



Polar & Alpine Microbiology



# 6<sup>th</sup> International Conference on Polar and Alpine Microbiology

September 6 – 10, 2015

Centre for Polar Ecology, Faculty of Science,  
University of South Bohemia in České Budějovice  
České Budějovice



## Programme and Abstracts

Edited by Jana Kvíderová, Daria Tashyreva,  
Alexandra Bernardová & Josef Elster



Přírodovědecká  
fakulta  
Faculty  
of Science



INSTITUTE  
OF BOTANY ASCR

2015

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PAM 2015

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The conference was organized and with kind support of following institutions:

International Arctic Science Committee

Scientific Committee for Antarctic Research

Faculty of Science, University of South Bohemia in České Budějovice (project no. IP15 PO 03)

Institute of Botany AS CR (in frame of long-term research development project No. RVO 68985939)

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## Message from the Chair of the PAM2015 Conference

Dear Colleagues,

Since the 1<sup>st</sup> Polar and Alpine Microbiology Conference held in Rovaniemi the world microbial society studying polar and alpine microbes has been meeting regularly every two years (Rovaniemi, Finland 2004, Innsbruck, Austria 2006, Banff, Canada 2008, Ljubljana, Slovenia 2011, Big Sky, USA 2013 and České Budějovice, Czech Republic 2015).

It is our great privilege to host the conference in our country this year. Czech Republic (and Slovak Republic, former Czechoslovakia) have been members of the alpine and later polar science community. At the end of the last century, with opening of the borders between East and West and political changes in Central and East Europe, Czech polar activities started to flourish. Several expeditions to various parts of the Arctic and Antarctic have been organized. At present two polar research infrastructures are managed by the Czech Republic. Since then, the Svalbard archipelago and Antarctic Peninsula are the main regions of our interest. The Czech Arctic Research Station of Josef Svoboda on Svalbard is managed by the Centre for Polar Ecology, Faculty of Science, University of South Bohemia in České Budějovice while the Czech Antarctic research station of J.G. Mendel on James Ross Island is managed by the Institute of Geography, Faculty of Science, Masaryk University in Brno.

The conferences were always very successful in bringing together the scientific community for discourse on the latest in all aspects of cold-living microorganisms and their role in polar and alpine environments. Climate changes that were observed and documented over the last decades brought polar and alpine areas to the center of attention of the general public and international science community, including microbiologists. Understanding the processes occurring across polar and alpine environments requires a coordinated effort over space and time to capture the naturally high variability associated with Polar and Alpine Regions.

The conference is organized by the Centre for Polar Ecology and I would like to acknowledge support for this conference from the Faculty of Science, University of South Bohemia in České Budějovice, the Institute of Botany, Academy of Science of the Czech Republic, Třeboň and the international polar organizations - the International Arctic Science Committee and the Scientific Committee for Antarctic Research.

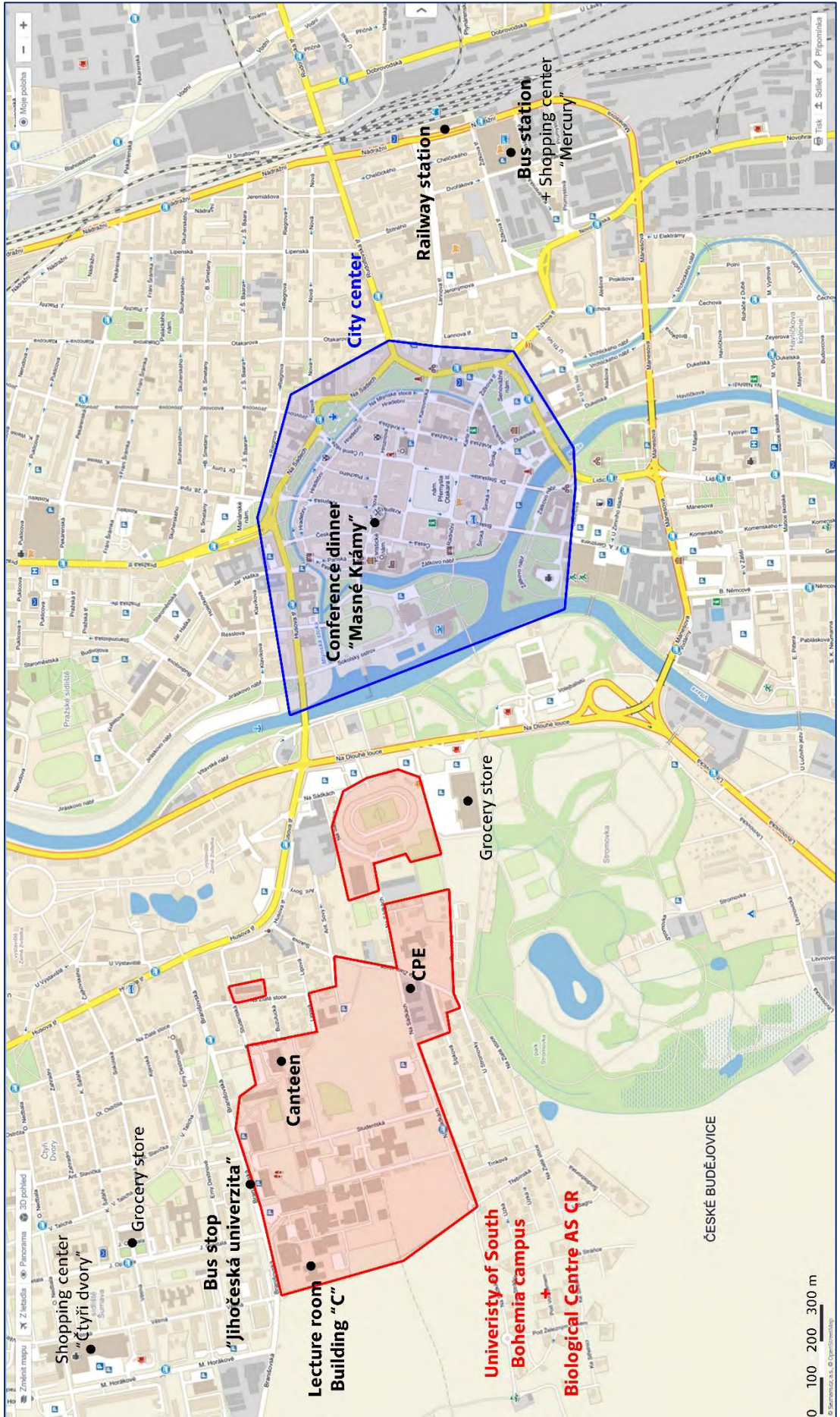
Welcome to České Budějovice, enjoy the Polar and Alpine Microbiology Conference, and enjoy your stay in the beautiful region of South Bohemia!

