

## **2nd VERSIM Workshop 2006 Conference Report; ELF/VLF Radio Phenomena: generation, propagation and consequences in observations, theory and modelling.**

Sodankylä Geophysical Observatory, Sodankylä, Finland (26th – 30th September 2006).

### **Overview**

The 2nd VERSIM Workshop took place last month at the Sodankylä Geophysical Observatory, sponsored by the Observatory and supported by IAGA and URSI Commission H. This was a chance for the VERSIM IAGA/URSI joint working group to meet and discuss current issues, developments, and techniques. The workshop attracted about 46 participants from 16 countries, ranging from Fiji and Slovenia all the way to Brazil and the USA, and included 52 presentations. The participants spanned from 9 young researchers all the way to real pioneers in our field. We were proud to welcome Don Carpenter, who using VLF whistlers was crucial to discovery of the plasmasphere, and is in a real sense the "father of VERSIM". The 2nd VERSIM Workshop included four of the previous six VERSIM co-chairs, and both the current co-chairs (Rodger (New Zealand) and Lichtenberger (Hungary)). There were a particularly strong series of presentations on remote sensing of the upper atmosphere through subionospheric VLF propagation and on the properties and effects whistler mode waves observed on the ground and in space, particularly focused on VLF chorus emissions. A full listing of abstracts can be found at:

*<http://www.sgo.fi/Events/versim-2006/abstracts.php>*

This workshop follows on from the 1st VERSIM Workshop, which also took place at the Sodankylä Geophysical Observatory, at almost the same time in 2004. The success of the first meeting attracted 50% more participants and 40% more presentations. Even with the additional presentations the workshop timetable was fairly relaxed, allowing oral presentations to of a sensible length (~20-30 min). In addition, there were also good-length coffee and lunch breaks in which participants could follow up with more detailed discussions, or plan future scientific collaborations. Once again, the facilities and organisation was of a very high standard, and at the end of the 2nd VERSIM Workshop the participants gave a vote of thanks to the Local Organising Committee for running the workshop so smoothly. A vast number of the Observatory staff were involved in supporting the Workshop, from transporting participants to and from the airport, to setting up a display of VLF antenna.

As part of the IAGA support for the 2nd VERSIM Workshop, an award was offered for the best paper presented by a young researcher. The award consists of support to participate in the next IAGA General Assembly: a low-cost air ticket, waiving of the registration fee, plus one days costs. The Programme Committee of the 2nd VERSIM Workshop unanimously proposed Ms. Annika Seppälä for the IAGA Young Scientist Presentation Award. Ms. Seppälä is a Research Scientist at the Finnish Meteorological Institute, and is undertaking research towards a PhD. Her presentation focused on the significance of the January 2005 solar proton events upon the ozone levels in the polar atmosphere. A combination of experimental data, both space and ground based, were combined with chemical modelling. Ms. Seppälä demonstrated the production of ozone-destroying chemicals due to the impact of the solar proton

event upon the polar atmosphere at altitudes from 30-80 km. Her paper also points to the power of combined observations, taking the experimental techniques employed by the VERSIM community into a new and highly important scientific area. Ms. Seppälä nomination by the Workshop Programme Committee has been confirmed by the IAGA Executive Committee. Well done Annika!

### **Social Events and Excursions**

As with all successful scientific meetings, there were a number of excellent social events and excursions to broaden the experience of the Workshop participants. Our excursions included a display of VLF antenna inside the Sodankylä Geophysical Observatory ground, prompting some theorists to comment it was the first time they had seen an operational antenna system "in the flesh". We also visited the nearby Finnish Geological Survey laboratory, SGO's nearest measurement station Pittovaara, and a local jewellery manufacturer.

The 2nd VERSIM Workshop social programme opened with an "Ice Breaker" function supported by the Sodankylä regional Government at the Sodankylä Municipality Hall. For many of the participants this was the first opportunity to sample a range of food and drinks from Lapland. The conference dinner took place at an operational reindeer farm, which also hosts tourists so as to keep this traditional Lappish activity economic. After viewing some of the reindeer herd, including a magnificent and aggressive white stag, we retired into the warmth of the banqueting hall for generous helpings of delicious smoked reindeer. Our Hungarian colleagues provided small samples of Hungarian "Palinka", perhaps as an indication of the pleasures to come at the 3rd VERSIM Workshop, and the 2009 IAGA meeting in Sopron.

Some idea of the success of this session can be found on the Photos page of the 2nd VERSIM Workshop 2006:

*[http://sgodata.sgo.fi/pub/VERSIM\\_photos/VERSIM\\_photos.html](http://sgodata.sgo.fi/pub/VERSIM_photos/VERSIM_photos.html)*

### **Future**

At the end of the 2006 Workshop it was felt that the meeting had been a large success, and that the community had gained a new momentum on the basis of the 1st and 2nd VERSIM Workshops. A unanimous vote of thanks to our Finnish collaborators was agreed, as the two Workshops they have hosted have brought a new vibrancy to the VERSIM working group. To maintain the momentum, the community accepted the invitation of Dr. János Lichtenberger, the URSI co-chair of the working group to host the 3rd VERSIM Workshop in Tihany, Hungary. This is now planned for the week starting 15 September 2008, on the shores of Lake Balaton.

Craig J. Rodger  
IAGA co-chair VERSIM Working Group



Don Carpenter (Stanford, USA), framed by a SGO VLF antenna.



The 2nd VERSIM Workshop, group photo at Mattila's Reindeer Farm.



Annika Seppälä, winner of the IAGA Young Scientist Presentation Award, at the Ice Breaker function, Sodankylä Municipality Hall