

# STUDENTS IN POLAR RESEARCH CONFERENCE 2015

20 - 22 April 2015, Brno, Czech Republic

## Actual topics of student's research projects on Polar geosciences and biosciences

### Second Announcement

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## Introduction

Dear young polar researchers,

this is the Second Announcement of **Students In Polar Research Conference** that will take place in **Brno, Czech Republic between April 20 and 22, 2015**. Here we provide further information about the conference. Please, visit the website of Polar research at Masaryk University to see previous announcement (link for the website: [HERE](#)). We believe many of us will meet on the ground of Masaryk University to discuss various topics about Polar regions.

## Venue

The conference will be held on the ground of Department of Geography, Masaryk University. Map of the venue will be provided to all participants with definite program at latest one week after the deadline for registration (3 April).

### **Address:**

Department of Geography  
Faculty of Science  
Masaryk University  
Kotlářská 2  
Brno, Czech Republic

## Accommodation

Every participant is asked to arrange an accommodation individually.

We can offer up to 30 places at dormitories of Masaryk University for the price of 200 CZK (approximately 7,50 EUR) per night. **Please note that this offer is valid until 3 April.**



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## Program

**PLEASE NOTE THAT DUE TO INTERNAL REASONS WE SWITCHED BIOSCIENCES SECTION TO 20 APRIL AND GEOSCIENCES SECTION TO 21 APRIL.** Excursion will stay on 22 April. Complete program will be announced and sent to all participants at latest one week after the deadline for registration (3 April).

## Keynote talks - Biosciences

**The role of ice algae in the albedo feedback on the Greenland Ice Sheet**

*Marek Stibal*

The Greenland Ice Sheet (GrIS) has been darkening since 2000 due to the combination of an increasing area of bare ice, increasing near surface liquid water production, and increasing surface concentrations of light-absorbing impurities. Light-absorbing impurities in Greenland ice include mineral dust and microbial cells. Several species of algae are abundant on the ice sheet surface and produce a protective dark pigment when exposed to high intensities of radiation. This dark pigment not only allows the algae to survive and photosynthesise in this extreme environment, but may also decrease the albedo of the ice when present in high concentrations, potentially promoting ice melt. We collected data of surface albedo and light-absorbing impurities over two months in summer 2014 and quantified for the first time the importance of ice algae for the albedo feedback at the surface of the GrIS.

**Diatoms from the Maritime Antarctic Region; Extreme endemism in Antarctica**

*Kateřina Kopalová*

(Bio-) geographically interesting location such as Maritime Antarctic region currently receives considerable attention with growing interest towards global climate changes. Diatoms (Bacillariophyta) are one of the principal algal groups in the freshwater and terrestrial ecosystems of the Antarctic Region and their communities are often used as perfect indicators of environmental changes and also as excellent tool for paleo-ecological and biogeographical studies. Until recently, most of the fresh-water diatom species were believed to have a cosmopolitan nature although recent studies show that a highly specific flora could be found in Maritime Antarctic Region. Can we consider Maritime Antarctic region as a biogeographical hotspot or is it just a taxonomical artefact?



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## Keynote talks - Geosciences

### Glacial changes of marginal parts of Antarctica since the Last Glacial Maximum: The James Ross Island case study

*Daniel Nývlt*

Antarctic Ice Sheet has changed significantly in its marginal parts over the Quaternary glacial-interglacial cycles. James Ross Island (JRI) located at the north-eastern tip of the Antarctic Peninsula represents an excellent place to study glacial changes since the Last Glacial maximum (LGM), i.e. from the full glacial to present interglacial conditions. Antarctic Peninsula Ice Sheet (APIS) advanced to the continental shelf edge during the LGM. The ice recession started after 18 ka BP. Retreating ice streams became floating ice shelves due to pronounced sea level rise in the latest Pleistocene. APIS split from the JRI Ice Cap approximately at 12.9 ka and since that both ice masses evolved separately. This age represents the minimum age of deglaciation of JRI's low-lying areas, the remaining ice cover located at higher elevations retreated during the early Holocene due to gradual decay of terrestrial ice. Neoglacial Mid- to Late-Holocene advances are known for local glaciers, the last of them took place during the Little Ice Age, when prominent moraine ridges surrounding present glaciers developed. Since that time local glaciers retreated significantly, however remote data shows that most of the retreat took place during the last four decades. Recent acceleration of glacier retreats is also known from other marginal parts of Antarctica. However, field glacier mass balance data for small glaciers on JRI show large inter-annual variability with unprecedented ice gains in 2009, 2010 and 2012.

### Palaeontology of Cenozoic and Mesozoic sedimentary environments in James Ross Basin (Antarctic Peninsula)

*Radek Vodrážka*

The talk will focus on paleontology and sedimentology of James Ross Basin (Antarctic Peninsula region). Tens of important fossil finds from Cenozoic and Mesozoic strata of Antarctic Peninsula and Seymour, Vega and James Ross islands will be presented. Moreover, the importance of these fossils for understanding biostratigraphy, palaeogeography and palaeoecology of studied sedimentary rocks will be discussed. A special emphasis will be put on description of palaeontological techniques employed in field studies in Antarctica, comparing and contrasting them with those used in temperate climate regions. Laboratory methods for extraction of micro- and meso-fossils will be briefly introduced as well.





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*20 - 22 April 2015, Brno, Czech Republic*

## Excursion

Our excursion will lead to Pálava Region nowadays mostly famous for vineyards covering the best part of the region. Nonetheless, there is much more to see. Archeologists found here one of the oldest piece of art in Europe, statuette of Venus of Dolní Věstonice from Upper Paleolith. Geologists might observe jurassic limestones and thick layers of fossil soils with preserved environmental record in Quaternary. In spring, hills of Pálava regions are dressed in blue as hillslopes are covered by iris (*Iris pumula*). Pálava region belongs to the warmest part of the Czech Republic and thus - hand in hand with limestones - it provides good conditions for thermophilic plants to spread as far up north as the Czech Republic. The unique combination of cultural and natural development gave the reason for establishment of Protected Landscape Area

The excursion will contain the visit of archeological museum in Dolní Věstonice. After that, short hike to ruins of Děvičky castle will follow. Pleasantly tired, we will spend an early afternoon in a cellar and taste products of local winery.

## Registration

Participation fee is 10 EUR, which includes entrance ticket to the conference, small refreshment during conference (coffee breaks), and excursion. It will be paid during registration on Monday April 20. For registration, please send the Registration form (download [HERE](#)) and Abstract (download [HERE](#)) to [geopolarbrno@gmail.com](mailto:geopolarbrno@gmail.com). For more information about different types of contribution, please have a look at their First Announcement ([HERE](#)). Organisers reserve rights to ask participant to change their contribution from oral to poster. Note that all participants are required to register individually even when two or more participants will contribute with only one presentation. If more presentations are submitted by one author, please fill the application form for each presentation individually.

## Important dates

February 9, 2015: Registration opened

March 10, 2015: Second Announcement with detailed information about program, conference venue, and invited speakers

April 3, 2015: Deadline for sending abstracts and registration

April 20-22, 2015: Students In Polar Research Conference 2015