Josef Elster

Chair of the Conference  
Head of the Centre for Polar Ecology



**Map of facilities**



# Conference programme

## Conference schedule

	Sun September 6	Mon September 7	Tue September 8	Wed September 9	Thr September 10
8:00		<b>Registration</b> (Building C lobby)			
8:20		<b>Welcome speech</b> (Lecture room)	<b>Registration</b> (Building C lobby)	<b>Registration</b> (Building C lobby)	
8:30		<b>Polar/alpine microbiology and environmental change</b> (Lecture room)	<b>Microbial diversity and evolution</b> (Lecture room)	<b>Supraglacial, subglacial and glacial microbiology</b> (Lecture room)	<b>Excursion</b> (South Bohemia)
10:00		<b>Coffee break</b> (Building C lobby)	<b>Coffee break</b> (Building C lobby)	<b>Coffee break</b> (Building C lobby)	
10:30		<b>Polar/alpine microbiology and environmental change</b> (Lecture room)	<b>Microbial diversity and evolution</b> (Lecture room)	<b>Supraglacial, subglacial and glacial microbiology</b> (Lecture room)	
11:50				<b>Lunch</b> (Canteen)	
12:10		<b>Lunch</b> (Canteen)	<b>Lunch</b> (Canteen)		
13:00		<b>Cold physiology and cryobiology</b> (Lecture room)	<b>Microbial diversity and evolution</b> (Lecture room)	<b>Supraglacial, subglacial and glacial microbiology</b> (Lecture room)	
14:00			<b>Coffee break</b> (Building C lobby)	<b>Coffee break</b> (Building C lobby)	
14:30		<b>Coffee break</b> (Building C lobby)	<b>Polar/alpine eukaryotic microorganisms</b> (Lecture room)	<b>Astrobiology of icy worlds</b> (Lecture room)	
15:00		<b>Cold physiology and cryobiology</b> (Lecture room)			
16:00	<b>Registration</b> (Building C lobby)	<b>Coffee break</b> (Building C lobby)	<b>Coffee break</b> (Building C lobby)	<b>Coffee break</b> (Building C lobby)	
16:20		<b>Coffee break</b> (Building C lobby)			
16:30		<b>Poster Session A</b> Official part (Building C lobby)	<b>Polar/alpine cyanobacteria</b> (Lecture room)	<b>Biotechnology at low temperatures</b> (Lecture room)	
17:20			<b>Coffee break</b> (Building C lobby)		
17:30			<b>Poster Session A</b> Official part (Building C lobby)		
18:00	<b>Opening ceremony</b> (Building C lobby)			<b>Closing ceremony</b> (Lecture room)	
18:30	<b>Icebreaker party</b> (Building C lobby)	<b>Poster session A with Budvar beer</b> (Building C lobby)	<b>Poster session B with Budvar beer</b> (Building C lobby)		
19:00					
19:10					
19:50					
20:00					
22:00					

## Conference programme

### Sunday September 6, 2015

- 16:00 - 21:00 **Registration**  
 18:00 - 18:30 **Opening ceremony**  
 18:30 - 22:00 **Icebreaker party**

