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Dermatologists with extraordinary life stories: Nikolai Tsankov and his island in Antarctica

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Abstract An island in Antarctica has been named in honor of the distinguished Bulgarian dermatologist Nikolai Tsankov. This contribution tells the story of Tsankov Island, and the remarkable man behind the eponym. He has participated in multiple expeditions to Antarctica as a pioneer in studying the effects its climactic conditions on healthy skin.

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Introduction

Antarctica is a land of stark beauty featuring surreal blue glaciers, active volcanoes, pristine white snow, soaring mountains, and amazing wildlife such as penguins and whales. It is also the coldest, driest, windiest, and least populated continent of our planet.

Antarctica is home to Tsankov Island, a special island named after and honoring the distinguished Bulgarian dermatologist, Nikolai Tsankov, who has served on a number of Antarctic campaigns under the flag of his country. He has been a passionate pioneer in studying the effects of climactic conditions in Antarctica on healthy skin. Tsankov has accumulated many accolades in his long academic dermatology career. Perhaps the most extraordinary one is having an island named after him, a most remarkable achievement that this contribution celebrates by the telling of its story (Figure 1).

The man behind the island

Nikolai Tsankov was born in Sofia, Bulgaria, in 1942. He received his medical degree in 1970 from the Medical University, Sofia, where much of his postgraduate study and dermatology career has centered.¹ He became assistant professor in the Department of Dermatology and Venereology in 1974, associate professor in 1990, full professor and head of the department in 1996 to 2008. His other honors include being dean of the medical faculty at the Medical University in Sofia (1999-2008) and president of the Central Eastern Dermato-Venereological Association (1997–2000).

Tsankov is especially proud to have been a member of the Bulgarian Antarctic expedition for five consecutive years, pursuing scientific projects concerning skin physiology (Figure 2). It was his dedication and commitment to this research that led to an Antarctic island being named in his honor. The island's name is part of the Bulgaria Gazetteer and the Scientific Committee on Antarctic Research (SCAR) Composite Gazetteer of Antarctica.

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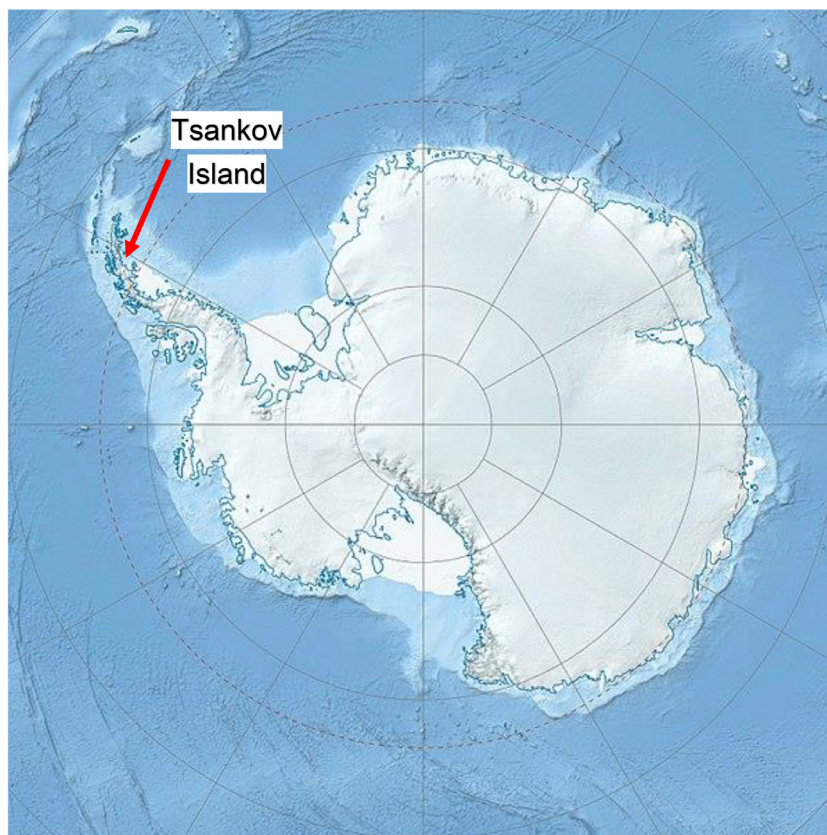


Fig. 1 Physical location map of Antarctica, Azimuthal equidistant projection, showing the location of Tsankov Island. Author: Alexrk2. Wikimedia Commons. Creative Commons Attribution-Share Alike 3.0 Unported license. (The arrow and name have been added.)



