

Programme of the 4th International Conference on **Polar and Alpine Microbiology** (PAM 2011)

Ljubljana, 4th - 8th September 2011

Sunday, 4th September 2011

15.00 – 20.00	Registration
18.00 – 18.30	Opening ceremony <i>Chair: Nina Gunde-Cimerman</i>
18.30 – 19.00	IL1: Picocyanobacteria in Arctic and Antarctic ice as proxies for evolution in oceans over 150,000 Years P. B. Price
19.00 – 19.30	IL2: The first genome sequence of a psychrophilic eukaryote Mock T.*, Allen A., Barry K., Dupont C., Falciatore A., Frickenhaus S., Gibson R., Glöckner G., Gruber A., Janech M., Kröger N., Kroth P., Leese F., Lindquist E., Maheswari U., Maier C., Maumus F., Moulton V., Ottilar R.P., Parker M., Poulsen N., Raymond J., Schmutz J., Sanges R., Strauss J., Toseland A., Armbrust E.V., Bowler C., Blaxter M., Green B., Valentin K., Grigoriev I.
19.30 – 20.00	IL3: Extremotolerance in the fungal tree of life S. de Hoog*, L. Selbmann, K. Sterflinger, C. Ruibal, C. Gueidan
20.00	Welcome party

Monday, 5th September 2011

Session 1: Microbial diversity and evolution – Bacteria, Archaea, Viruses

	<i>Chair: Brent Christner, Co-Chair: Donald Cowan</i>
9.00 – 9.30	IL4: Hypolithic communities in the Antarctic Dry Valley soils: Ecology, physiology and genomics D. Cowan*, N. Khan, T. Makhalanyane, D. Anderson, J. Sohm, C. Cary and S. Pointing
9.30 – 9.45	Cyanobacteria in Southern Victorialand, Antarctica: diversity across spatial scales and habitat-types Anne D. Jungblut*, Susie A. Wood, Ian Hawes, Jenny Webster-Brown
9.45 – 10.00	Freshwater lakes of Ulu Peninsula (James Ross Island, NE Antarctic Peninsula): I. Origin, geomorphology and physico-chemical limnology Linda Nedbalová*, Daniel Nývlt, Jiří Kopáček, Miroslav Šobr, Josef Elster
10.00 – 10.15	Freshwater lakes of Ulu Peninsula (James Ross Island, NE Antarctic Peninsula): II. Planktic and benthic assemblages Josef Elster*, Linda Nedbalová, Jiří Komárek, Hana Medová, Jaroslav Vrba, Kateřina Kopalová, Bart van de Vijver
10.15 – 10.30	Viral activity and diversity in supraglacial ecosystems Christopher Bellas*, Alexandre M. Anesio, Jon Telling, Marek Stibal, Martyn Tranter
10.30 – 10.45	Bacterial endophyte communities in Arctic plants Riitta Nissinen*, Minna Männistö, Jan Dirk van Elsas
10.45 – 11.00	Alphaproteobacterial communities in geographically distant populations of the lichen <i>Cetraria aculeata</i> Christian Printzen*, Lucia Muggia, Martin Grube
11.00 – 11.30	Coffee break
	<i>Chair: Donald Cowan, Co-Chair: Brent Christner</i>
11.30 – 12.00	IL5: Microbial processes relevant to survival in ice of the englacial and basal zones of polar glaciers Brent Christner*, Scott Montross, Mark Skidmore, Pierre Amato, Shawn Doyle, Amanda Achberger
12.00 – 12.15	Occurrence and diagnostics of <i>Mycobacterium caprae</i> in the Bavarian Alps Eva Gerstmair, Stefan Hörmansdorfer, Mathias Büttner*
12.15 – 12.30	Biodiversity and biogeography of bacteria in polar and alpine environments Tatiana Vishnivetskaya, D. A. Gilichinsky*
12.30 – 12.45	Biogeography of cyanobacteria Otakar Strunecký*, Josef Elster, Jiří Komárek
12.45 – 13.00	Introduction of Polar and Alpine Microbial Collection (PAMC), a unique culture collection dedicated for polar microorganisms Yung Mi Lee*, Cheng-Dae Choe, Jeong-Han Yim, Hong Kum Lee, Soon Gyu Hong
13.00 – 14.30	Lunch, poster viewing

