by vertical ionospheric sounding with enhanced precision*.

Dr. Dora Pancheva

Chair of the Programme Committee