### Monday September 7, 2015

- 8:00 - 17:00 **Registration**  
 8:20 - 8:30 **Welcome speech**

### A. Polar/alpine microbiology and environmental change: past, present and future

**Minna K. Männistö (Chair)**

*Finnish Forest Research Institute, Rovaniemi, Finland*

**Max Häggblom (Co-Chair)**

*Rutgers University, USA*

- |                      |                     |  |        |
|----------------------|---------------------|--|--------|
| 8:30 - 9:00          | Minna K. Männistö   | The impact of large grazers on the responses of soil microbial communities to warming and increased nitrogen availability        | KN-A   |
| 9:00 - 9:20          | Alexandre Anesio    | Microbial succession from ice to vegetated soils in the High Arctic  | L-A-01 |
| 9:20 - 9:40          | Craig Cary          | Resolving spatial and temporal heterogeneity in terrestrial Antarctic microbial communities                                      | L-A-02 |
| 9:40 - 10:00         | Max Häggblom        | Bacterial utilization of carbon and nitrogen at subzero temperatures in tundra soils   | L-A-03 |
| <b>10:00 - 10:30</b> | <b>Coffee break</b> |  |        |
| 10:30 - 10:50        | Elisabeth Helmke    | Arctic bacterial sea ice communities affected by global warming  | L-A-04 |
| 10:50 - 11:10        | Anne Jungblut       | Microbial mat communities along environmental gradients in perennially ice covered Antarctic lakes                               | L-A-05 |
| 11:10 - 11:30        | Gabriela Mataloni   | Microbial planktonic communities as environmental indicators in a Tierra del Fuego peat bog                                      | L-A-06 |
| 11:30 - 11:50        | Laura Selbmann      | Environmental pressure and variation of fungal biodiversity in rock microbial communities of Northern Victoria Land (Antarctica) | L-A-07 |
| 11:50 - 12:10        | Ruben Sommaruga     | Changes in bacterial community composition along a turbidity gradient in recently-formed lakes in SW Greenland                   | L-A-08 |
| <b>12:10 - 13:00</b> | <b>Lunch</b>        |  |        |



## C. Cold physiology and cryobiology

**Anders Priemé** (Chair)

*Geological Survey of Denmark and Greenland, Copenhagen, Denmark*

**Antonio Quesada** (Co-Chair)

*Universidad Autónoma de Madrid, Spain*

13:00	-	13:30	Andres Priemé	Microbial activity in newly thawed permafrost soil	KN-C
13:30	-	13:50	Klaus Herburger	Callose acts against desiccation: induced forces in filamentous streptophyte green algae from alpine regions	L-C-01
13:50	-	14:10	Thulani Makhwanyane	Meta-omic analysis reveals widespread functionality in Antarctic hypoliths from two Dry Valley system	L-C-02
14:10	-	14:30	Riitta Nissinen	Some like it cold, some like it green, some like it cold and green - comparative genomics of sphingomonads associated with Arctic plants	L-C-03
<b>14:30 - 15:00 Coffee break</b>					
15:00	-	15:20	Elena Patova	Nitrogenase activity of soil cyanobacterial crusts in polar and subpolar Urals (European North-East Russia)	L-C-04
15:20	-	15:40	James Raymond	Ice binding proteins of a snow alga, <i>Chloromonas brevispina</i> : probable acquisition by horizontal gene transfer	L-C-05
15:40	-	16:00	Daria Tashyreva	The limits of desiccation tolerance of Arctic <i>Microcoleus</i> strains (Cyanobacteria) and environmental factors inducing it	L-C-06
16:00	-	16:20	Cinzia Verde	Coping with cold: from the structure to the function of Antarctic bacterial globins	L-C-07

**16:20 - 16:30 Coffee break**

## Poster session A

16:30 - 17:30 Official part - Posters from Sections A, C, D and G; followed by beer party

## Tuesday September 8, 2015

8:00 - 17:00 **Registration**

## B. Microbial diversity and evolution

**David Pearce** (Chair)

*Northumbria University, Newcastle, UK*

**Dirk Wagner** (Co-Chair)

*German Research Center for Geosciences, Potsdam, Germany*

8:30	-	9:00	David Pearce	So what is in the atmosphere - the last piece of the jigsaw?	KN-B
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9:00	-	9:20	Natalia Belkova	Variety and diversity of representatives of 'candidate' phyla in cold seeps from Sayan Mountains (Siberia, Russia)	L-B-01
9:20	-	9:40	Martin Hartmann	Unraveling the unknown microbial diversity hidden in alpine permafrost	L-B-02
9:40	-	10:00	Christoph Keuschnig	Arctic snowpack-soil interface - strict boundary or ecosystem trading zone?	L-B-03
<b>10:00 - 10:30 Coffee break</b>					
10:30	-	10:50	Yung Mi Lee	Draft genome of members of the OP9 lineage obtained from single cells sorted from a marine sediment of the Ross Sea, Antarctica	L-B-04
10:50	-	11:10	John Prisco	Methane transformations in Arctic and Antarctic ice-covered lakes	L-B-05
11:10	-	11:30	Sara Rassner	It pays to be a winner: viral control of the bacterial community of a High Arctic glacier surface	L-B-06
11:30	-	11:30	Elizaveta Rivkina	Metagenomics of permafrost - key for paleoecology	L-B-07
11:50	-	12:10	Viktoriya Shcherbakova	Sulfate-reducing bacteria in Arctic cryopegs	L-B-08
<b>12:10 - 13:00 Lunch</b>					
13:00	-	13:20	Guillaume Tahon	Diversity of <i>cbbL</i> , <i>nifH</i> and <i>pufLM</i> genes in soils around the Princess Elizabeth Station, Sør Rondane Mountains, Antarctica	L-B-09
13:20	-	13:40	Bernhard Tschitschko	Host-virus interaction in a frigid, hypersaline Antarctic lake revealed by metaproteomics	L-B-10
13:40	-	14:00	Marc Van Goethem	Microbial communities of Antarctic soil and lithic habitats	L-B-11
<b>14:00 - 14:30 Coffee break</b>					