Session 2: Microbial diversity and evolution – Eukarya

	<i>Chair: Sybren G. de Hoog, Co-Chair: Martin Grube</i>
14.30 – 15.00	IL6: Dispersal and evolution of rock black fungi in the Antarctic ice L. Selbmann*, G.S. de Hoog, D. Isola, L. Zucconi, S. Onofri
15.00 – 15.15	The evolution of fungi in extreme environments Cene Gostinčar*, Martin Grube, Nina Gunde – Cimerman
15.15 – 15.30	Black yeasts in Arctic glaciers Polona Zalar*, Mojca Šere, Cene Gostinčar, Nina Gunde – Cimerman
15.30 – 15.45	Psychrotolerant yeasts from glacial environments of Patagonia, Argentina: biodiversity and extracellular enzyme production Virginia de Garcia*, Silvia Brizzio, María Rosa Giraudo de van Broock
15.45 – 16.00	”Tropical” diversity of <i>Penicillium</i> spp. in water-related polar environments Silva Sonjak*, Jens Christian Frisvad, Nina Gunde-Cimerman
16.00 – 16.15	Black microcolonial fungi: cellular response to temperature stress at the proteome level Donatella Tesei*, Gorji Marzban, Daniela Isola, Kristina Zakharova, Laura Selbmann, Katja Sterflinger
16.15 – 16.30	Antarctic fungi fingerprint automated ribosomal intergenic spacer analysis (ARISA) libraries Laurie B. Connell*, Caleb Slemmons, Russell Rodriguez and Regina Redman
16.30 – 17.00	Coffee break
	<i>Chair: Martin Grube, Co-Chair: Sybren G. de Hoog</i>
17.00 – 17.30	IL7: Microbially dominated landscapes: Arctic-alpine lichens as microbial bioresources M. Grube*, G. Berg
17.30 – 17.45	<i>Tephromela atra</i> lichen species-complex: a model for symbiotic evolution studies Lucia Muggia*, Sergio Perez-Ortega, Toby Spribille, Martin Grube
17.45 – 18.00	Two independent introductions of <i>Cladonia borealis</i> in King George Island, Antarctica Chae Haeng Park*, Gajin Jeong, Soon Gyu Hong
18.00 – 18.15	Comparative food web analyses with stable isotopes of Tardigrades in glacial ecosystems of the Alps Barbara Post*, Martin Kainz, Hieronymus Dastyh, Birgit Sattler

Tuesday, 6th September 2011

Session 3: Permafrost

	<i>Chair: Dirk Wagner, Co-Chair: David Gilichinsky</i>
8.30 – 9.00	IL8: Permafrost microbiology: The present state, new directions and perspectives D. A. Gilichinsky*, E. M. Rivkina
9.00 – 9.15	Methanogenic and methanotrophic archaeon communities in Antarctic permafrost samples differed in biogenic methane content Irina Alekhina*, Ilya Stepanov, Andrey Abramov, Elizaveta Rivkina, David Gilichinsky, Jean Robert Petit, Sergey Bulat
9.15 – 9.30	Ancient fungi in Antarctic permafrost environment Galina Kochkina*, Natalya Ivanushkina, Svetlana Ozerskaya, Nadezhda Chigineva, Oleg Vasilenko, Sergey Firsov, Elena Spirina, David Gilichinsky
9.30 – 9.45	Bacterial community shift in depth profiles of Alaskan permafrost soil ecosystem Ok-Sun Kim*, Sungjin Nam, Heymin Kim, Dukki Han, Namyi Chae, Bang Yong Lee and Yoo Kyung Lee
9.45 – 10.00	In-depth analysis of microbial permafrost communities in the European and Siberian Arctic Antje Gittel, Vigdis Torsvik, Sarah Owens, Jack Gilbert, Andreas Richter, Christa Schleper, Tim Urich* and the CryoCARB team
10.00 – 10.15	Microbial communities of Antarctic Dry Valley permafrost soils Corien Bakermans*, Mark Skidmore, Suzanne Douglas
10.15 – 11.00	Coffee break
	<i>Chair: David Gilichinsky, Co-Chair: Dirk Wagner</i>
11.00 – 11.30	IL9: What can we learn from the past? Methanogenic communities and their response to Holocene and Late Pleistocene climate changes in permafrost environments D. Wagner*, J. Griess, K. Mangelsdorf
11.30 – 11.45	Diversity of ammonia oxidizing microorganisms in permafrost-affected soils on Samoylov Island in the Lena River Delta, Siberia Tina Sanders*, Claudia Fiencke, Eva-Maria Pfeiffer, Eva Spieck
12.00	Departure to excursion

