



The aim of this newsletter is to inform Bolin Centre researchers of recent-past and upcoming activities. The Bolin Centre for Climate Research is a multi-disciplinary consortium of more than 230 researchers led by Stockholm University that conducts fundamental research on the climate system. Founded in 2006, it involves collaboration between the Departments of Meteorology, Applied Environmental Science, Physical Geography and Quaternary Geology and Geological Science at Stockholm University together with FLOW at Royal Institute of Technology (KTH) and the Rossby Centre at the Swedish Meteorological and Hydrological Institute (SMHI). It also forges connections to other Swedish research institutions and to international research organizations.

According to the strategic plan of the Bolin Centre approved 19 May 2014, our mission is: *“To create and communicate fundamental knowledge about climate and the Earth system as part of an evolving global effort to understand and adapt to the Earth’s changing climate.”* A decision of the Board in the last section of the plan is noteworthy stating that: *“The Board, the Departments, SMHI and KTH are strongly committed to the continuation of the Bolin Centre and will continue to use the strategic (SFO) funds in the second 5-year period (to 2019) to finance the Centre in order to ensure its future.”*

Implementation of our research is through six multidisciplinary and cross departmental Research Areas (RA) with co-leaders:

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|---|---|
| 1. Oceans-atmosphere dynamics and climate | - A. de Boer, J. Nilsson, R. Caballero |
| 2. Clouds, aerosols, turbulence and climate | - A. Ekman, I. Riipinen |
| 3. Hydrosphere, cryosphere and climate | - J. Jarsjö, M. Hansson, C-M. Mörth |
| 4. Biogeochemical cycles and climate | - C. Beer, V. Bruchert, Ö. Gustafsson |
| 5. Historical to millennial climate variability | - M. Kylander, Q. Zhang |
| 6. Orbital to tectonic climate variability | - H. Coxall, N. Kirchner, M. Steinthorsdottir |

Directors’ Message

From September 2014 to January 2015, much has happened in Bolin Centre science. Thanks to all involved from the 18-20 November 2014 in the dynamic combination of two events beginning with a Science Forum featuring our new External Science Advisory Group (ESAG; see their picture below) followed by the annual Bolin Days (Bolindagarna) science event. This culminated in a very interactive social evening of dinner and Scottish group dancing. The highlight of the evening was a demonstration tango by Johannes Oerlemans (Chair of the ESAG) and Qiong Zhang (research leader) accompanied on the accordion by Raymond Pierrehumbert (King Karl Gustav Visiting Scholar for 2014 and a member of the ESAG). The extremely constructive report of the ESAG can be found on our website.

We welcome Margret Steinthorsdottir as a very able co-leader of RA6 adding a deeper time dimension to the leadership. Also, thanks to outgoing RA2 co-leader and modelling coordinator Gunilla Svensson for her long term contribution to the Centre.

The Centre engaged in two major science/policy events during this period. On 27 November 2014, we collaborated with the Institute for International Economic Studies, Stockholm University to host a very successful Science/Policy Forum on the topic “A Smart Carbon Tax for a Stable Climate”. It featured the Klimatsvaret - CCL Sverige (Citizens’ Climate Lobby of Sweden) presenting a suggestion for carbon dioxide mitigation tool that has evolved internationally. This was followed by dynamic group dialogue. Then, on 21 January 2015, we co-sponsored a special forum organized by R. Krejci and K. Noone as part of the Biogeochemistry and Atmospheric Science Seminar series. The topic was “Connecting Climate Scientists and Society”. Prof. Chris Rapley an eminent international scientist, science curator, communicator and actor delivered a powerful set of insights on how to more effectively relate our science to family, friends, the public and decision makers. A panel discussion followed. We thank Prof. Rapley for this. His very informative presentation is available on video (<http://vimeo.com/bcgatm/videos/>).

We are pleased to announce the fourth Bolin Centre summer school for PhD students and early stage researchers will focus on “Isotopes in Climate and the Earth System” in Islay, Scotland 23-29 August 2015. Funding is available for Bolin Centre researchers see details below. Apply now to avoid missing out on a place <http://www.bolin.su.se/index.php/summer-schools/summer-school-2015> .

The 8th annual Bolin Climate Lecture will be given by Prof. Ulrike Lohmann of ETH Zurich, Switzerland on 27th May 2015 at 14:00 in Aula Magna. See details of this and an additional lecture to scientists in “upcoming events”.

Leonard Barrie
Director for Research

Alasdair Skelton
Director





The External Science Advisory Group: 2014 In Action



Eystein
Jansen



Johannes Oerlemans



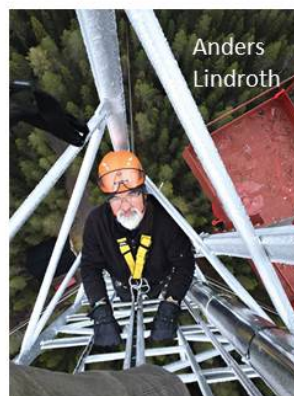
Natalie
Mahowald



Raymond Pierrehumbert



Susan
Lozier



Anders
Lindroth

Bolin Centre for Climate Research
A collaboration between Stockholm University, KTH and the Swedish Meteorological and Hydrological Institute



Some Highlights of Centre News (for more detail see the website)

- 20-22 October 2015 an international RA5 Bolin Centre workshop at Stockholm University was organized by Qiong Zhang, Rienk Smittenberg, Francesco Pauscata and colleagues on “Stable water isotopes and climate”. Invited experts from many countries in Europe joined those from the Centre in a very successful event. It targeted research on “Understanding the processes behind isotope signals in paleoclimate archives, together with modern satellite measurements and atmWorkshop “
- From 5–6 November 2014, a Bolin Centre international workshop on “High-latitude volcanic eruptions and climate: filling the gaps” was organized by newcomer Francesco S.R. Pauscata . An internationally reknown group of experts joined our scientists in scoping future research needs.



