

**Curriculum Vitae**  
**Dr. Sergii Skakun**  
Assistant Professor  
Department of Geographical Sciences, College of Information Studies (iSchool)  
University of Maryland, College Park, MD, USA

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**CONTACT INFORMATION**

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**EDUCATION**

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| 2004 – 2005 | <b>Ph.D. in System Analysis and Theory of Optimal Solutions (Computer Science)</b><br>Space Research Institute of National Academy of Sciences of Ukraine and National Space Agency of Ukraine<br>Dissertation title: “Analysis of Computer Users Behavior Using Neural Networks”<br>Advisor: Prof. Nataliia Kussul |
| 2002 – 2004 | <b>M.S. in Applied Mathematics (with honors)</b><br>National Technical University of Ukraine “Kyiv Polytechnic Institute” (GPA: 4.93/5.0)                                                                                                                                                                           |
| 1998 – 2002 | <b>B.S. in Applied Mathematics (with honors)</b><br>National Technical University of Ukraine “Kyiv Polytechnic Institute” (GPA: 5.0/5.0)                                                                                                                                                                            |

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**CAREER/EMPLOYMENT (EMPLOYERS, POSITIONS AND DATES)**

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| 2019/Jan – present  | Assistant Professor, Department of Geographical Sciences, College of Information Studies (iSchool), University of Maryland, College Park, MD, USA                                                                                      |
| 2018/Jul – 2019/Jan | Associate Research Professor, Department of Geographical Sciences, University of Maryland, College Park, MD, USA                                                                                                                       |
| 2015/Oct – 2018/Jun | Assistant Research Professor, Department of Geographical Sciences, University of Maryland, College Park, MD, USA                                                                                                                       |
| 2013/Dec – 2015/Sep | Senior Engineer, Production Engineering Research Team, Samsung SDI, Giheung, South Korea                                                                                                                                               |
| 2012/Nov – 2013/Nov | Head of Laboratory for Satellite Monitoring, Department of Space Information Technologies & Systems, Space Research Institute, National Academy of Science of Ukraine and State Space Agency of Ukraine (SRI NASU-SSAU), Kyiv, Ukraine |
| 2008/May – 2012/Oct | Senior Research Scientist, Department of Space Information Technologies & Systems, SRI NASU-SSAU, Kyiv, Ukraine                                                                                                                        |
| 2006/Apr – 2008/Apr | Research Scientist, Department of Space Information Technologies & Systems, SRI NASU-SSAU, Kyiv, Ukraine                                                                                                                               |
| 2004/Jun – 2006/Apr | Junior Research Scientist, Department of Space Information Technologies & Systems, SRI NASU-SSAU, Kyiv, Ukraine                                                                                                                        |
| 2003/Sep – 2004/May | System Engineer, Department of Space Information Technologies & Systems, SRI NASU-SSAU, Kyiv, Ukraine                                                                                                                                  |

## TEACHING EXPERIENCE AND LECTURES

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| 2023/Jan-May        | Instructor for <b>INST156 “How NASA Sees the Earth”</b> course (Spring semester, 41 students).                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2022/Aug-Dec        | Instructor for <b>GEOG371 “Programming for Image Analysis”</b> course (Fall semester, 7 students).                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2021/Aug-Dec        | Instructor for <b>GEOG371 “Programming for Image Analysis”</b> course (Fall semester, 13 students).                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2021/Jan-May        | Instructor for <b>INST208A “How NASA Sees the Earth”</b> course (Spring semester, 16 students).                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2020/Aug-Dec        | Instructor for <b>GEOG372 “Remote Sensing”</b> course (Fall semester, 97 students).                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2020/Jan-May        | Instructor for <b>INST208A “How NASA Sees the Earth”</b> course (Spring semester, 29 students).                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2019/Aug-Dec        | Instructor for <b>GEOG372 “Remote Sensing”</b> course (Fall semester, 83 students).                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2018/Jan-May        | Co-instructor for <b>GEOG372 “Remote Sensing”</b> course (Spring semester, 48 students).                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2018/Jan            | Guest lecturer for GEOG372 “Remote Sensing” course (Winter semester).<br>Lecture: “Basics of Synthetic Aperture Radar (SAR)”                                                                                                                                                                                                                                                                                                                                                                                                |
| 2007/Sep – 2013/Jun | Associate Professor, National Technical University of Ukraine «Kiev Polytechnic Institute», Kyiv, Ukraine<br>Courses: <ul style="list-style-type: none"> <li>• “Computer System Architecture” (Instructor, Fall semesters, undergraduate)</li> <li>• “Distributed Computing Systems” (Instructor, Fall semesters, undergraduate)</li> <li>• “Programming” (Assistant for labs, Fall-Spring semesters, undergraduate)</li> <li>• “Intelligent Systems” (Assistant for labs, Fall-Spring semesters, undergraduate)</li> </ul> |
| 2012/Sep – 2013/Jun | Associate Professor, National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine<br>Instructor for various graduate courses: <ul style="list-style-type: none"> <li>• “Modelling in Environment”; “Risk Assessment Methods and Technologies”; “Grid Computing Technologies”; “Project Management”; “System and Application Software Engineering”</li> </ul>                                                                                                                                            |
| 2010/Nov            | Invited lecturer at the 5th ISPRS Student Consortium and WG VI/5 Summer School on “Advanced Remote Sensing for Mapping, Monitoring and Management of the Environment”, Hanoi, Vietnam<br>Lecture: “Flood Mapping and Flood Risk Analysis Using Satellite Data”<br>(course presentations available at <a href="http://un-spider.ikd.kiev.ua/?page_id=840">http://un-spider.ikd.kiev.ua/?page_id=840</a> )                                                                                                                    |
| 2005/Sep – 2009/Jun | Associate Professor, Branch of Software Engineering Department, National Aviation University<br>Courses: <ul style="list-style-type: none"> <li>• “Object-Oriented Programming” (Instructor, fall semesters, undergraduate)</li> </ul>                                                                                                                                                                                                                                                                                      |

## RESEARCH FOCUS

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My research focus is to advance methods, models and emerging technologies in the area of data science for heterogeneous remote sensing data fusion, processing and analysis, and their applications to Earth System Science and areas of societal benefit.