## F. Polar/alpine eukaryotic microorganisms

**Wim Vyverman** (Chair)

*Ghent University, Belgium*

**Nina Gunde-Cimerman** (Co-Chair)

*University of Ljubljana, Slovenia*

14:30	-	15:00	Wim Vyverman Elie Verleyen	Post-Miocene divergence of polar diatom biomes	KN-F
15:00	-	15:20	Nina Gunde-Cimerman	Black yeasts from glaciers to sauna - biological answer to a changing world?	L-F-01
15:20	-	15:40	Maxime Sweetlove	Biogeographic zoning of aquatic microeukaryotes in the Antarctic realm	L-F-02
15:40	-	16:00	Tatiana Vishnivetskaya	Hunting for green algae and cyanobacteria in Siberian permafrost	L-F-03
<b>16:00 - 16:20 Coffee break</b>					

## E. Polar/alpine cyanobacteria

**Jiří Komárek** (Chair)

*Academy of Science, Institute of Botany, Třeboň, Czech Republic*

**Annick Wilmotte** (Co-Chair)

*Liege University, Belgium*

16:30	-	17:00	Jiří Komárek	Polar/Alpine cyanobacteria	KN-E
17:00	-	17:20	Antje Donner	Diversity of hypolithic cyanobacteria from three locations in western Spitsbergen	L-E-01

**17:20 - 17:30 Coffee break**

## Poster session B

17:30 - 18:30 Official part - Posters from Sessions B, F, E and H; followed by beer party

## Wednesday September 9, 2015

8:00 - 12:00 **Registration**

## D. Supraglacial, subglacial and glacial microbiology

**Andy J. Hodson** (Chair)

*University of Sheffield, UK*

**Marek Stibal** (Co-Chair)

*Charles University, Prague, Czech Republic*

8:30	-	9:00	Andy J. Hodson	The ecology and biogeochemistry of maritime Antarctic snow	KN-D
9:00	-	9:20	Liz Bagshaw	Light adaptation of microbial communities in Antarctic cryoconite holes	L-D-01
9:20	-	9:40	Karen Cameron	Export of microbial cells from the Greenland Ice Sheet	L-D-02
9:40	-	10:00	Andrea Franzetti	Dynamics and microbial community functions in cryoconite from Italian Alps and Karakoram	L-D-03

**10:00 - 10:30 Coffee break**

10:30	-	10:50	Stefanie Lutz	Biogeography and functionality of microbial glacial surface communities across the Arctic	L-D-04
10:50	-	11:10	Lorrie Maccario	Microbial life in the arctic snowpack photochemical reactor	L-D-05
11:10	-	11:30	Birgit Sattler	Settlement of an Alpine englacial system with microbial communities - who comes first?	L-D-06
11:30	-	11:50	Takahiro Segawa	The nitrogen cycle in cryoconites: naturally occurring nitrification-denitrification granules on a glacier	L-D-07

**11:50 - 13:00 Lunch**

13:00	-	13:20	Mark Skidmore	Linking elemental cycles in subglacial systems through microbial processes	L-D-08
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13:20	-	13:40	Marek Stibal	The role of ice algae in the albedo feedback on the Greenland Ice Sheet	L-D-09
13:40	-	14:00	Jon Telling	Between a rock and a hard place: rock comminution as a source of hydrogen for subglacial systems	L-D-10
<b>14:00 - 14:30 Coffee break</b>					

## H. Astrobiology of icy worlds

**Jean-Pierre Paul de Vera (Chair)**

*Institute of Planetary Research, Berlin, Germany*

**Silvano Onofri (Co-Chair)**

*Università della Tuscia, Italy*

14:30	-	15:00	Jean-Pierre de Vera	Potential biospheres in the icy worlds in our solar system	KN-H
15:00	-	15:20	Sergey Bulat	Microbiology of the subglacial lake Vostok: First results with borehole-frozen lake water and prospects	L-H-01
15:20	-	15:40	Silvano Onofri	BIOMEX experiment: survival, ultrastructural and molecular damage in the cryptoendolithic Antarctic fungus <i>Cryomyces antarcticus</i> exposed to space and simulated Mars-like conditions	L-H-02
15:40	-	16:00	Dirk Wagner	<i>Methanosarcina soligelidi</i> SMA-21 - an archaeal candidate for life on Mars	L-H-03

