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- ResearcherID: 0-6671-2017
- Scopus author ID: 23391616100
- Google Scholar – Miglena Zhiyanski

Research interests: Forest Ecology, Soil Science, Carbon Dynamics, Ecosystem Services, Green Infrastructure, Pollution, Land-use and Land-use Changes

Education:

2008-2009: Research Fellow in the University of the West of Scotland, Paisley, UK, funded by Leverhulme Trust

2006: PhD in Life Sciences, University of Franche-Comte, Besancon, France, Thesis: “Variabilité des propriétés des sols forestiers brunifiés du sud massif de Rila (Bulgarie) conséquences sur les systèmes racinaires et sur les transferts d’éléments dans le système sol-arbre”.

2004: PhD in Ecology, Forest Research Institute, BAS, Thesis: „Study on brown forest soils in coniferous forests in Southwest Rila Mountain“

1994: MSc in Ecology and Environmental Protection, University of Forestry, Sofia, Bulgaria

Training:

2005: Laboratory of environmental biology and ecophysiology, University of Franche-Comte, Besancon, France - Laboratory UMR 6249 Chrono-environnement CNRS - Université de Franche-Comté - INRA Place Leclerc F-25030

Employment:

2019-present: Professor, Department of Forest ecology, Forest Research Institute, BAS

2011-2017: Associate Professor, Department of Forest ecology, Forest Research Institute, BAS

2007-2011: Chief Assistant, Department of Forest ecology, Forest Research Institute, BAS

2006-2007: Assistant, Department of Forest ecology, Forest Research Institute, BAS

2005-2006: Forest Engineer, Department of Forest ecology, Forest Research Institute, BAS

Administrative responsibilities:

2017-present: Director of the Forest Research Institute, BAS

2012-present: Member of the Scientific Council of the Forest Research Institute, BAS

Participation in expert councils and commissions:

2018-present: National Focal Point “Forests” at the European Environmental Agency

Teaching Experience:

2018-2020: Lecturer “Ecosystem services” in the University of Architecture and Urban Planning – Sofia

Training students:

2013-present: Supervisor of 2 PhD students, Forest Research Institute, BAS, Sofia – one completed and one ongoing

2015-2020: Supervisor of one PhD student, IBER-BAS, Sofia - completed

Membership in scientific organisations: Union of Scientists in Bulgaria, Ecosystem Services Partnership, IUFRO, Bulgarian Soil Science Society, IHSS

Chief Editor of scientific journal Forest science

Member of the Editorial Board: *Silva balcanica*, Austrian Journal of Forest Research, One ecosystem, Forest magazin

The list of selected publications for last five years:

