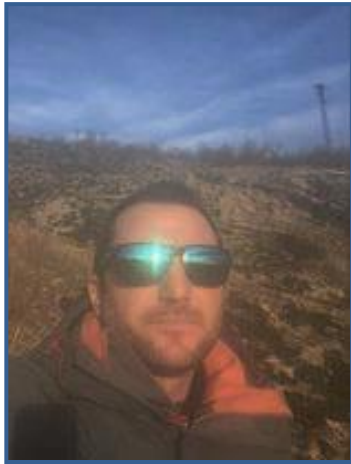# Chief Assist. Andrey Stoyanov, PhD

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Chief Assist. Andrey Stoyanov, Phd holds a master's degree at the Faculty of geology and geography at Sofia University "St. Kliment Ohridski", departmnet "GIS and Cartography", graduated in 2016. Obtained PhD degree in the scientific specialty "Remote sensing of the Earth and the planets" at the Space Research and Technologies Institute – Bulgarian Academy of Sciences in June 2022, defending a dissertation on topic "Application of a multidisciplinary approach for monitoring and spatio-temporal analysis of forest vegetation and flooded territories based on Remote Sensing". The main scientific research with which he deals, in addition to forest vegetation monitoring and aerospace information processing, also includes the application of multispectral satellite data for various types and objects from the earth's surface - vegetation, water (ice and snow) and soil - to perform analyzes in the field of ecology and environmental protection, and to assess the impact of extreme natural processes and phenomena (floods, fires, etc.).

Education

- 2022 – Remote Sensing of the Earth and Planets, PhD;
- 2016 – Physical Geography and Landscape Ecology, Master;
- 2013 – Geography, Bachelor.

Name and type of educational organization

- 2016–2022 – Space Research and Technology Institute at Bulgarian Academy of Sciences, Department of Aerospace Information;
- 2014–2016 – Sofia University "St. Kliment Ohridski", Faculty of Geology and Geography, Master's program in "GIS and Cartography";
- 2008–2013 – University of Veliko Tarnovo "St. st. Cyril and Methodius", Faculty of History bachelor for Geography.

Work experience in the last five years

- June 2018 – to date – Research Assistant, SRTI (BAS), Department "Aerospace Information";
- September 2017 – May 2018 Junior expert of GIS department "Monitoring and assessment of the environment" Executive Environmental Agency.

Main research area and subareas

- Earth Sciences
- Remote sensing of the Earth and planets
- Processing and application of aerospace information
- Ecology and monitoring of environment

Participation in scientific and scientific-applied projects

1. Ръководител на проект с вх. № СУНИ BG175467353-2022-03-0025 с тема: „Мониторинг на сезонната динамика и устойчивост на снежната покривка в планинския пояс от територията на Р България за период от 10 години (2014-2024) на база Дистанционни изследвания", определен за финансиране въз основа на проведен от Фонд „Научни изследвания" КОНКУРС ЗА ФИНАНСИРАНЕ НА ФУНДАМЕНТАЛНИ ИЗСЛЕДВАНИЯ НА МЛАДИ УЧЕНИ И ПОСТДОКТОРАНТИ – 2022 г." Срок на проекта 15.12.2022-15.12.2024

Scientific publications

1. **Stoyanov, A.**. Application of Tasseled Cap Transformation of Sentinel-2—MSI Data for Forest Monitoring and Change Detection on Territory of Natural Park "BLUE STONES". Environmental Sciences Proceedings, 22, 1, MDPI, 2022, ISSN:2673-4931, DOI:10.3390/IECF2022-13073, 42-1-42-6

2. Spasova, T., **Stoyanov, A.**. Open Data and Remote Sensing in Flood Monitoring in the Municipality of Karlovo, Bulgaria. CMDR COE Proceedings 2022, 8, Crisis Management and Disaster Response Centre of Excellence, 2022, 12-21

3. **Стоянов, А.**. Application of Tasseled Cap Transformation of Sentinel 2 – MSI Data for Forest Monitoring on Territory of Natrural Park "Blue Stones". Proceedings SES'2021, Space Research and Technology Institute Bulgarian Academy of Sciences, 2021, ISSN:2603 – 3313, 224-229

4. Spasova, T., Nedkov, R., Dancheva, A., **Stoyanov, A.**, Ivanova, I., Georgiev, N.. 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), 115240, Society of Photo-Optical Instrumentation Engineers (SPIE), 2020, ISSN:0277-786X, DOI:https://doi.org/10.1117/12.2570829

5. **Stoyanov, A.**, Georgiev, N., Gigova, I., Borisova, D.. Application of remote sensing data for monitoring of forest vegetation on the territory of nature park "Blue Stones," Bulgaria. Proc. SPIE 11149, Remote Sensing for Agriculture, Ecosystems, and Hydrology XXI, 11149, SPIE, 2019, ISSN:0277-786X, DOI:10.1117/12.2538115, 1114927-1-1114927-7

6. Emiliya Velizarova, Kameliya Radeva, **Andrey Stoyanov**, Nikolai Georgiev, Iliyana Gigova. Post-fire forest disturbance monitoring using remote sensing data and spectral indices. SPIE, 11174, 111741G, SPIE, 2019, DOI:doi.org/10.1117/12.2533709

7. Velizarova, E., Nedkov, R., Avetisyan, D., Radeva, K., **Stoyanov, A.**, Georgiev, N., Gigova, I.. Application of remote sensing techniques for monitoring of the climatic parameters in forest fire vulnerable regions in Bulgaria. Proc. 11174, 11174, SPIE, 2019, DOI:10.1117/12.2533656, 111740E-1-111740E-12

8. **Stoyanov, A.**, Borisova, D., Radeva, K.. Application of SAR and optical data from Sentinel satellites for spatial-temporal analysis of the flood in the region of Bregovo-Bulgaria, 11/03/2018. Proc. SPIE 10783, Remote Sensing for Agriculture, Ecosystems, and Hydrology XX, 10783, SPIE, 2018, ISSN:0277-786X, DOI:10.1117/12.2325773, 107831K-1-107831K-7

9. **Stoyanov, A.**, Borisova, D.. Monitoring on forest ecosystems by using space-temporal analysis of different types aerospace data. Ecological Engineering and Environment Protection, 2, 2017, ISSN:1311-8668, 31-37