Dr. Temenuzka Spasova

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Postdoctoral researcher Dr. Temenuzhka Spasova completed her Master's degree in Geography at the Department of Regional Development and Policy in 2001, and a Master's degree in Geographic Information Systems (GIS) in 2015 at the Faculty of Geology and Geography of Sofia University "St. Kliment Ohridski."

In 2016, she enrolled as a regular PhD student in the "Aerospace Information" section of the Space Research and Technology Institute at the Bulgarian Academy of Sciences (SRTI-BAS). She defended her dissertation and received her PhD degree in 2019. The topic of her dissertation was "Different approach for monitoring of surface water bodys, floods and wet snow cover based on Remote sensing and GIS".

Since 2022, she has been working as a postdoctoral researcher under the "National Program for Young Scientists and Postdoctoral Researchers - 2" in the "Aerospace Information" section at SRTI-BAS. The topic of her postdoctoral project is "Spectral Analysis and Mapping of Urban Heat Islands, Unregulated Landfills, and Renewable Energy Sites by Planning Regions".

Her research interests include ecological monitoring of flooded areas, surface water bodies, snow, wet snow and ice, renewable energy sources, heat islands, regulated and unregulated landfills, Digital Twins based on satellite data, and GIS.

She participated in the "2nd ESA Advanced Training Course on Cryosphere Remote Sensing 2018" in Svalbard, Arctic, and in the 31st National Antarctic Expedition during 2022-2023 on Livingston Island, Antarctica.

Since 2020, she has been actively involved as an expert in open and spatial data policy, project proposal development, and policies related to the Open Data Directive, the Access to Public Information Act, and the European Parliament and Council Regulation on a European data governance framework (Data Governance Act).

She participates in various interdepartmental and European working groups related to space policy, such as the Interdepartmental Working Group for Developing the Project for Nominating the Competent Authority of Bulgaria for Space-related Services, the Development of the National Space Strategy, and the Council's Working Group on Space Policy.

Since 2021, she has been nominated and serves as the national coordinator for Bulgaria for the European Commission's "Destination Earth" initiative, in collaboration with ESA, the European Centre for Medium-Range Weather Forecasts (ECMWF), and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), which are gradually developing digital replicas of Earth systems and natural phenomena, called Digital Twins.

Dr. Temenuzhka Spasova is the author and co-author of 20 scientific publications and reports indexed in the Scopus and Web of Science databases. She actively participates in national and international scientific forums in Europe, Africa, and Asia. She works on projects of the European Commission and the World Bank.

She is a lecturer at the Institute of Public Administration in the field of aerospace information and spatial data, and was one of the finalists in the “Famelab 2017” young scientists’ competition, organized by the Ministry of Education and Science.

Management and participation in projects during the last five years

1. Procedure BG16RFPR002-2.010, Priority 2, Program "Scientific Research, Innovation, and Digitization for Intelligent Transformation" 2021-2027;
2. Project "Young Scientists and Postdoctoral Researchers - 2" (2022-2024) on the topic: "Spectral Analysis and Mapping of Urban Heat Islands, Unregulated Landfills, and Renewable Energy Sites by Economic Planning Regions";
3. No. KP-06-M64/1 (2022-2024) "Monitoring the Seasonal Dynamics and Resilience of Snow Cover in the Mountainous Zone of the Republic of Bulgaria over a 10-Year Period (2014-2024) Based on Remote Sensing." Funding institution: Ministry of Education and Science of the Republic of Bulgaria, Scientific Research Fund;
4. No. 70-25-59/10.08.2022 (2022-2023) DEADDSPP "Destination Earth Antarctica – Digital Data Space, Pilot Project." Funding institution: National Center for Polar Studies at Sofia University "St. Kliment Ohridski";
5. "Development and Implementation of a Reference Architecture for Interoperability (RAI) and an Information System for Centralized Construction and Maintenance of Registers (ISCCMR)" under procedure BG05SFOP001-1.013 (2021-2023);
6. "VELES" – Hub of Excellence – Strengthening Regional Capabilities and Enhancing Innovation Potential for Intelligent Healthcare in Southeast Europe, (June 1, 2023 - May 31, 2027), Horizon Europe.