- Bozhilova M, **Zhiyanski M**, Glogov P (2020) Green roofs and green walls – legislative framework in Bulgaria. *Silva Balcanica* 21 (2): 45-51.
- Bozhilova M, **Zhiyanski M**, Glogov P (2020) Legislative requirements related to substrate depth as a barrier to the construction of green roofs in Bulgaria. *Silva Balcanica* 21 (2): 99-104.
- Dodev Y, **Zhiyanski M**, Markoff I (2020) Concept for sustainable management of Oriental hornbeam (*Carpinus orientalis* Mill.) forests in Bulgaria. *Austrian Journal of Forest Science* 1: 23-42.
- Dodev Y, **Zhiyanski M**, Glushkova M, Won Sop Shin (2020) Forest welfare services - the missing link between forest policy and management in the EU. *Forest Policy and Economics* 118, <https://doi.org/10.1016/j.forpol.2020.102249>
- Glushkova M, **Zhiyanski M**, Bozhilova M, Yaneva R (2020) Mapping economic valuation of selected ecosystem services provided by a protected area in Rhodopes Mountain. *Proceedings Vol. 1, 8th International Conference on Cartography and GIS*, Eds: Bandrova T, Konečný M, Marinova S, 1, Bulgarian Cartographic Association, 222-232.
- Glushkova M, **Zhiyanski M**, Yaneva R (2020) Assessment and mapping of mountain forest ecosystem services: the case study of Pirin National park. *Proceedings Vol. 1, 8th International Conference on Cartography and GIS*. Eds: Bandrova T, Konečný M, Marinova S, 1, Bulgarian Cartographic Association, 251-259.
- Glushkova M, **Zhiyanski M**, Nedkov S, Yaneva R, Stoeva L (2020) Ecosystem services from mountain forest ecosystems: conceptual framework, approach and challenges. *Silva balcanica* 21 (1): 47-68.
- Gyuleva V, Stankova T, **Zhiyanski M**, Glushkova M, Andonova (2020) Growth and Development of *Paulownia tomentosa* and *Paulownia elongata* × *fortunei* in Glasshouse Experiment. *Bulgarian Journal of Soil Science* 5 (2): 126-142.
- Yaneva R, **Zhiyanski M**, Dodev (2020) Bioaccumulation of potentially toxic elements within the soil–plant system in Central Balkan region: analysis of the forest ecosystem capacity to mediate toxic elements. *Environmental Geochemistry and Health, Special Issue*, Springer Netherlands, DOI:0.1007/s10653-020-00756-3.
- Zhiyanski M**, Glushkova M, Yaneva R (2020) Mapping soil properties and radionuclides distribution in polar ecosystems of Livingston Island. *Proceedings Vol. 1, 8th International Conference on Cartography and GIS, 2020, Nessebar, Bulgaria* ISSN: 1314-0604, Eds: Bandrova T, Konečný M, Marinova S, 1, Bulgarian Cartographic Association, 213-222.
- Zhiyanski M** (2020) Forest ecosystems in Bulgaria under environmental change - carbon sequestration potential and vulnerability zones. *Smart Geography* 417-442.
- Malcheva B, Nustorova M, **Zhiyanski M**, Sokolovska M, Yaneva R, Abakumov E (2020) Diversity and activity of microorganisms in Antarctic polar soils. *One ecosystem*, 2020, DOI: 10.3897/oneeco.5.e51816, 1-16.
- Tiwary A, Vilhar U, **Zhiyanski M**, Stojanovski V, Dinca L (2020) Management of nature-based goods and services provisioning from the urban common: a pan-European perspective. *Urban Ecosystems*. <https://doi.org/10.1007/s11252-020-00951-1>.
- Zhiyanski M**, Hursthouse A, Doncheva S (2020) Role of different components of urban and peri-urban forests to store carbon – a case-study of the Sandanski region, Bulgaria. *Journal of Chemical, Biological and Physical Sciences* 5 (3): 3114-3128.
- Lozanova L, **Zhiyanski M**, Vangelova E, Doncheva S, Marinov M, Lazarova S (2019) Root traits in two contrasting forest ecosystems natural European beech forests and Douglas fir plantations in Bulgaria. *Forests* 10 (1123): 2-17.
- Dimitrov S, Georgiev G, Georgieva M, Glushkova M, Chepishcheva V, Mirchev P, **Zhiyanski M** (2018) Integrated assessment of urban green infrastructure condition in Karlovo region by in-situ observations and remote sensing. *One ecosystem*, 1-23.
- Djukic I, Kepfer-Rojas S, Schmidt IK, Larsen K, Beier C, Berg B, Verheyen K, **Zhiyanski M**, Glushkova M (2018) Tea composition team. Early stage litter decomposition across biomes. *Science of the Total Environment* 628-629: 1369-1394.

