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Ny-Ålesund Newsletter



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INDIA JOINS THE NY-ÅLESUND SCIENTIFIC FRATERNITY

A new vista was opened in the annals of Indian Polar Science programme when a team of five scientists visited Ny-Ålesund during August 2007 to initiate scientific projects in the fields of atmospheric sciences, microbiology and glaciology. The success of these tentative initial steps saw the initiation of four more scientific projects during the late winter/early spring of 2008:

- Snow pack production of carbon monoxide and its diurnal variability,
- Biogeochemistry of nitrogen in the Kongsfjorden,
- Parameterization of glaciers in Northern Hemisphere to variations of climate and
- Ionospheric scintillation & TEC measurements at Ny-Ålesund.

The summer of 2008 saw a few more studies being added to the list:

- Changes in the quantity and quality of carbon pools in Ny-Ålesund permafrost;
- Multiproxy paleoclimatic studies on Quaternary deposits at Ny-Ålesund;
- Carbon cycling in the nearshore environments of Kongsfjorden;
- Palaeoclimatic assessment of the Arctic Ocean using Diatom variability and
- Studies on hydrodynamics of the Kongsfjorden.

The encouraging results of these studies and the overwhelming enthusiasm exhibited by the Indian

scientists to take up challenging projects in the Arctic prompted India to take on lease a station building at Ny-Ålesund to serve as a permanent Research base. This station building with facilities for working and living for 8 persons has been christened 'Himadri', meaning *the abode of snow*. On the 1st July 2008, Himadri was formally inaugurated by Mr. Kapil Sibal, India's Science &Technology Minister, in the presence of the Minister of Higher Education of Norway and the Minister of Science, Germany. On this occasion, India also signed a Memorandum of Understanding with the Norwegian Polar Institute (NPI) for collaborative scientific endeavors in the fields of glaciology, microbiology, geology and atmospheric sciences.

The ensuing summer and the winter months of 2010 again appear to be hectic periods for Indian scientists in the Arctic. Projects as diverse as Arctic geology, community ecology of pelagic systems on Kongsfjorden, space weather and bio-geochemical elemental cycling in the aquatic environment are being planned, with over 30 scientists having already expressed their desire to sign up.

The Indian activities in the Arctic are coordinated and managed by the National Centre for Antarctic and Ocean Research (NCAOR), Goa, an R&D wing of the Ministry of Earth Sciences, Government of India.

By dr. Rajan Sivaramakrishnan, NCAOR

This is the last printed version of Ny-Ålesund Newsletter

Future editions will be distributed electronically in a new format.

Since we do not have a complete e-mail list of today's recipients you are requested to send an e-mail to nysmac@npolar.no in order to receive the newsletter in the future. Please write *subscribe* in the subject field.

Second Ny-Ålesund science flagship initiated

By Christiane Hübner

In November, the Guiding Science Group for the flagship programme on atmospheric research in Ny-Ålesund was established during a SSF-workshop.

The revised version of the Ny-Ålesund Science Plan states "Research within Kongsfjorden International Research Base (KIRB) is comprised of activities at all the stations. Substantial portions of these activities are related and complementary. To release the full potential of these complementarities and simultaneously increase the influence of KIRB in the scientific debate, the stations have agreed to build and implement flagship programs during the plan period. Each flagship program will be guided by a science group."

Flagship programme workshops

In order to initiate these flagships, SSF organises a series of workshops that started with a workshop on marine research ('Kongsfjorden System') in March 2008. Last week, SSF invited to a workshop on atmospheric research. The goal of the workshop was to form the Guiding Science Group for the atmosphere flagship programme, which then started up the work on identifying and implementing joint research, discuss complementarity, overlap and synergetics of current research, and indicating funding needs. The result will be an action plan for the coming years.

Current atmospheric research

The main focus of atmospheric research in Ny-Ålesund lies on the troposphere. This was clearly indicated during the first session of the workshop, where the participants gave information about the current research activities. Several research stations conduct, beside others, research on aerosols and greenhouse gases, but also pollutants and radiation measurements are important contributions. In addition, both China and Norway conduct northern light studies and also other nations investigate processes in the upper atmosphere. There is a large array of monitoring studies, both at the Zeppelin mountain station, as well as in town and the Corbel station, 6 km outside of Ny-Ålesund.

Main goals for the future

Work on an inventory of atmospheric instruments currently in use in Ny-Ålesund has been initiated in order to better utilize the available instruments and datasets and thus be able to focus on complementary research and joint improvements of the international instrument park. There is also a need for common platforms for routine measurements, field campaigns, teaching and outreach activities. The Amundsen-Nobile Tower will be such an infrastructure, but also

common lab facilities would be of great value for the atmosphere research community.

An important criteria for the value of research in Ny-Ålesund is the question of representativeness of the location Ny-Ålesund for climate change and atmospheric process studies. It was therefore agreed upon the importance of studies to investigate issues related to representativeness of Ny-Ålesund in relation to Svalbard, the Arctic and in global context. Finally, several focus areas for future research within climate change and atmospheric process studies were identified.

In order to put atmospheric research and Ny-Ålesund in a broader context the connection to the other flagship programmes as well as the other research bases in Svalbard was emphasized and collaboration possibilities were discussed. The final concluding document is expected to be available in summer 2009.

Terrestrial System Flagship Workshop – your input is appreciated!