**16:00 - 16:30 Coffee break**

## G. Biotechnology at low temperatures

**Rosa Margesin (Chair)**

*Innsbruck University, Austria*

**Giuseppe Torzillo (Co-Chair)**

*CNR - Istituto per lo Studio degli Ecosistemi, Sesto Fiorentino, Italy*

16:30	-	17:00	Rosa Margesin	Biotechnological significance of microorganisms in low temperature environments	KN-G
17:00	-	17:20	Lorena Monserrate Maggi	Bioprospecting of Hg processing micro-organisms from South Shetlands Island, Antarctica	L-G-01
17:20	-	17:40	Giuseppe Torzillo	Development of photobioreactors for low-temperature environment	L-G-02
17:40	-	18:00	Oddur Vilhelmsson	Naphthalene-degrading bacteria associated with terricolous lichens in Iceland	L-G-03

**18:00 - 18:30 Closing ceremony**

**20:00 - 22:00 Dinner at Masne Kramy**

## Thursday September 10, 2015

**8:30 - 22:00 Excursion**

## Poster session A

Poster No	Presenting author		Title	
1	Ingeborg	<b>Bussmann</b>	Methane oxidation and methane distribution around the Lena Delta, Siberia, Russia	P-A-01
2	Alica	<b>Chroňáková</b>	Microbial community development on deglaciated soils in High Arctic (Svalbard) in comparison to sub-Arctic continental regions	P-A-02
3	Miloslav	<b>Devetter</b>	Terrestrial invertebrates along a gradient of deglaciation in Svalbard: relation to microbial communities	P-A-03
4	Kateřina	<b>Diáková</b>	Microbial biomass as an indicator of carbon losses from subarctic tundra soils in changing environment	P-A-04
5	Roman	<b>Dial</b>	Snow algae increases snowmelt: results of manipulative experiment on the Harding Icefield, Alaska	P-A-05
6	Richard	<b>Hill</b>	Spatial and temporal influences on Arctic soil microbial community structure	P-A-06
7	Katrin	<b>Hofmann</b>	Spatial patterns of methane-cycling microorganisms in soils of a high-alpine altitudinal gradient	P-A-07
8	Weidong	<b>Kong</b>	Diversity and succession of autotrophic microbial communities in high-elevation soils along deglaciation chronosequence	P-A-08
9	Richard	<b>Lamprecht</b>	Soil mineralization sensitivity to temperature and O <sub>2</sub> availability in deep peat profiles including permafrost interface	P-A-09
10	Yongqin	<b>Liu</b>	Ice cores from the Tibetan Plateau reveal microbial activity convergence related to climate and anthropogenic activity	P-A-10
11	Alena	<b>Lukeřová</b>	Role of soil algae and cyanobacteria in colonization and succession on deglaciated soils in High Arctic (Svalbard) and alpine/subalpine regions (Scandinavia)	P-A-11
12	Rosa	<b>Margesin</b>	Effect of altitude and season on microbial functionalizy, community structure and abundance in alpine forest soils	P-A-12
13	Alejandro	<b>Mateos-Rivera</b>	Shifts in microbial community structure in a glacier forefield (Styggedalsbreen, Central Norway)	P-A-13
14	Luis	<b>Morgado</b>	Compositional shifts in ectomycorrhizal fungal community in response to long-term snow depth increase	P-A-14
15	Hyun-Ju	<b>Noh</b>	Complex and varying lichen microbiomes according to vertical position of thallin in <i>Cladonia gracilis</i> from King George Island, Antarctica	P-A-15
16	Krzysztof	<b>Romaniuk</b>	Impact of human presence and activity on ecology and adaptation of an Antarctic psychrophilic bacteria communities	P-A-16
17	Carolina	<b>Voigt</b>	Climate feedback of arctic ecosystems: Warming enhances nutrient turnover and alters carbon and nitrogen flux dynamics in subarctic tundra	P-A-17
18	Jana	<b>Vořišková</b>	Microbial community responses to future climate change and seasonal variation in Arctic tundra soil	P-A-18
19	Maya	<b>Bar Dolev</b>	An antarctic sea ice bacterium that uses an Ice Binding Protein to adhere to ice	P-C-01
20	Miloř	<b>Barták</b>	Resistance of Antarctic <i>Nostoc</i> sp. colonies to dehydration assessed by chlorophyll fluorescence parameters and spectral reflectance	P-C-02