Scientific publications

1. 1. NEDKOV R.; **SPASOVA T.**; GOTCHEV D.; (2016) A DISCRIMINATVE APPROACH BASED ON AEROSPACE MULTISPECTRAL BANDS DATA IN MONITORING OF SNOW COVER AND WATER, ECOLOGICAL ENGINEERING AND ENVIRONMENT PROTECTION VOL. 2, PP. 56-61, ISSN 1311-8668
2. NEDKOV R., GOTCHEV D., **SPASOVA T.**, ZAHARINOVA M.. THE SKOPJE FLOODS ON AUGUST 2016 -A SATELLITE DATA BASED ANALYSIS(2016) АНАЛИЗ НА НАВОДНЕНИЕТО НА ТЕРИТОРИЯТА НА ГРАД СКОПИЕ ОТ МЕСЕЦ АВГУСТ 2016 ГОДИНА НА БАЗАТА НА СПЪТНИКОВИ ДАННИ ,) ECOLOGICAL ENGINEERING AND ENVIRONMENT PROTECTION VOL.2,PP.52-55, ISSN 1311-8668
3. **T. SPASOVA**, R. NEDKOV;(2017) MONITORING OF SHORT-LIVED SNOW COVERAGE BY RADAR AND OPTICAL DATA FROM SENTINEL-1 AND SENTINEL-2 SATELLITES, ECOLOGICAL ENGINEERING AND ENVIRONMENT PROTECTION VOL.2,PP. 13-19, ISSN 1311-8668
4. **SPASOVA T.**; (2017) USING RADAR DATA FOR MONITORING FLOODED AREAS, SES 2017-THIRTEENT INTERNATIONAL SCIENTIFIC CONFERENCE SPACE, ECOLOGY, SAFETY-NOVEMBER 2017, SOFIA, BULGARIA, ISSN 1313- 3888
5. **TEMENUZHKA SPASOVA**, MONITORING OF SHORT-LIVED SNOW COVERAGE BY SAR DATA AROUND LIVINGSTON ISLAND, SOUTH SHETLAND ISLANDS IN ANTARCTICA, ADAPTATION FUTURES 2018 – „5TH INTERNATIONAL CLIMATE CHANGE ADAPTATION CONFERENCE": CAPE TOWN – SOUTH AFRICA 18-21 JUNE 2018 HTTPS://DOI.ORG/10.15641/0-7992-2543-3
6. **SPASOVA, T.**, IVANOVA I., GOTCHEV, D., STANKOVA, N..(2018) MONITORING OF SHORT-LIVED SNOW COVERAGE BASED ON AEROSPACE DATA ON SVALBARD IN NORWAY. SES2018, SPACE RESEARCHTECHNOLOGY INSTITUTE - BULGARIAN ACADEMY OF SCIENCES, 2018, ISSN:2603-3313, 306-315
7. **SPASOVA T.**, NEDKOV R., (2019) "ON THE USE OF SAR AND OPTICAL DATA IN ASSESSMENT OF FLOODED AREAS," PROC. SPIE 11174, SEVENTH INTERNATIONAL CONFERENCE ON REMOTE SENSING AND GEOINFORMATION OF THE ENVIRONMENT (RSCY2019), 111740V (27 JUNE 2019); DOI: 10.1117/12.2533660
8. **SPASOVA T**, R. NEDKOV; (2019) ASSESSMENT OF WET SNOW DYNAMICS ON THE TERRITORY OF URUPEMA, BRAZIL BASED ON SAR AND OPTICAL SATELLITE DATA. PROC. SPIE 11174, SEVENTH INTERNATIONAL CONFERENCE ON REMOTE SENSING AND GEOINFORMATION OF THE ENVIRONMENT (RSCY2019), 1117414 (27 JUNE 2019); DOI: 10.1117/12.2533684
9. DANCHEVA, A, **SPASOVA, T**, BORISOVA, D. "EVALUTION OF TEMPERATURE CHANGES IN WASTE DISPOSAL SITES ACCORDING TO SATELLITE DATA", RSCY 2019, PAPHOS, CYPRUS, MARCH, 2019 HTTPS://DOI.ORG10.1117/12.2533609
10. DANCHEVA,A., NEDKOV,R., BORISOVA, D., **SPASOVA,T** (2019) "USING OPTICAL AND RADAR IMAGES TO STUDY THE THERMAL POLLUTION FROM THE WASTE DISPOSAL SITE AROUND VIDIN AREA", PROCEEDINGS OF SPIE VOL. 11149, 1114928 (2019) HTTPS://DOI.ORG/10.1117/12.2538116

