

## A Long Journey over the Antarctic Ice

As autumn darkness falls over Sweden, the Antarctic spring arrives. Two groups of scientists have just left Sweden and Japan to carry out a land-based expedition on the Earth's most southern continent during the Antarctic summer, when the sun shines throughout the day and night. The Japanese-Swedish Antarctic Expedition, JASE, is a contribution from the two countries to the International Polar Year.

The Swedish group consists of five scientists, four of them from Stockholm University: Per Holmlund, Margareta Hansson, Torbjörn Karlin and Susanne Ingvander. A doctor and three technicians are also part of the team, to ensure that both people and equipment remain in good condition. The Swedish Polar Research Institute is arranging the expedition, which is financed by the Swedish Research Council.

The group is now at the Swedish research station WASA on the north-west coast of Antarctica, intensively occupied with final preparations for the two-month journey across the inland ice. The eight members of the Japanese group will start from a coastal base far to the east. The two groups plan to meet around the half-way point, in a region of subglacial lakes.

### Subglacial lakes

The lakes lie encapsulated deep below the surface of the ice, and the water within is in liquid form as a result of the high pressure exerted by the ice. No-one had any idea that these lakes existed before they were discovered about 10 years ago. Many people have



*On the way ....*

speculated over the possibility that there are living organisms in these lakes, which have lain undisturbed for millions of years. We still know very little about them, and no-one has drilled down into one yet. All operations must be carried out with extreme care in order not to disturb the very finely balanced conditions here. The expedition will investigate the possibilities of studying these lakes more carefully.

### The cleanest continent on Earth

A further aim of the expedition is to study various processes active on the surface of the Antarctic. This is the cleanest continent on Earth – but a significant amount of activities elsewhere do reach here in the form of airborne particles. Traces of the nuclear testing carried out at various locations in the 1950s and 1960s, for example, can be clearly seen. In order to study the climate development of the past 100 years, following the growth of industrialism, JASE will analyse samples of surface snow. A better understanding of surface processes will provide better understanding of the

long time-series obtained when drilling deeply into the Antarctic.

### Challenges to face

It will be a long train moving over the snow cover. Four massive tracked vehicles will pull two living units and a laboratory unit. It is difficult to find space for everything that must be taken, such as radar, sampling and analysis equipment, snow drilling equipment, particle counters and a weather station.

“We will travel around 3,000 km, corresponding to almost twice the complete length of Sweden”, says Per Holmlund, scientific leader of the expedition, before their departure from Sweden. “The only thing is, we’ll be travelling at 10 km/h.”

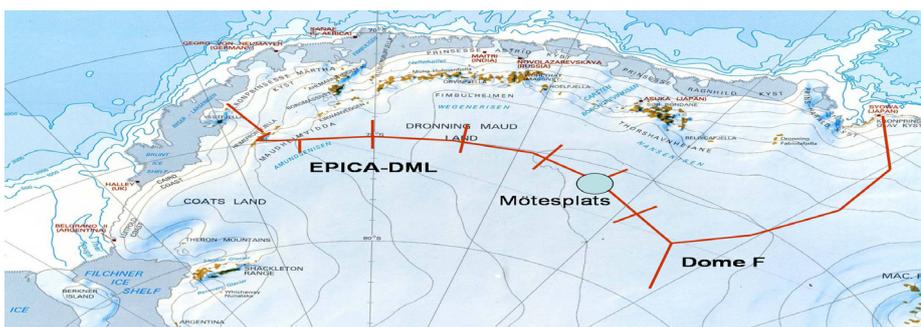
Members of the group will be working and living side by side. What’s it like – living and working together under such extreme conditions? The temperature can easily fall to  $-40^{\circ}\text{C}$  on the Antarctic inland.

“Well,” laughs Per, “actually it works quite well. Most of the team members have visited the Antarctic before, and everyone knows what they have to do.”

The group went on a training trip to Mont Blanc in August-September. They lived together in a small hut 3,400 metres above sea level and tested the equipment – and themselves – on trips across the ice. Everyone found out how they react to the cold and the thin air, exactly the same conditions they will experience in the Antarctic.