21	Peter	<b>Convey</b>	Do <i>Chlorella</i> strains respond differently to temperature stress across a global gradient?	P-C-03
22	Fariha	<b>Hasan</b>	Isolation and some unique physiological characteristics of psychrotropic fungi from Passu Glacier, Pakistan	P-C-04
23	Tyler	<b>Kohler</b>	Biotic and abiotic controls of the elemental and isotopic composition of microbial communities in McMurdo Dry Valley streams, Antarctica	P-C-05
24	Anton	<b>Kurakov</b>	Characterization of plasmids and plasmid-encoded resistance genes found in permafrost <i>Acinetobacter iwoffii</i> strains	P-C-06
25	Jana	<b>Kvídlerová</b>	Growth requirements of <i>Stichococcus</i> sp. strains isolated from Rhodope Mountains, Bulgaria	P-C-07
26	Yan	<b>Liao</b>	Proteomics and genetics of Haloarchaea from deep lake, Antarctica	P-C-08
27	Phaik-Eem	<b>Lim</b>	Photosynthesis and genomic responses of <i>Chlorella</i> species from different geographical regions to artificial ultraviolet radiation (UVR) stress	P-C-09
28	Oliver	<b>Müller</b>	Changes in structure, activity and metabolic processes of microorganisms in thawing permafrost soils from Svalbard	P-C-10
29	Felipe	<b>Nóbrega</b>	Prospection and desiccation tolerance of polar microorganisms	P-C-11
30	Ksenia	<b>Novototskaya-Vlasova</b>	The molecular basis of thermostability of coldactive esterase from psychrotropic bacterium <i>Psychrobacter cryohalolentis</i> K5T	P-C-12
31	Amedea	<b>Perfumo</b>	A single cell view of the growth of anaerobic bacterium <i>Clostridium psychrophilum</i> at subzero temperatures	P-C-13
32	Lada	<b>Petrovskaya</b>	New autotransporter from <i>Psychrobacter cryohalolentis</i> K5 <sup>T</sup> : characterization and construction of cell surface display system	P-C-14
33	Martina	<b>Pichrtová</b>	Desiccation stress and resistance in polar green algae of the genus <i>Zygnema</i>	P-C-15
34	Lenka	<b>Procházková</b>	Light and temperature dependence of photosynthesis in <i>Chlamydomonads</i> isolated from snow	P-C-16
35	Daniel	<b>Remias</b>	Significant cytological and physiological differences between two green algae causing red snow in the Alps	P-C-17
36	Carina	<b>Rofner</b>	Differential utilization patterns of dissolved organic phosphorus compounds by heterotrophic planktonic bacteria	P-C-18
37	Krzysztof	<b>Romaniuk</b>	Adaptive features encoded within plasmids of arctic and antarctic <i>Psychrobacter</i> spp.	P-C-19
38	Roberta	<b>Russo</b>	Structural nad functional analysis of water-borne signaling protein pheromones from bipolar protist ciliate, <i>Euplodes petzi</i>	P-C-20
39	Laura	<b>Sanguino</b>	Viral-host interactions in glacial ice and their adaptive significance	P-C-21
40	Iris	<b>Schaub</b>	Effect of prolonged darkness and temperature on the lipid metabolism in the benthic diatom <i>Navicula perminuta</i> from the Arctic	P-C-22
41	Morten	<b>Schostag</b>	Microbial transcriptomic response to thawing and freezing of active layer permafrost soil	P-C-23
42	Purnima	<b>Singh</b>	Antifreeze protein activity in glacier cryoconites	P-C-24
43	Kateřina	<b>Snopková</b>	Cold-active antimicrobial agents produced by Antarctic pseudomonads	P-C-25

44	.	<b>Taha</b>	Phylogenetic, structural and nucleic acid binding properties of a novel type of RNA-binding (TRAM) protein from an Antarctic archaeon.	P-C-26
45	Susana	<b>Vazquez</b>	Crystal structure and expression of a putative phage-like protein coded in the genome of a marine Antarctic bacteria	P-C-27
46	James	<b>Bradley</b>	Microbial community dynamics in the forefield of glaciers – a modelling perspective	P-D-01
47	Beat	<b>Frey</b>	Microbial diversity of the cryosphere of the Damma glacier	P-D-02
48	Jan	<b>Gawor</b>	Arctic and Antarctic supraglacial bacterial diversity revealed by next generation metagenomics	P-D-03
49	Jarishma	<b>Gokul</b>	The biogeography of cryoconite bacterial communities on a High Arctic Ice Cap	P-D-04
50	Dorota	<b>Górnjak</b>	Bacterial community composition in various supraglacial habitats of Ecology Glacier (King George Island, Antarctica)	P-D-05
51	Jakub	<b>Grzesiak</b>	Microbial community changes along the Ecology Glacier ablation zone (King George Island, Antarctica)	P-D-06
52	Takumi	<b>Murakami</b>	Survey of the glacier invertebrates and their gut microbiota	P-D-07
53	Sabrina	<b>Obwegeser</b>	Cover up – coverage of glacial surfaces with industrial fleece to reduce ablation: economic blessing or ecological spell? A symbiosis of society and science	P-D-08
54	Marie	<b>Šabacká</b>	The ecology and biogeochemistry of maritime Antarctica snow	P-D-09
55	Shiv Mohan	<b>Singh</b>	Bacterial diversity and bio-potentials of Himalayan cryoconites, and its comparison with Arctic	P-D-10
56	Jun	<b>Uetake</b>	Bacterial diversity in tropical glacier and glacier foreland in Uganda	P-D-11
57	Alejandra	<b>Urra</b>	Investigation of the proglacial zone as a modulator for nutrient fluxes in ice sheet runoff	P-D-12
58	Jakub	<b>Žarský</b>	Greenland Ice Sheet as a model for microbial macroecology and evolution	P-D-13
59	Ioan	<b>Ardelean</b>	Biosynthesis of gold nanoparticles by a cryotolerant cyanobacterium isolated from Scarisoara Ice Cave (Romania)	P-G-01
60	Heida	<b>Fridjonsdottir</b>	Bioprospecting psychrotrophic sphingomonads for hydrocarbon degradation	P-G-02
61	Maria	<b>Papale</b>	Polychlorinated biphenyl degrading bacteria from the Kongfjorden (Svalbard Islands, Norway)	P-G-03
62	Maria	<b>Papale</b>	Tolerance to heavy metals and polychlorinated biphenyl biodegradation potential by Arctic bacteria from continental Norway	P-G-04
63	Jeffrey	<b>Vargas-Perez</b>	Bioprospecting of antarctic microorganisms and their extremophiles enzymes applied in food industry (amylase)	P-G-05