- Nedkov S, **Zhiyanski M**, Borisova B, Bratanova-Doncheva S (2018) Mapping and assessment of ecosystem condition and ecosystem services across different scales and domains in Europe. *One ecosystem* 3, doi.org/10.3897/oneeco.3.e29288.
- Nedkov S, **Zhiyanski M**, Borisova B, Nikolova M, Doncheva-Bratanova S, Semerdhieva L, Ihtimanski I, Nikolov P, Aidarova Zv (2018) A Ggeospatial approach to mapping and assessment of urban ecosystem services in Bulgaria. *European Journal of Geography* 9 (4): 34-50.
- Nedkov S, Borisova B, Koulov B, **Zhiyanski M**, Doncheva S, Nikolova M, Kroumova J (2018) Towards integrated mapping and assessment of ecosystems and their services in Bulgaria: The Central Balkan case study. *One ecosystem*, DOI: 10.3897/oneeco.3.e25428
- Samson R, Ningal T, Tiwary A, Grote R, Fares S, Saaroni H, Hiemstra J, **Zhiyanski M** et al. (2017) Species-Specific Information for Enhancing Ecosystem Services. *The Urban Forest* 7: 111-144.
- Zhiyanski M**, Sokolovska M, Glushkova M, Vilhar U, Lozanova L (2017) Soil quality. *The Urban Forest: Cultivating Green Infrastructure for People and the Environment*, Chapter: Soil quality, 49-58.
- Zhiyanski M** et al. (2017) Methodology for assessment and mapping of urban ecosystems condition and their services in Bulgaria. Chlorind Ltd., ISBN:978-619-7379-03-7, 58.
- Cudlin P, Klopčič M, Tognetti R, Malis F, Alados C, Grunewald K, **Zhiyanski M**, Andonovski V et al. (2017) Drivers of treeline shift in different European mountains. *Climate Research* 73 (1-2): 135-150.
- Menichetti L, Leifeld J, Kirova L, Szidat S, **Zhiyanski M** (2017) Consequences of planned afforestation versus natural forest regrowth after disturbance for soil C stocks in Eastern European mountains. *Geoderma* 297: 19-27.
- Moscatelli MC, Bonifacio E, Chiti T, Cudlin, P, Dinka L, Gömöryova E, Grego S, La Porta N, Pellis G, Squartini A, **Zhiyanski M**, Broll G (2017) Soil properties as indicators for treeline dynamics in view of climate change and anthropogenic pressures. *Climate Research* 73 (1-2): 73-84.
- Nedkov S, **Zhiyanski M**, Dimitrov S, Borisova B, Popov A, Ihtimanski I, Yaneva R, Nikolov P, Bratanova-Doncheva S (2017) Mapping and assessment of urban ecosystem condition and services using integrated index of spatial structure. *One ecosystem* 2: <https://doi.org/10.3897/oneeco.2.e14499>
- Zhiyanski M**, Glushkova M, Ferezliev A, Menichetti L, Leifeld J (2016) Carbon storage and soil property changes following afforestation in mountain ecosystems of the Western Rhodopes, Bulgaria. *iForest* 9: 626-634.
- Zhiyanski M**, Gikov A, Nedkov S, Dimitrov P, Naydenova L (2016) Mapping Carbon Storage Using Land Cover/Land Use Data in the Area of Beklemeto, Central Balkan. *Sustainable Mountain Regions: Challenges and Perspectives in Southeastern Europe*, Chapter 4 (268): 53-67.
- Sen A, **Zhiyanski M**, Glushkova M, Petkova K, Ferreira JP, Pereira H (2016) Chemical composition and cellular structure of corks from *Quercus suber* trees planted in Bulgaria and Turkey. *Wood Science and Technology* 6 (50): DOI:10.1007/s00226-016-0836-y.
- Vanguelova E, Bonifacio E, De Vos B, Hoosbeek M, Berger T, Vesterdal L, Armolaitis K, Celi L, Dinka L, Kjønaas O, Pavlenda P, Pumpanen J, Püttsepp Ü, Reidy B, Simončič P, Tobin B, **Zhiyanski M** (2016) Sources of errors and uncertainties in the assessment of forest soil carbon stocks at different scales – review and recommendations. *Environmental Monitoring and Assessment* 11 (188): DOI:10.1007/s10661-016-5608-5.
- Vranic P, **Zhiyanski M**, Milutinovic S (2016) AHP model for linking urban green lands ecosystem services with planning and design tools for amelioration of micro-climate. *Journal of Integrative Environmental Science*, DOI:dx.doi.org/10.1080/1943815X.2016.1.
- Zhiyanski M** (2015) Fine-root production and turnover based on 2-yr of sequential coring in four forest tree species in Bulgaria. *Silva Balcanica* 16 (1): 34-49.

Projects (5 selected): Coordinator or participant in more than 35 national and international research projects. The projects for the last 5 years are listed below:

- National Scientific Program ‘Environmental Protection and Reduction of the Risk of Adverse Events and Natural Disasters’. WP 1.1.4. Impact of climate change on forest ecosystems and

adaptation measures. Assignor Ministry of Education and Science: 2018-2023. Project Leader: Prof. Dr. Margarita Georgieva.

- National Scientific Program 'Environmental Protection and Reduction of the Risk of Adverse Events and Natural Disasters'. WP 1.1.8. Assessment of the danger of adverse / catastrophic atmospheric and hydrosphere occurrences. 2018-2023. Project Leader: Prof. Dr. Miglena Zhiyanski.
- International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests operating under the UNECE Convention on Long-range Transboundary Air Pollutions: ICP Forests of EU program. 2000-2020. Project Leaders: Prof. DSc Pl. Mirchev, Prof. Dr E. Pavlova.
- Control and validation of the results of performed analyzes and studies of the species and natural habitats in Bulgaria, subject to reporting under Article 17 of the Habitats Directive and Article 12 of the Birds Directive. Funded by Executive Environment Agency. 2019-2020. Project Leader: Prof. Dr. Miglena Zhiyanski.
- Land-use and management impacts on carbon sequestration in mountain ecosystems", FRI-BAS (BG) and Agroscope (Switzerland), funded by SNCF and MES under the Bulgarian-Swiss Programme "Science". Principal investigator of IZEBZO.
- Toward better UNDERstanding the Ecosystem Services in URBan environments through assessment and mapping (TUNESinURB). Funded by FM of EEA 2009-2014, Programme BG03 Biodiversity and ecosystems .2015-2017. Project Leader: Prof. Dr. Miglena Zhiyanski.
- Linking networks of protected areas to territorial development, funded by ESPON (EU). Participant in LinkPAs.
- Enhancing Resilience of urban ecosystems through green infrastructure, JRC, funded by European Commission. Participant in EnRoute.