Wednesday, 7th September 2011

Session 4: Ecology, Bioremediation and Astrobiology

	<i>Chair: John C. Priscu, Co-Chair: Jody W. Deming</i>
9.00 – 9.30	IL10: Particle express: Microbes traveling in the Arctic ocean J. W. Deming
9.30 – 9.45	Searching for life in extreme environments in Central East Antarctica: Lessons from Vostok surface snow and subglacial ice studies at Lake Vostok Sergey Bulat*, Irina Alekhina, Dominique Marie, Jean Robert Petit
9.45 – 10.00	Authenticity of the indigenous deep ice core microbial diversity: Assessing exogenous contamination throughout the drilling process of the NEEM ice core, Greenland Vanya Miteva*, Todd Sowers, Jean Brenchley
10.00 – 10.15	Exploring community structure and function in Arctic snow through metagenomics Catherine Larose*, Emmanuel Prestat, Sébastien Cecillon, Aurélien Dommergue, Timothy M. Vogel
10.15 – 10.30	Carbon fixation and transformations at the surface of glaciers Alexandre M. Anesio*, Jon Telling, Marek Stibal, Chris Bellas, Gary Barker, Martyn Tranter, Jemma Wadham, Joe Cook, Andy Hodson, Marian Yallop
10.30 – 10.45	Gene pool sharing between Antarctic and Arctic populations of the marine protozoan ciliate, <i>Euplotes nobilii</i> Graziano Di Giuseppe, Fernando Dini, Claudio Alimenti, Adriana Vallesi, Pierangelo Luporini*
10.45 – 11.00	The search for life in Antarctic subglacial lakes D. A. Pearce*, D. A. Hodgson, C. S. Cockell and the Ellsworth consortium
11.00 – 11.30	Coffee break
	<i>Chair: Jody W. Deming, Co-Chair: John C. Priscu</i>
11.30 – 12.00	IL11: Microbial habitats on icy worlds in our solar system: What can be learned from Earth's poles? John C. Priscu*, Kevin P. Hand
12.00 – 12.15	Diversity, abundance, and potential activity of nitrifying and nitrate reducing microbial assemblages in a subglacial ecosystem Mark Skidmore*, Eric S. Boyd, Rachel K. Lange, Andrew C. Mitchell, Jeff R. Havig, Trinity L. Hamilton, Melissa J. Lafrenière, Everett L. Shock, John W. Peters
12.15 – 12.30	Microbial productivity and biogeochemical cycling of carbon on the Greenland Ice Sheet: A spatial approach Marek Stibal*, Joe Cook, Jon Telling, Alexandre M. Anesio, Andy Hodson, Jemma L. Wadham, Martyn Tranter
12.30 – 12.45	Nitrogen fixation on Arctic glaciers and the Greenland ice sheet Jon Telling*, Alexandre M. Anesio, Marek Stibal, Martyn Tranter, Joe Cook, Catriona Butler, Tristram Irvine-Fynn, Andy Hodson, Grzegorz P. Lis, Andrew Sole, Pete Nienow, Jemma Wadham

12.45 – 13.00	Genetic variability and abundance of ammonia oxidizing bacteria in cryoconite along a natural gradient of nutrient concentration Jakub Zarsky*, Andrew Hodson, Birgit Sattler, Roland Psenner
13.00 – 13.15	L.I.F.E. (Laser Induced Fluorescence Emission) as Non-Invasive Tool to Assess Photosynthetic Pigments in Ice Ecosystems Markus Tilg*, Birgit Sattler, Michael C. Storrle-Lombardi, Roland Psenner
13.15 – 13.30	Alpine waterfalls as a natural source for re-aerosolization of bacteria precipitated with snow on mountains Barbara Hubad*, Miha Mihelič, Fani Oven, Aleš Lapanje
13.30 – 14.30	Lunch, poster viewing, photo session <i>Chair: Max M. Häggblom, Co-Chair: Odd Gunnar Brakstad</i>
14.30 – 15.00	IL12: Comparative genomic and physiological analyses provide insights into the role of <i>Acidobacteria</i> communities in carbon cycling processes in Arctic tundra soils M. M. Häggblom*, S. Rawat and M. K. Männistö
15.00 – 15.15	Reactions of microbial communities after the transplantation of soils along a climatic gradient in a glacier forefield Anita Zumsteg*, Josef Zeyer, Beat Frey
15.15 – 15.30	A soil transplantation experiment to investigate the structure of bacterial communities in glacier forefields Anna Lazzaro*, Andreas Gauer, Josef Zeyer
15.30 – 15.45	Factors that control the bacterial communities in Arctic tundra ecosystems Minna K Männistö*, Marja Tirola, Emilia Kurhela and Max M Häggblom
15.45 – 16.00	Protist ecology in natural communities and enrichment cultures from three chemically distinct ice-covered lakes in the McMurdo Dry Valleys, Antarctica Rachael M. Morgan-Kiss*
16.00 – 16.15	Impact of acute nitrogen deposition on microbial communities structure and abundance in the high Arctic tundra soil Aimeric Blaud*, Sonal Choudhary, Gareth K. Phoenix, A. Mark Osborn
16.15 – 16.30	Microbial diversity and metabolic activity in the melting snow pack on a high Arctic glacier Katherina Hell*, Jakub Zarsky, Sabine Podmirseg, Heribert Insam, Arwyn Edwards, Birgit Sattler
16.30 – 17.00	Coffee break <i>Chair: Odd Gunnar Brakstad, Co-Chair: Max M. Häggblom</i>
17.00 – 17.30	IL13: Biodegradation and bioremediation of petroleum in cold marine environments O. G. Brakstad*, S. Ramstad, L.-G. Faksness, A. Booth, and K. Zahlsen
17.30 – 17.45	Phytoplankton of the Tatra Mountain lakes: species richness and biomass pattern in a lake district recovering from acidity Lenka Procházková*, Linda Nedbalová