## Poster session B

Poster No	Presenting author		Title	
1	Antonio	<b>Alcamí</b>	Biodiversity and distribution of polar freshwater viruses	P-B-01
2	Antonio	<b>Alcamí</b>	Ecological connectivity shapes viral assemblages and variability in Antarctic environments	P-B-02
3	Corien	<b>Bakermans</b>	Attempted isolation of Acidobacteria from Antarctic permafrost	P-B-03
4	Chris	<b>Bellas</b>	Virus genomes from glacial environments reveal novel virus groups with unusual host interactions	P-B-04
5	Amanda	<b>Bendia</b>	Microbial communities from geothermal sites of a polar active volcano (Deception Island, Antarctica)	P-B-05
6	Nadine	<b>Borchhardt</b>	Biological soil crust algae in the polar regions – biodiversity, genetic diversity and ecosystem resilience under global change scenarios	P-B-06
7	Heather	<b>Buelow</b>	Differential abundance and expression of Antarctic soil microbial communities: a metatranscriptomic analysis of taxonomic and functional diversity	P-B-07
8	Kelly	<b>Chan-Yam</b>	Characterization of microbial communities in water tracks in an Antarctic Dry Valley	P-B-08
9	Laurie	<b>Connell</b>	Fungal diversity in permanently ice covered Lake Fryxell, Antarctica	P-B-09
10	Antonella	<b>Conte</b>	Cultivable heterotrophic bacteria from Antarctic permafrost	P-B-10
11	Antonella	<b>Conte</b>	Experimental approach to the screening of prokaryotic assemblage in Antarctic permafrost	P-B-11
12	Silvia	<b>Coria</b>	Induction of multiple prophages from an Antarctic marine bacterium	P-B-12
13	Olga	<b>Dagurova</b>	Controlling factors on bacterial diversity and activity of the coastal water of Lake Baikal, Siberia	P-B-13
14	Ekaterina	<b>Dambinova</b>	Psychrophilic and psychroactive bacteria in cold springs of Northern Pribaikalie	P-B-14
15	Ekaterina	<b>Durdenko</b>	Halophilic aerobic microorganisms from Alyaska cryopeg	P-B-15
16	Diego	<b>Franco</b>	Microbial diversity and community composition across depth gradient in marine sediments from Admiralty Bay, King George Island and Bransfield Strait, Antarctica	P-B-16
17	Chung Yeon	<b>Hwang</b>	Marine RNA virus communities of oceanic seawaters in the vicinity of the Antarctic Peninsula	P-B-17
18	Nataliia	<b>Iakovenko</b>	How unique are the micrometazoa of antarctic soils? The example of bdelloid rotifers	P-B-18
19	Corina	<b>Ircus</b>	Diversity of cultured ice cave microcosm	P-B-19
20	Ok-Sun	<b>Kim</b>	Comprehensive analysis of soil bacterial community structure in King George Island, Maritime Antarctica	P-B-20
21	Andrea	<b>Kiss</b>	Epi- and endophytic microbial communities of Arctic and subarctic peatland mosses	P-B-21
22	Kirill	<b>Krivushin</b>	Metagenomic insights into Antarctic Dry Valleys permafrost	P-B-22
23	Emanuele	<b>Kuhn</b>	Transportation and persistence of microbial cells in central West Antarctica	P-B-23
24	Manoj	<b>Kumar</b>	Biogeographical diversity of root associated microbial communities in arctic and alpine tundra areas	P-B-24
25	Hong Kum	<b>Lee</b>	Polar and Alpine Microbial Collection (PAMC): a culture collection dedicated to polar and alpine microorganisms	P-B-25