11. IVANOVA I., I. GIGOVA, **T. SPASOVA**, N. STANKOVA (2019) DURANCULAK LAKE ACTUAL STATE AND MONITORING USING SENTINEL-2 SATELLITE DATA; SIXTH INTERNATIONAL CONFERENCE WITH YOUTH SCIENTIFIC SESSION ECOLOGICAL ENGINEERING AND ENVIRONMENT PROTECTION (EEEP' 2019) 5-7 JUNE, BURGAS
12. **TEMENUZHKA SPASOVA**, ROUMEN NEDKOV, ADLIN DANCHEVA, ANDREY STOYANOV, IVA IVANOVA, AND NIKOLAY GEORGIEV "SEASONAL ASSESSMENT OF THE DYNAMICS OF SEA ICE BASED ON AEROSPACE DATA ON LIVINGSTON ISLAND, NEW SHETLAND ISLANDS IN ANTARCTICA AND LONGYEARBYEN IN THE ARCTIC", PROC. SPIE 11524, EIGHTH INTERNATIONAL CONFERENCE ON REMOTE SENSING AND GEOINFORMATION OF THE ENVIRONMENT (RSCY2020), 115240J (26 AUGUST 2020); HTTPS://DOI.ORG/10.1117/12.2570829
13. **TEMENUZHKA SPASOVA**, ADLIN DANCHEVA, IVA IVANOVA, DENITSA BORISOVA, AND NATALIYA STANKOVA "MONITORING OF SURFACE WATER BODIES BY SENTINEL AND OPEN DATA", PROC. SPIE 11863, EARTH RESOURCES AND ENVIRONMENTAL REMOTE SENSING/GIS APPLICATIONS XII, 118631B (12 SEPTEMBER 2021); HTTPS://DOI.ORG/10.1117/12.2600282
14. **TEMENUZHKA SPASOVA** (2022) "ASSESSMENT OF MONITORING AND SECURITY ON THE BLACK SEA COAST BY REMOTE SENSING AND OPEN DATA" SPIE PAPER NUMBER: 12263-13, SPIE SENSORS + IMAGING 2022 , 5 - 7 SEPTEMBER 2022 BERLIN, GERMANY
15. DANCHEVA, A., **SPASOVA.T**, " USE OF OPEN, SPATIAL AND SATELLITE DATA FOR THE PURPOSE OF RESEARCHING LANDFILLS FOR MUNICIPAL", AEROSPACE RESEARCH IN BULGARIA 35:41-51, DOI: 10.3897/ARB.V35.E05
16. **TEMENUZKA SPASOVA**, ANDREY STOYANOV; OPEN DATA AND REMOTE SENSING IN FLOOD MONITORING IN THE MUNICIPALITY OF KARLOVO (2022), CMDR COE. PROCEEDINGS 8 BULGARIA; https://cmdrcoe.org/fls/pubs/CMDR_COE_Proceedings8_-_2022.pdf
17. **TEMENUZHKA SPASOVA** AND DANIELA AVETISYAN "A SYNCHRONIZED REMOTE SENSING MONITORING APPROACH IN THE LIVINGSTONE ISLAND REGION OF ANTARCTICA", PROC. SPIE 12786, NINTH INTERNATIONAL CONFERENCE ON REMOTE SENSING AND GEOINFORMATION OF THE ENVIRONMENT (RSCY2023), 127861X (21 SEPTEMBER 2023); HTTPS://DOI.ORG/10.1117/12.2682162
18. **TEMENUZHKA SPASOVA** "CREATING A DIGITAL TWIN AND POLAR DIGITAL SPACE IN ANTARCTICA", PROC. SPIE 12786, NINTH INTERNATIONAL CONFERENCE ON REMOTE SENSING AND GEOINFORMATION OF THE ENVIRONMENT (RSCY2023), 1278625 (21 SEPTEMBER 2023); HTTPS://DOI.ORG/10.1117/12.2682918
19. **TEMENUZHKA SPASOVA**, ADLIN DANCHEVA, DANIELA AVETISYAN, IVA IVANOVA, ILIYAN POPOV, AND BORIS SHIROV "MONITORING OF RENEWABLE ENERGY SOURCES WITH REMOTE SENSING, OPEN DATA, AND FIELD DATA IN BULGARIA", PROC. SPIE 12733, IMAGE AND SIGNAL PROCESSING FOR REMOTE SENSING XXIX, 1273311 (19 OCTOBER 2023); HTTPS://DOI.ORG/10.1117/12.2680495

20. **TEMENUZHKA SPASOVA** "ASSESSMENT OF HEAT ISLANDS IN DIFFERENT ECONOMIC REGIONS OF BULGARIA FOR THE NEEDS OF DIGITAL TWINS", PROC. SPIE 12735, REMOTE SENSING TECHNOLOGIES AND APPLICATIONS IN URBAN ENVIRONMENTS VIII, 127350O (22 NOVEMBER 2023); HTTPS://DOI.ORG/10.1117/12.2680333