Fig. 2 Photograph of Nikolai Tsankov at the Bulgarian Antarctic Base. The sign indicates the Bulgarian Dermatological Society. (Photograph courtesy of Dr Nikolai Tsankov.)

The Bulgarian Antarctic Institute

The Bulgarian Antarctic Institute is a noncommercial organization founded in 1993, working under the patron-

age of the president of the Republic of Bulgaria. It has 105 members and organizes annual Antarctic campaigns while operating a base called St. Kliment Ohridski on Livingston Island, South Shetland Islands.² Its expeditions are composed of specialists in various areas such as geology, biology, and medicine, pursuing the scientific study of Antarctica.

An average of 25 people work at St. Kliment Ohridski during the austral summer, usually from late November or early December until early March. The base consists of three houses and an Orthodox chapel (Figure 3). In addition to the bedrooms and a bathroom, the houses feature three scientific laboratories, a medical office, a living room, and a kitchenette.²

Climatotherapy is one of the main scientific directions of the Bulgarian school of dermatology dating back to the 1960s. Nikolai Tsankov has personally supervised and managed groups of patients having allergic skin diseases in the high mountain bases of the Rila Mountains of Bulgaria with altitudes of 2,018 m and 2,050 m above sea level. He has published several contributions about climatotherapy.^{3,4}

Tsankov pioneered the study of climatic factors (low temperature and sun radiation) in Antarctica and their action on the skin. The skin is the primary defense of the human



Fig. 3 The Bulgarian base St. Kliment Ohridski on Livingston Island, Antarctica in 2012, with the new St. Ivan Rilski Chapel in the foreground, and the Russian Hut, the Lame Dog Hut, the Laboratory, Casa Espana, and the Main Building in the background. Author: SnowSwan. Wikimedia Commons. Creative Commons Attribution-Share Alike 4.0 International license.

body against the external factors of physical, chemical, mechanical, and biologic origin, and the aim of Tsankov's research was to evaluate the changes of skin hydration, greasiness, and microrelief due to extreme climatic environmental factors during the stay of the members of the Bulgarian Antarctic expedition.⁵ These studies show the pioneering results of the effect of the Antarctic climate on human skin physiology.

Tsankov has also investigated skin carotenoids as essential components of the antioxidative protective system of the human skin. They are an indicator of the overall antioxidant status of the organism. Skin carotenoid dynamics could be an equilibrium between negative factors, ranging from UV radiation, humidity, and temperature to beneficial factors, including a healthy lifestyle, diet, and physical activity. The practical implications might be the introduction of antioxidant strategies to improve the skin health of Antarctic expedition members.⁶ Tsankov is especially proud of the fact that two of his students, Associate Professor Ivan Bogdanov and Associate Professor Razvigor Durlenski, are following in his path and are now members of the Bulgarian Antarctic Expedition with scientific projects published in prestigious scientific journals.⁷

Tsankov Island

Tsankov Island is a mostly ice-covered island that is 625 miles long and 216 miles wide. It is located in the Dannebrog Islands group of Wilhelm Archipelago in the Antarctic Peninsula region. The island is uninhabited, and its fauna within 1.0 degrees of the island's position include unsegmented roundworms, bird lice, water bears (tardigrades), Macaroni penguins, Adelie penguins, Chinstrap penguins, and Gentoo penguins.⁸

Conclusions

Over the past decade, a few dedicated dermatologists have pioneered studies about the effects of Antarctica's climate on normal skin. Foremost among these investigators has been Nikolai Tsankov, who has participated in five consecutive expeditions to the Bulgarian Antarctic base. To honor Tsankov's dedication to Antarctic research, one of the islands has been named in his honor: Tsankov Island. This remarkable achievement is one we can all celebrate, with utmost pride, as we acknowledge the lifelong contributions of Nikolai Tsankov to dermatology, especially in the far reaches of the earth and in the stark beauty of Antarctica.

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