Moshe Vladislav Dubinin (PhD)

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I am a postdoctoral researcher in the Agro-Informatics Lab, led by Tarin Paz-Kagan, at the Institute for Desert Research in Sde Boker, Israel. My current research focuses on investigating the fruit cracking phenomenon across various spatiotemporal scales, ranging from individual trees and plot-level observations to regional studies in Israel and Europe. This work involves extensive use of remote sensing, deep learning, and statistical analysis, alongside conceptual thinking. I bring previous experience in these areas and have a strong passion for continually learning new things about the world.

EDUCATION

2024 –
***Post-Doc*, The Jacob Blaustein Institutes for Desert Research, Ben Gurion University, Sde Boker, Israel**
Investigating the fruit cracking phenomenon in varied orchards across various spatiotemporal scales in Israel and Europe.

2019 – 2024
***Ph.D.*, Department of Earth and Planetary Sciences, Weizmann Institute of Science Rehovot, Israel**
Thesis title: Assessing the response of dryland forests to drought stress based on Leaf Area Organization (LAO) and forest function parameters derived from satellite imagery LiDAR and ground measurements.
Advisors: Dr. Tarin Paz-Kagan, Dr. Yagil Osem and Prof. Dan Yakir

2016 – 2018
***MA*, Department of Environmental, Geoinformatics and Urban Planning Sciences, Ben Gurion University, Be'er Sheva, Israel**
Thesis title: Detecting biodiversity refugia using remotely sensed data.
Advisor: Prof. Tal Svoray

2013 – 2016
***BA*, Department of Environmental, Geoinformatics and Urban Planning Sciences, Ben Gurion University, Be'er Sheva, Israel**

PUBLICATIONS

(1) Adar, S., Paz-Kagan, T., Argaman, E., **Dubinin, M. V.**, & Sternberg, M. (2024). Identifying climatic drivers of forage quantity and quality in Mediterranean rangelands using remote sensing. *Science of the Total Environment*, *957*, 177797.
(2) Caras, T., Lati, R. N., Holland, D., **Dubinin, V. M.**, Hatib, K., Shulner, I., ... & Paz-Kagan, T. (2024). Monitoring the effects of weed management strategies on tree canopy structure and growth using UAV-LiDAR in a young almond orchard. *Computers and Electronics in Agriculture*, *216*, 108467.
(3) Yizhaq, H., **Dubinin, V.**, & Ashkenazy, Y. (2024). Human and climate impacts on the mobility of Nizzana Sand Dunes, Israel. In *Sand Dunes of the Northern Hemisphere: Distribution, Formation, Migration and Management* (pp. 56-73). CRC Press.
(4) **Dubinin, M.**, Osem, Y., Yakir, D., & Paz-Kagan, T. (2023). Satellite-based assessment of water use and leaf area efficiencies of dryland conifer forests along an aridity gradient. *Science of the Total Environment*, *902*, 165977.

(5) Zaady, E., Stavi, I., **Dubinin, V.**, Kamennaya, N., Abu-Glion, H., Shuker, S., & Yizhaq, H. (2022). *Hillslope Geodiversity Impact on Biocrusts' Biogeochemical Functions. Land 2022, 11, 1983*.

(6) **Dubinin, V.**, Stavi, I., Svoray, T., Dorman, M., & Yizhaq, H. (2021). Hillslope geodiversity improves the resistance of shrubs to prolonged droughts in semiarid ecosystems. *Journal of Arid Environments*, *188*, 104462.

(7) **Dubinin, V**., Svoray, T., Stavi, I., & Yizhaq, H. (2020). Using LANDSAT 8 and VENμS data to study the effect of geodiversity on soil moisture dynamics in a semiarid shrubland. *Remote Sensing*, *12*(20), 3377.

(8) **Dubinin, V**., Svoray, T., Dorman, M., & Perevolotsky, A. (2018). Detecting biodiversity refugia using remotely sensed data. *Landscape Ecology*, *33*, 1815-1830.

PUBLICATIONS UNDER REVIEW

(1) **Dubinin, M.**, Osem, Y., Yakir, D., & Paz-Kagan, T. Can silvicultural thinning regulate water utilization in dryland forests? An ecosystem satellite-based approach. **Under review in *Agricultural and Forest Meteorology*.**

(2) **Dubinin, M.**, Gitelson A., Osem, Y., Yakir, D., & Paz-Kagan, T. Quantification of Gross Primary Production of Conifer Dryland Forests by Remotely Sensed Chlorophyll Absorption Coefficient. **Under review in IEEE *Transactions on Geoscience and Remote Sensing*.**

(3) Sadot, G., **Dubinin, MV.**, Osem, Y., Grünzweig, JM., & Paz-Kagan, T. Integrated terrestrial and airborne LiDAR systems to monitor stand structure variations in 2 dryland forests affected by thinning treatments. **Under review in Remote Sensing Applications: Society and Environment.**

CONFERENCES

(1) **Dubinin, M. V.**, Osem, Y., Yakir, D., & Paz-Kagan, T. (2023). *Investigating the relationships between the leaf area index and forest functions of dryland conifer forests along an aridity gradient using VENμS and Sentinel-2 satellites* (No. EGU23-12505). Copernicus Meetings.

(2) Dubinin, M., Morozov M., Sadka, A., & Paz-Kagan, T. (2025) *Linking Citrus Fruit Cracking Intensity to Plant Water Status: Insights from UAV-Derived Metrics Validated by Ground-Based Data*. (EGU 2025)

SKILLS

- **Scientific research (remote sensing, ecology, climate change, agriculture)**: Conceptualization, field work, analysis, and article writing.
- **Data analysis and visualization:** Expert in the following programming languages: R, Python, MATLAB. ArcGIS, QGIS, Google Earth Engine.
- **Scientific teaching and lecturing:** Extensive experience conceptualizing, writing and grading exercises and exams. Frontal and online lectures/lessons to undergraduate students. Oral presentations in scientific conferences.
- **Languages**: Hebrew, English and Russian.
- **Highly experienced working in diverse multidisciplinary teams.**