26	Inae	Lee	Genomic and phenotypic characterization of a thermophilic <i>Bacillus</i> sp. 9F isolated from deep-sea hydrothermal vent plume, Southern Ocean	P-B-26
27	Yung Mi	Lee	Stratification of microbial community in marine sediments of the Ross Sea, Antarctica	P-B-27
28	Li	Liao	Bio-mining the actinobacterial treasures of the Arctic Ocean: diversity and genetic resources	P-B-28
29	Susanne	Liebner	Microbial abundance and methanotrophy in degrading subsea permafrost from the Laptev Sea shelf, Siberia	P-B-29
30	Evgeniya	Matyugina	Diversity and ecology of microorganisms from cold seeps of National park "Alkhanai" (Transbaikalia, Russia)	P-B-30
31	Viktoriya	Oshurkova	The search of methanogenic archaea in Arctic and Antarctic permafrost	P-B-31
32	Cristina	Purcarea	Prokaryotic community structure across the ice block of Scarisoara Cave determined by 454 pyrosequencing	P-B-32
33	Ana Judith	Russi Colmenares	Community composition, diversity and activity of N fixing cyanobacteria associated with mosses in sub-Arctic alpine ecosystems	P-B-33
34	Iara	Santiago	Lichensphere: a protected natural microhabitat of the non-lichenized fungal communities living in extreme environments of Antarctica	P-B-34
35	Tina	Šantl-Temkiv	Aerial transport of bacterial cells in the Arctic: sources, deposition and impact on atmospheric processes	P-B-35
36	Bjorn	Tytgat	Bedrock and biotic influence on community composition in soils from the Sør Rondane Mountains, East Antarctica	P-B-36
37	Bjorn	Tytgat	Biogeographic patterns in Antarctic lacustrine prokaryotes	P-B-37
38	Annick	Wilmotte	A plea for the creation of inviolate areas to protect reference areas for future microbiology research in Antarctica	P-B-38
39	Tina	Wunderlin	Bacterial geography of high altitude snow -comparing diversity in snow from Jungfrauoch (Switzerland) and Snowy Mountains (Australia)	P-B-39
40	Soo Jeong	Yoon	High occurrence of thermophilic bacteria isolated from hydrothermal vent plumes in Australian-Antarctic Ridge, Southern Ocean	P-B-40
41	Marek	Zdanowski	Molecular characterization of miniature plasmids of Arctic psychrophilic bacteria of the genus <i>Variovorax</i>	P-B-41
42	Yinxin	Zeng	Diversity of <i>pufM</i> and <i>g5</i> genes in Bacterioplankton communities in coastal seawaters of Fildes Peninsula, King George Island, Antarctica	P-B-42
43	Nathan	Christmas	The evolution of cold tolerance in cyanobacteria	P-E-01
44	Lubomír	Kováčik	Characterization of ten strains of filamentous cyanobacteria from the South Shetland Islands, Maritime Antarctica	P-E-02
45	Anna	Patova	Morphological and molecular characteristics of <i>Nostoc commune</i> Vauch. ex Born. & Flah. populations in mountain and Arctic habitats	P-E-03
46	Cristina	Purcarea	Diversity of phototrophic bacteria in Scarisoara Ice Cave	P-E-04
47	Ekaterina	Pushkareva	Impact of environmental factors on soil crust community in Svalbard	P-E-05
48	Lenka	Raabová	Thin and ubiquitous: taxonomic features of <i>Leptolyngbya</i> in Polar Regions	P-E-06
49	Annick	Wilmotte	A next-generation protocol for the assessment of cyanobacterial diversity	P-E-07

50	Annick	<b>Wilmotte</b>	Baseline on cyanobacterial biodiversity of Svalbard assessed by pyrosequencing	P-E-08
51	Annick	<b>Wilmotte</b>	The BCCM/ULC culture collection to conserve, document and explore the polar cyanobacterial diversity	P-E-09
52	Olga	<b>Baulina</b>	The biodiversity and plasticity of symbiotic <i>Desmodesmus</i> spp. (Chlorophyceae) from a subarctic sea	P-F-01
53	Kateřina	<b>Kopalová</b>	Diatoms from the maritime Antarctica region; extreme endemism in Antarctica	P-F-02
54	Kateřina	<b>Kopalová</b>	An intriguing species of <i>Eunotia</i> (Bacillariophyta) from Gough Island (Tristan da Cunha archipelago)	P-F-03
55	Kateřina	<b>Kopalová</b>	Revision of the genus <i>Nitzschia</i> in the maritime Antarctic Region	P-F-04
56	Kateřina	<b>Kopalová</b>	The genus <i>Luticola</i> D.G.Mann (Bacillariophyta) from the McMurdo Sound Region, Antarctica, with description of four new species	P-F-05
57	Ľubomír	<b>Kováčik</b>	Exposition of various stress conditions on filamentous green alga <i>Klebsormidium</i> (Streptophyta)	P-F-06
58	Jana	<b>Kvıderová</b>	New record of cryoseston on Olympus Mt., Greece	P-F-07
59	Dial	<b>Laughinghouse</b>	Unique diversity of marine microbial eukaryotes in the High Arctic	P-F-08
60	Roksana	<b>Majewska</b>	Epiphytic diatom communities from Terra Nova Bay and Cape Evans (Ross Sea) - a synthesis	P-F-09
61	Tomomi	<b>Nakashima</b>	Temporal and spatial variations in pigment compositions of snow algae in Mt. Tateyama in Toyama prefecture, Japan	P-F-10
62	Linda	<b>Nedbalová</b>	Identity and ecophysiology of coccoid green alga dominating in ice-covered lakes on James Ross Island (NE Antarctic Peninsula)	P-F-11
63	Eveline	<b>Pinseel</b>	Hidden diversity: multiple Arctic and Antarctic lineages in the cosmopolitan diatom <i>Pinnularia borealis</i>	P-F-12
64	David	<b>Ryřánek</b>	Diversity and spatial capacities of Arctic terrestrial algae	P-F-13
65	Klemens	<b>Weisleitner</b>	Advances in laser-induced fluorescence emission technology (L.I.F.E.) and preliminary microbial data from an Antarctic glacier	P-H-01