

Foreword

The Maritime Antarctic is one of the areas of the globe currently experiencing rapid regional climate change. The effects of this rapid regional change on the terrestrial and marine ecosystems have been in the focus of the National Antarctic Research Programs in recent years. Increased knowledge on the status of terrestrial and marine ecosystems of Maritime Antarctic will help us to better understand the effects of global changes on the ecosystem, to effectively conserve and manage them, and to develop more scenarios of its future state.

Advances in Polar Science publishes this special issue focusing on “Current Status of the Terrestrial and Marine Ecosystems of Maritime Antarctic (TMEMA)”, to provide an international forum to summarize the recent advances in this important topic.

This special issue TMEMA is based on submissions from scientists of Argentina, China, Germany, Chile, Uruguay, USA and Venezuela, altogether 18 manuscripts, 14 articles of which were adopted before the acceptance deadline and released as expected. These papers involve the following topics: (1) Assessment of trace metals in droppings of Adélie penguins from different locations of the Antarctic Peninsula area; (2) Geographic ranges of ascidians from Antarctica and the southeastern Pacific; (3) Experimental culture of non-indigenous *Juncus bufonius* from King George island; (4) Detection of integron integrase genes on King George Island; (5) Distribution patterns of typical enzyme activities in tundra soils on Fildes Peninsula; (6) Analysis of phosphorus forms in sediment cores from ephemeral ponds on Ardley Island; (7) Sources and distribution of particulate organic carbon in Great Wall Cove and Ardley Cove; (8) Distributions of Seawater nutrient and chlorophyll *a* and influencing factors in the seawaters nearby distributions near Chinese Antarctic Great Wall Station; (9) Preliminary evidence for 17 coastal terraces in Fildes peninsula; (10) Characterizing proteases in an Antarctic *Janthinobacterium* sp. Isolate: Evidence of a protease horizontal gene transfer event; (11) Identification of Antarctic culturable bacteria able to produce diverse enzymes of potential biotechnological interest; (12) Construction and screening of a functional metagenomic library for the identification of novel enzymes produced by Antarctic bacteria; (13) Five-year bio-monitoring of aquatic ecosystems near Artigas Antarctic Scientific Base; (14) A preliminary study of freshwater meiofauna communities in Greenwich Island.

We expect that this special issue will provide some references for further research on these themes. Finally, we would like to appreciate all the authors and reviewers, who contributed to this special issue. We also would like to thank Dr. Javier Arata and Dr. Jing Huang for their great effort and assistance to make this issue a success.

Guest Editors :

Prof. José Retamales, Prof. Liguang Sun, Associate Prof. Yong Yu

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