

TABLE OF CONTENT

Geosciences section

Keynote lectures

Late Quaternary environments in the highest Iberian mountain ranges since Last Glaciation <i>Marc Oliva.....</i>	6
Sediment budget in cold environments – Polish perspective – experiences from the Arctic and Antarctic <i>Grzegorz Rachlewicz.....</i>	8
Student lectures	
New approach to air temperature modelling in high latitudes <i>Klára Ambrožová, Marius O. Jonassen, and Kamil Láska.....</i>	10
Glacier retreat in Central Andes since the Last Glacial Maximum: case of the South West slope of Nevado Coropuna <i>Néstor Campos and David Palacios.....</i>	12
Assessment of recent ozone depletion based on Brewer measurements at the Marambio Base, Antarctic Peninsula <i>Klára īžková, Ladislav Metelka, and Kamil Láska.....</i>	13
Parametrization of surface temperature standard deviation for modelling surface melt of the Greenland Ice Sheet with a temperature-index method <i>Olga Erokhina and Irina Rogozhina.....</i>	15
Differences in ground thermal regime between two climatically contrasted ice-free areas in Livingston Island and James Ross Island, Antarctic Peninsula region <i>Filip Hrbá ek, Marc Oliva, Kamil Láska, Jesús Ruiz-Fernández, Miguel Ángel de Pablo, Gonçalo Vieira, Miguel Ramos, and Daniel Nývlt</i>	17
Compositional characteristics of olivine in back-arc volcanites from James Ross Island <i>Jakub Hrúby and Lukáš Krmí ek.....</i>	19
Multiclass ensemble classifier for polar land cover mapping using very high resolution satellite remote sensing data <i>Shridhar D. Jawak and Alvarinho J. Luis.....</i>	21
Slushflow as a landscape shaping factor and its relationship to recent vegetation characteristics <i>Jan Kavan, Alexandra Bernardová, and Jan Blah t.....</i>	22
Hydrology and suspended sediment dynamics in small proglacial streams, James Ross Island, Antarctica <i>Jan Kavan, Jakub Ondruch, Daniel Nývlt, Filip Hrbá ek, Jonathan L. Carrivick, and Kamil Láska.....</i>	24
Alteration of the low-rank coal by basaltic lava flows on the Faroe Islands <i>Simona Kuboušková and Lukáš Krmí ek.....</i>	26
Paleogeographical effects of the Scotia Sea relief evolution <i>Ekaterina Kurbatova and A. Groholskij.....</i>	28
Mineralogy and formation conditions of hydrothermal veins from James Ross Island (Antarctica) <i>Anastasia Luchkina, Lukáš Krmí ek, and Zden k Dolní ek.....</i>	30
Palaeoecology of Mimerbukta, central Svalbard, around 11 000 BP based on fossil biota from uplifted marine terraces <i>Martin Lulák, Martin Haná ek, Daniel Nývlt, Oleg Ditrich, Alexandra Bernardová, and Slavomír Nehyba.....</i>	32
Sediment flux conditions in the connective middle-mountain river basin – a case study of the Černá Opava River <i>Lenka Ondrá ková and Zden k Má ka.....</i>	35
Coastal erosion and soil carbon flux on Bolshoy Lyakhovsky Island, NE Siberia <i>Julian Podgó rski.....</i>	37
Geomorphological setting of the Clearwater Mesa, James Ross Island, Antarctic Peninsula <i>Mat j Roman, Juan M. Lirio, Silvia H. Coria, Natasha Lopez, and Daniel Nývlt.....</i>	39

Geochemistry of Cenozoic volcanic rocks of the Faroe Islands with a focus on their ultra-trace contents of Hg

Petra Šišková, Lukáš Krmíek, and Pavel Coufalík..... 41

Background concentrations of metals in regolith near J. G. Mendel Czech Antarctic Station

Antonín Uher, Pavel Coufalík, Ondřej Zvára, Barbora Ticová, Karel Novotný, and Josef Komárek..... 43

Biosciences section

Keynote lectures

Health problems in polar regions

Kristian Brat..... 45

Vegetative survival of polar terrestrial algae - A case study of *Zygnema* spp.

Martina Pichrtová..... 46

Cold origin of land plants?

Jakub D. Žáráský and Adam Petrusek..... 47

Student lectures

Tolerance of diatoms (Bacillariophyceae) to experimental freezing: comparison of polar and temperate strains

Eva Hejduková, Linda Nedbalová, and Eveline Pinseel..... 48

Terrestrial diatom communities from Ulu Peninsula (James Ross Island, NE Antarctic Peninsula)

Barbora Chatová, Kateřina Kopálová, and Bart Van de Vijver..... 50

Interspecific differences in photosynthetic parameters of Antarctic foliose lichens at low temperature as evaluated by chlorophyll fluorescence parameters

Michaela Mareková and Miloš Barták..... 51

Preliminary report on piscicolid leeches from notothenioid fishes in Prince Gustav Channel

Šárka Mašová, Veronika Nezhybová, Nikol Kmentová, and Eliška Šrámová..... 53

Inductively coupled plasma mass spectrometry in analysis of Antarctic otoliths

Barbora Svatošová, Hélène Tabouret, Christophe Péchéyran, Michaela Vašinová Galiová, and Viktor Kanický..... 54

Classification of psychrotrophic pseudomonads

Markéta Vlková and Ivo Sedláček..... 55

Assessment of the phototrophic potential in the cryosphere by laser-induced fluorescence emission (L.I.F.E.) technology

Klemens Weisheitner, Birgit Sattler, Lars Hunger, Albert Frisch, Christoph Kohstall, Marco Feldmann, Gero Francke, and Clemens Espe..... 56

Seal remains as sources of mercury for Antarctic environment

Ondřej Zvára, Pavel Coufalík, Kristián Brat, Rostislav Ervenka, Jan Kuta, Ondřej Mikeš, and Josef Komárek..... 58