Bolin Centre Newsletter

- The Bolin Centre Booth at the American Geophysical Union's Fall Meeting in San Francisco 15-19 December 2014 was a smashing hit – just like last year. The booth was well attended and the Bolin Centre bags were seen everywhere. The thirty Bolin Centre scientists attending the meeting were networking with their colleagues at the booth also attended by communication officers. The visitors were doing the Pangea jigsaw puzzle and trying to untie themselves from the teasing stick while we were talking about the Bolin Centre research. We plan to repeat this in 2015.
- Among Bolin Centre scientists receiving VR grants are Rodrigo Caballeros, Gunilla Svensson, Helen Coxall and Sara Cousins. Congratulations to all scientists who received grants this year.
- The Atmospheric Physics group at MISU is the lead for a new satellite project that was funded by the Space Board. The new satellite and its project is called MATS (Mesospheric Airglow/Aerosol Tomography and Spectroscopy). The plan is to launch the new satellite in 2017.
- Susanne Benze at MISU received funding from the Space Board for a so-called Career Position, which is their counterpart to VR Young Researchers positions. Susanne came to MISU in 2013 on one of the special post-doc positions that were announced across the whole SU on the initiative by the former Rektor, and now it looks like she will stay longer

Bolin Database (Håkan Grudd)

- A data workshop was organized during the Bolin Days 19-20 November 2014 by the database team members Håkan Grudd (INK), Rezwan Mohammad (IGV), Peter Tunved (ITM), and Saeed Falahat (ITM), together with data and support services coordinators from ECDS, Cecilia Bennet and Åsa Johnsen. The workshop was open to all participants of the Bolin Days and many took the opportunity to discuss data management and data sharing with us.
- In December 2014, Rezwan Mohammad participated in a meeting at Google's headquarters outside of San Francisco in the United States. It was organized by two committees of "The General Bathymetric Chart of the Oceans" (GEBCO) which is an international organization that provides the official map of the ocean floor. The purpose was to discuss with the developers of Google their new system for uploading, managing, visualizing and long-term storage of large data sets. This system, and the expertise and experience provided by the GEBCO network, can potentially be useful in the development of Bolin Center's database.
- A new data management service to Bolin Centre Members has been launched in 2015: The Bolin Centre is now able to mint unique digital object identifiers (DOI) for datasets stored in the database. This is possible through collaboration with the Swedish National Data Service (SND) and DataCite. Assigning a unique DOI for datasets will make it possible to directly cite our data, even without having the results published in a journal. This will enable easy reuse and verification of data and it will allow the impact of data to be tracked. With this service, the Bolin Centre is part of an international initiative to create a scholarly structure that recognizes and rewards data producers.
- The Swedish Research Council (VR) has submitted a proposal for "national guidelines for open access to scientific data" to the Swedish Government. The full report can be downloaded from the webpage of VR. The basic principle is that research data forming the basis for scientific publications, and that are the result of publicly funded research, must be openly available! The first steps towards implementation will be taken in 2015 through "pilot" calls for research projects. More information on these pilot projects will come.



Some News of Upcoming Science Events/Activities (watch the website for others)

- Early in 2015 an RA2 workshop on “Large-Eddy Simulation Modelling And Its Application To The Atmosphere” is planned during the beginning of 2015. Please send an email to Annica Ekman (annica@misu.su.se) if you are interested in participating.
- In April 2015 an RA6-RA1 co-supported modelling postdoc, David Hutchinson, University of New South Wales, will begin work on: Links between oceanic gateways and Cenozoic climate transitions.
- 27 May 2015 at 14:00 -15:00 the 8th Annual Bert Bolin Climate Lecture will be given to a broad audience by Professor Ulrike Lohman of ETH Zurich in Aula Magna, Stockholm University with a FIKA to follow. The lecture is on “Uncertainties in climate projections related to clouds and aerosols”. Preceding this on 27 May, 11-12:00 Prof. Lohmann will give an experts lecture at the Bolin Centre entitled “Measurements and simulations of orographic mixed-phase clouds in Switzerland”.
- 23-29 August 2015, the fourth Bolin Centre research summer school for PhD and early career researchers will focus on “Isotopes in Climate and the Earth System”. It is held on the island of Islay, west Scotland. Funding is available for Bolin Centre researchers. Apply now to avoid missing out on a place <http://www.bolin.su.se/index.php/summer-schools/summer-school-2015>.
- In August 2015 in Grindewald, Switzerland, an international workshop on “Storm Tracks And Jet Streams” will take place. RA1 is collaborating in the organization. It will feature the prominent invited speakers. It covers the state of the art in both the theory and modelling of mid-latitude storm tracks. Abstract submission will be open until May 2015; places are limited. We encourage Bolin Centre scientists to apply, especially PhD students and postdocs. Contact Rodrigo Caballero who is on the scientific organising committee. Further information is here: <http://www.sparc-climate.org/meetings/sparc-grindelwaldworkshop-aug2015>