17.45 – 18.00	Methane producing archaea in Mars environment: how probable is it and how can we detect them? Janosch Malaszkiewicz*, Ute Böttger, Jean-Pierre de Vera, Heinz-Wilhelm Hübers, Dirk Wagner
19.00	Gala Dinner. Departure at 19.00 from the congress venue. Guided walk through the old centre of Ljubljana. Ascent to the Ljubljana castle (with a funicular). Dinner at the castle.

Thursday, 8th September 2011

Session 5: Physiology, genomics and proteomics

	<i>Chair: Jens C. Frisvad, Co-Chair: Michael J. Daly</i>
9.00 – 9.30	IL14: A superbug delivers the key to radiation resistance: <i>Deinococcus radiodurans</i>. M. J. Daly
9.30 – 9.45	Photobiont adaption to extreme environmental conditions Stephanie Domaschke*, Christian Printzen
9.45 – 10.00	Temperature dependence of photosynthesis in the red snow alga <i>Chlamydomonas cf. nivalis</i> Martin Lukeš, Jiří Kopecký, Lenka Procházková, Marie Dřížhalová, Linda Nedbalová, David Kaftan*
10.00 – 10.15	A lateral gene transfer event enables the catabolism of common compatible solutes by <i>Colwellia psychrerythraea</i> 34H R. Eric Collins, Jody W. Deming*
10.15 – 10.30	The Molecular and Physiological responses of the model green alga <i>Chlamydomonas reinhardtii</i> to cold stress Luis Valledor*, Takeshi Furuhashi and Wolfram Weckwerth
10.30 – 10.45	Lipids in the Cryosphere Birgit Sattler*, Helga Reicher, Michaela Schober, Wolfgang Sattler
10.45 – 11.00	Identifying genes from Arctic <i>Rhodotorula mucilaginosa</i> that confer salt-tolerance in recipient genetically modified organisms Cene Gostinčar, Nina Gunde-Cimerman, Martina Turk*
11.00 – 11.30	Coffee break
	<i>Chair: Michael J. Daly, Co-Chair: Jens C. Frisvad</i>
11.30 – 12.00	IL15: Food and soil borne penicillia in Arctic environments – chemical diversity. J.C. Frisvad
12.00 – 12.15	Subzero growth; genomic and physiological insights for <i>Planococcus halocryophilus</i> sp. nov. Or1 from Canadian high Arctic permafrost Nadia C. S. Mykytczuk*, Simon J. Foote, Charles W. Greer and Lyle G. Whyte
12.15 – 12.30	A combined metatranscriptomic and metagenomic analysis of high Arctic wetland soils Alexander Tveit*, Mette M. Svenning, Tim Urich
12.30 – 12.45	Antarctic terrestrial biodiversity – what can we learn from metagenomic library construction and 454 sequencing? D. A. Pearce*, K. Newsham, M. Thorpe, A. Hodson and E. W. H. Wellington
12.45 – 13.00	Taxon dependent metacommunity dynamics and endemism among Antarctic microbial organisms Dagmar Obbels*, Elie Verleyen, Pedro de Carvalho Maalouf, Aaike De Wever, Ines Tavernier, Caroline Souffreau, Olivier Tas, Wim Van Criekinge, Annick Wilmotte, Anne Willems, Koen Sabbe and Wim Vyverman
13.00 – 13.30	IL16: Environmental futures of polar and alpine regions L.Kajfež Bogataj
13.30 – 14.00	Congress closure
14.00 – 15.00	Lunch, Departure

