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Green careers guide

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Scientific work

of Temenuzhka Spasova, PhD, Space Research and Technologies Institute, Bulgarian Academy of Sciences, Sofia

Dear Committee,

I started my research as a PhD student in the Aerospace Information section in Space Research and Technology Institute (SRTI), Bulgarian Academy of Sciences. The topic of my PhD thesis was: "Different approach for monitoring of surface water bodies, floods and wet snow cover based on Remote sensing and GIS", with supervisor: Prof. Dr. Rumén Nedkov. The Defense of my PhD thesis was on 11th October 2019. During my PhD thesis I have participated in different national and international conferences with oral and poster presentations.

According to <https://www.researchgate.net/> the citations are 17. My research interests are in the field of environmental monitoring of water based on satellite data and GIS. The subjects of the study are flooded areas, open water surfaces and areas occupied by wet snow, snow and ice both on the territory of Bulgaria, outside it and in the polar regions. My research interests are focused on environmental monitoring of the polar regions and Bulgaria, the dynamic change, sustainable development and adaptation to the modern climate change, the use of different modeling techniques and optimization of monitoring regardless of latitude. In parallel with my scientific work, I actively participated in national and international scientific forums. During the period 2018-2020, I co-authored 12 publications. Five articles are with SJR, one of the articles is from a forum in Cape Town, South Africa on Climate Change and Adaptation.



I participated in a specialized course of the European Space Agency (ESA) in 2018 on Svalbard-Arctic Archipelago, where I was part of a pre-selection procedure of 60 scientists from Europe, the USA and Canada. During the period 2017-2019 I participated in one project funded by the National Science Foundation of Bulgaria and 2 two projects funded by European funds under the programs Good Governance and Operational Program Transport and Transport Infrastructure.





I have also participated in: 5 specialized courses related to Remote sensing and Environmental monitoring, 2 appearances at the Sofia Science Festival as one of the finalists at Famelab 2017, 2 appearances at the “European Researchers Night”, 1 Interdisciplinary Forum and the Karoll Knowledge Foundation Program - Entrepreneurs in Science 2019.

Water is an inevitable necessity for all life on Earth. Adequate supply of clean, safe and fresh water is a fundamental prerequisite for the survival of people and the economic development of regions and nations. However, water is unevenly distributed in space or in time and does not always match our consumer needs and desires (domestic, agricultural or industrial). Globally, water runoff is concentrated mainly in temperate climates and equatorial regions.

One of the most dynamically changing parts of the Earth’s global system is the Cryosphere. It includes areas covered by ice, snow, glaciers, or permafrost. The changes in seasons and climate bring great changes to the Cryosphere. The role of snow and ice in all geophysical and hydrological processes, including ecological disasters, is very important. They contain large amounts of water, which, when rapidly melted, can cause a massive flooding, in the event of severe drought - waterlessness.

Climate change and global warming are among the greatest challenges facing humanity today. According to the Intergovernmental Panel on Climate Change, “global warming is likely to be the result of human influence since the mid-20th century.”

It’s very important that the adaptation to the current conditions is to place this adaptation as a major theme in people’s lives, taking into account at all the risks and current trends. There is a need to promote synergies between the society, world politics and researchers working on climate change and adaptation. It’s necessary to increase and improve monitoring and evaluation of the adaptation in the current conditions.

