

The Birkeland Workshop on complex natural systems

Tromsø, Norway, May 27-31, 2010

This is the second workshop of the NordForsk network "Complex-system approaches to space and laboratory plasmas". The first "kick-off workshop" was organized in the village of Montemagno near Pisa in October 2009, and was attended only by the initial participants of the network. The idea then was to come together in a secluded location for in-depth discussions and collaboration.

The scope of this second workshop is different. First of all we want to expand the network, both the number of participants and the scientific objective. In particular, we wish to include climate analysis and modeling, and explore the methodologic commonalities between climate science and the merging science of space weather and space climatology.

Another difference is that this time we want to organize an open event. We want inclusion rather than seclusion, and therefore have chosen as workshop site the most lively place in the known universe, the "Paris of the North."

The workshop is cross-disciplinary and spans a wide range of themes distributed over three workshop days separated by a weekend. Although we wish that workshop participants stay throughout the entire program, and take parts in social events and excursion throughout the weekend, we realize that many do not have so much time to spare, and only wish to attend those sessions they consider most relevant for their own field of research. For this reason we have organized the workshop as three separate events.

Thursday May 27: The Complexity of Climate Change

The morning and early afternoon sessions this day will be devoted to research contributions in climate science. We hope to have contributions from invited scientists as well as scientists from the many research groups based at different institutions in the Tromsø area who deal with climate science. The late afternoon and evening we want to organize an outreach session with talks of a slightly more popular nature, accessible to non-experts. We have openings for several additional speakers this day, in particular from Tromsø-based scientists.

Confirmed speakers:

Dave Stainforth, *University of Exeter, UK*
Rasmus Benestad, *Norwegian. Meteorological Inst, NO*
Leif Svalgaard, *Stanford University, US*
Nick Watkins, *British Antarctic Survey, UK*
Kristoffer Rypdal, *University of Tromsø, NO*

Invited and interested, but not confirmed:

Lenny Smith, *CATS, London School of Economics, UK*
Emily Schuckburgh, *British Antarctic Survey, UK*

Friday May 28: Space climate and the Sun-Earth interaction

This day we take climatology to outer space and raise the question how the ever-changing sun influences the the near-earth environment and the earth's climate. The talks will address the commonalities in data analysis and modeling employed in space science and climate science, and how upper and middle atmosphere processes relate to tropospheric climate.

Confirmed speakers:

Leif Svalgaard, *Stanford University, US*
Rasmus Benestad, *Norwegian. Meteorological Inst, NO*
Zoltan Vörös, *University of Innsbruck, AUT*
Boris Kozelov, *Polar Geophys. Institute, Apatity, RU*
Tatjana Živkovič, *University of Tromsø, NO*
Nick Watkins, *British Antarctic Survey, UK*
Martin Rypdal, *University of Tromsø, NO*
Chris Hall, *Tromsø Geophysical Observatory*

Invited and interested, but not confirmed:

Sandra Chapman, *University of Warwick, UK*
Khurom Kiyani, *University of Warwick, UK*

Invited, but not yet responded:

Henrik Lundstedt, *University of Lund, SE*

Saturday May 29 and Sunday May 30: Informal discussion groups, excursion, cultural events, random walks in Tromsø night-life etc.....

Monday May 31: Plasmas and other complex systems

This day is devoted to fusion plasmas, space plasmas, dusty plasmas and soft matter, neural fields, and other complex-system issues.

Confirmed speakers:

Richard Dendy, *UKAEA Fusion, UK*
Jens Juul Rasmussen, *Danish Technical University, Risø, DK*
Anders V. Nielsen, *Danish Technical University, Risø, DK*
Odd Erik Garcia, *University of Tromsø, NO*
Svetlana Ratynskaia, *Royal Institute of Technology, Stockh., SE*
Sergey Vladimirov, *University of Sydney, AUS*
Wojciech J. Miloch, *University of Tromsø, NO*
Boris Klumov, *MPE Extraterrestrial Phys., Garching, DE*
Giorgio Regnoli, *Royal Institute of Technology, Stockh., SE*
Alexander Milovanov, *ENEA Frascati, IT*
John Wyller, *Norwegian University of Life Sciences, NO*

Practical information and important deadlines

Anyone can attend the sessions without registration. The workshop is still open for registration of talks, in particular in the sessions on Thursday and Friday. In particular climate scientists based in the Tromsø area are encouraged to register a talk.

There is no conference fee. Invited speakers from outside Tromsø will have their travel expenses, accommodation and subsistence covered from the organizers. Scientists from outside Tromsø, who want to contribute, but has not been invited, should contact the organizers.

Deadline for registration of talks with a tentative title is May 7. This registration should also contain information about arrival and departure dates. The organizers will book hotel rooms for all participants in the same hotel if possible.

Deadline for submission of 1 page abstract(s) is May 15.

Flight costs should be kept as low as possible allowing a reasonably convenient flight. Note that the airline Norwegian Air Shuttle has convenient and cheap flights from many European cities. See: <http://www.norwegian.com/en/>

Send registration, abstract and all other inquiries to

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