By Christiane Hübner

The next workshop on Ny-Ålesund flagships will be held in Oslo, 6-8 May 2009. This time, the topic will be 'Terrestrial Systems'. The planning group for the workshop is formed by Steve Coulson (UNIS), Geir Wing Gabrielsen (NPI), Maarten Loonen (Arctic Centre, Univ. Groningen) and Christiane Hübner (SSF). We are now in the process of collecting ideas on potential topics for the agenda. Please contact us, if you want to contribute to the

workshop: ssf@npolar.no.

ARCFAC V project – 2008 news

By Marzena Kaczmarska

EU-funded project aiming at better use of the existing research infrastructure in Ny-Ålesund – ARCFAC V is slowly coming to its last year of existence. We have delivered the required minimum of research man-days for the entire project period (51 projects funded so far = 2000 man-days distributed among 130 researchers from 18 countries). The latest User Selection Panel meeting took place in Rome, Italy in early December 2008. As a result of the decisions made during the meeting, we expect 13 new projects to start their activities in Ny-Ålesund in 2009. We congratulate the leaders of the successful projects and we wish them all a very fruitful 2009 season!

List of funded projects, projects summary reports and other information can be found at the ARCFAC website at: http://arcfac.npolar.no

News from Kings Bay AS

By Bendik Eithun Halgunset

- Jon Erik Nygaard, the new director of Kings Bay AS, entered into office on September 1, 2008.
- The foundation for the Amundsen-Nobile Climate Change tower has been prepared and made ready for erecting the tower in spring 2009. The tower itself has arrived in Ny-Ålesund.
- Work is in progress for establishing an information centre in Ny-Ålesund. This will display and explain the research activities in Ny-Ålesund for all visitors to the settlement. Kings Bay AS and the NPI are in charge of the process of establishing the centre. It is due to open in May-June 2009.
- Kings Bay AS will launch a new web-based registration system for researchers intending to visit Ny-Ålesund. This will facilitate the registration procedures for Kings Bay AS. The institutions will receive consecutive notifications about registrations for their stations. The system requires registration in the RiS-database before a registration is made possible. Launching is set to January 2009.
- A new micro turbine based power plant will be operational during 2009. This will secure the power supply to Ny-Ålesund, and also lead to the old power station being used as a back-up system.

CORBEL

By Franck Delbart, IPEV

The Corbel Station started the re-building process in spring and summer 2008. At the moment, 2.7 Kwp are installed, with a significant contribution from the KOPRI (Korean Polar Institute), which has devoted 3 solar panels to the system. The battery sets and regulations systems are installed since this beginning of the winter. Thus, on the four buildings, the northest one has ended with its grey shape and started with a Norwegian wooden cover and 16 solar panels on its south side. This is the first step of the total reshape, which will end in 2010. The hole station already hosts atmospheric measurements (2 particle counters, from IPEV and KOPRI), and a meteorological station. A paper comparing particles measurements from Zeppelin St. and Corbel written by NP/J. Ström came out recently.

Ny-Ålesund Air Quality on the Web

By Ove Hermansen, NILU

Air quality measurements from Ny-Ålesund can now be checked hourly on the web.

Continuous monitoring of the air quality "downtown" Ny-Ålesund started last summer. The purpose of the project is to investigate air pollution from local sources such as car traffic, the power station, boat traffic etc. A number of compounds are monitored using a combination of continuous monitors (high time resolution) and sampling methods (low detection limit). Some of the monitor data are downloaded hourly and presented on www.luftkvalitet.no as tables and plots (these web pages are in Norwegian only). The monitoring project is a cooperation between NILU (sampling and monitoring of air pollutants), ITM (monitoring of black carbon) and NPI (operation and maintenance of instruments).

The second AWIPEV scientific workshop on French – German Polar Science on Spitsbergen

By Roland Neuber, AWI

A scientific workshop of mainly French and German scientists convened 8-10 October 2008 at the University of Bremen in order to present and discuss polar research work conducted on Spitsbergen and in particular at the French – German Arctic Research Base AWIPEV in Ny-Ålesund. The workshop gave a good overview of the current research implemented on the AWIPEV Base and helped to promote new German-French programmes and collaborations for the next coming years. The workshop was organized by AWI, IPEV and the IUP of the University of Bremen and was prominently supported by Kim Holmén (Norwegian Polar Institute), Gunnar Sand (UNIS), and Bendik Halgunset (Kings Bay AS), who gave key lectures about the future developments in Ny-Ålesund and on Svalbard (like SIAEOS).

Workshop participants developed several new ideas for upcoming research activities. These include the use of a Remote Operated Vehicle (ROV) in Kongsfjorden, as well as about "Life in Darkness". The later is a new discussion group about marine biological studies in the polar night. (For more info see http://groups.google.com/group/life-in-darkness and contact Martin.Graeve@awi.de).

For co-operations using the ROV please contact Franck.Delbart@ipev.fr

The workshop programme and selected contributions are available at

http://www.awi.de/en/infrastructure/stations/awipevarctic_research_base/awipev_workshop/

or from Roland.Neuber@awi.de

Calendar of Arctic Meetings

30th NySMAC meeting

23 March 2009 in Bergen, Norway

For a comprehensive list of published meetings related to the Arctic, look at Arctic Calendar of Events on the IASC home page http://www.iasc.se or http://calendar.arcus.org/

Staff News

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This year's AWIPEV-Base overwintering team consists of:

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