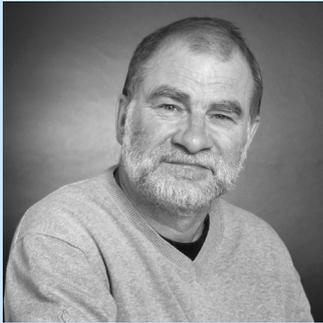
The group is expected to return to Stockholm on 16 February 2008.

Text: Felicia Markus



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## The Dean's Discourse



*The exhibition visitors were very interested.*

There were four of us from the Faculty of Science: Birgitta Eriksson (Faculty Office), Birgitta Åkerman (BIG), Yishao Zhou (Mathematics), and myself, who travelled, together with 11 others from Stockholm University, to Beijing and Shanghai in October, a journey arranged by the Swedish General Consul in Shanghai. The Swedish delegation, led by Prorector Lena Gerholm, included representatives from 13 other institutes of higher education in Sweden.

The programme included education exhibitions in Beijing and Shanghai, and visits to six universities and five authorities or organisations, one of which was the Ministry of Education. The more organised social activities included a reception with the ambassador in Beijing and a banquet with the general consul in Shanghai. The fully packed programme did not leave much time for tourism or sight-seeing.

The journey was a very valuable experience for me, and it was, of course, exciting. We returned often to such questions as: how are we to conduct internationalisation? What do we mean by the term, and how large should

the participation of international students be in our courses? The very word "internationalisation" has become a key word, and it contains many concepts. International publication within the faculty does not need to increase - most of our publications are already in English - and international contacts across the research world are also prolific. What does need to be discussed, however, are students coming to, as well as leaving, Sweden. Why should we take on students from abroad? How many should we admit? From which countries? And how should it all be organised? All of these are important questions. Similarly, we also need to discuss why our students should study at universities abroad, at which universities, and the extent to which such travel should take place. I intend to discuss these questions within the faculty in the coming spring, but would like to give a few ideas now, based on, among other things, the experiences we obtained and the discussions we held on the journey to China.

I believe that the driving force in recruiting students from abroad should be that they provide an international stamp to our education,

that they contribute experiences from other cultures and educational systems. We should not recruit simply to achieve the maximum allocation, even though this is tempting. We should also strive towards mainly accepting students onto our Master's programmes and within agreements, such that we have full information about the qualifications of the students applying. One consequence of this is that we will probably reach agreements with universities with whom we already have other contacts, such as within research.

This is the final Faculty News for 2007, and I would like to thank you for your efforts and work during the year that has passed, and to wish you a relaxing Christmas holiday and a successful 2008!

Stefan Nordlund, Dean  
stefan@dbb.su.se

## "Living questions" and a new book, "Frågis? del 2"

The latest "Living questions" event in the Aula Magna was, as usual, a great success! This popular event, which took place on 19 November, attracted over 1,000 energetic, curious and expectant sixth-graders and their teachers from schools across Stockholm County.

Four of the eight panel members were there for the first time: Linus Magnusson (Meteorology), Kalle Gotthard (Zoology), Sofia Andersson (Physical geography and quaternary geology) and Gunnar Thorsén (Analytical chemistry). Other members of the panel were Lisa Nilsson (Mathematics), Magnus Näslund (Astronomy), Jaana Vuorinen (Swedish

Museum of Natural History) and Marie Öhman (Molecular biology). All panel members were rewarded by enthusiastic applause from the curious children.

Everyone attending the event received a copy of the new book, "Frågis? del 2" which has just been published. In the book scientists at Stockholm University answer questions previously sent in by children, and Nino Keller's colourful illustrations bring both questions and the scientists to life in his own very special manner. Highly recommended for children and adults!

The next "Living questions" will be held on Tuesday 13 May 2008.

## Welcome to the Careers Fair 5 December

All are cordially invited to this year's Careers Fair for Scientists, to be held on 5 December, 12.00-15.00, at the Arrhenius Laboratory, Building E. A record number of companies will be exhibiting this year. Programme:

12.00 – 15.00	Exhibition
12.30 – 12.45	Information about research education, Lecture Hall G
13.00 – 14.45	Company presentations
14.45 – 15.00	What happens to our students after they have finished their undergraduate studies? Presentation of the report <i>Efter studierna IV</i> .