## PROJECTS AND GRANTS

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### *PI or co-PI*

|             |                                                                                                                                                                                                                                                                                                   |
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| 2023 – 2024 | <u>PI</u> for the NASA Rapid Response project “Artillery Craters and Unexploded Ordnance Mapping in Ukraine using High Resolution Satellite Imagery”.                                                                                                                                             |
| 2022 – 2025 | <u>PI</u> for the NASA project “Agriculture Velocity of Winter Wheat” within Future Investigators in NASA Earth and Space Science and Technology (FINESST).<br>FI: L. Shumilo (graduate student)                                                                                                  |
| 2022 – 2025 | <u>Co-PI</u> for the NSF project “FAI: Advancing Deep Learning Towards Spatial Fairness” (NSF Program on Fairness in Artificial Intelligence in Collaboration with Amazon).<br>PI: X. Jia (University of Pittsburgh), Co-PI: Y. Xie (UMD)                                                         |
| 2021 – 2024 | <u>UMD PI</u> for the NASA project “Maintenance and refinement of the Suomi NPP and NOAA-20 VIIRS Land Surface Reflectance product suite”.<br>PI: E. Vermote (NASA/GSFC)                                                                                                                          |
| 2021 – 2024 | <u>PI</u> for the NASA project “Climate induced agriculture change hotspots and its implication to global food security in the former Soviet Union (Russia and Ukraine)” within Future Investigators in NASA Earth and Space Science and Technology (FINESST).<br>FI: A. Qadir (graduate student) |
| 2021 – 2023 | <u>PI</u> for the NASA project “High-Impact Hot Spots of Land Cover Land Use Change: Ukraine and Neighboring Countries”                                                                                                                                                                           |
| 2021 – 2022 | <u>UMD PI</u> for the IARPA/NGA project “WATCH: Wide Area Terrestrial Change Hypercube”<br>PI: M. Leotta (Kitware)                                                                                                                                                                                |
| 2019 – 2022 | <u>UMD PI</u> for the NASA project “Integration of L-band, C-band, and optical observations for agricultural monitoring”<br>PI: N. Torbick (Applied GeoSolutions)                                                                                                                                 |
| 2018 – 2021 | <u>PI</u> for the NASA project “Crop yield assessment and mapping by a combined use of Landsat-8, Sentinel-2 and Sentinel-1 images”                                                                                                                                                               |
| 2018 – 2021 | <u>UMD PI</u> for the NASA project “Maintenance and refinement of the Suomi NPP VIIRS Land Surface Reflectance product suite”<br>PI: E. Vermote (NASA/GSFC)                                                                                                                                       |
| 2018        | <u>UMD PI</u> for the NASA SBIR project “Open-Source Deep Learning Classification and Visualization of Multi-Temporal Multi-Source Satellite Data”<br>PI: A. Chaudhary (Kitware Inc.)                                                                                                             |
| 2016        | <u>Co-PI</u> for the Google Earth Engine Research Awards Program project “Large scale crop mapping in Ukraine using SAR and optical data fusion”<br>Co-PI: A. Shelestov (NTUU KPI, Ukraine)                                                                                                       |
| 2013        | <u>PI</u> for the National Academy of Sciences of Ukraine Grant for young researches “Development of geo-information agro portal and agroservices using satellite imagery”                                                                                                                        |

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| 2011 – 2013 | <u>Co-Lead</u> for the CEOS Working Group on Information Systems and Services (WGISS) project “GEOSS Architecture for the use of Satellites for Disasters and Risk Assessment” (GA.4.Disasters).<br>Co-Lead: K. Moe (NASA/GSFC) |
| 2009 – 2010 | <u>PI</u> for the National Academy of Sciences of Ukraine Grant for young researchers “Development of methods, models and information technologies for assessment of vegetation and soil state”                                 |
| 2008 – 2009 | <u>PI</u> for the Grant of President of Ukraine “Development of cascade of hydro meteorological models for flood prediction”                                                                                                    |
| 2008 – 2009 | <u>PI</u> for the World Federation of Scientists (WFS) National Scholarship Programme Fellowship “Flood extent extraction from SAR and optical satellite imagery”                                                               |
| 2007 – 2008 | <u>PI</u> for the National Academy of Sciences of Ukraine Grant for young researchers “Development of intelligent methods and information technologies for parametric identification of hydrometeorological models”             |

#### *Co-I or Collaborator*

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| 2023 – 2028 | <u>Co-I</u> for the NASA project “NASA ACRES: A Climate Resilient Ecosystem Approach to Strengthening US Agriculture”<br>PI: A. Whitcraft (UMD)                                                                                                          |
| 2023 – 2028 | <u>Co-I</u> for the NASA project “NASA Harvest: NASA Food and Agriculture Consortium”<br>PI: I. Becker-Reshef (UMD)                                                                                                                                      |
| 2023 – 2026 | <u>Co-I</u> for the UMD Grand Challenge project “Climate Mitigation and Land-Use: Detection and Monitoring of Second-Generation Biofuel Crops in the USA”<br>PI: L. Chini (UMD)                                                                          |
| 2022 – 2023 | <u>Co-I</u> for the NASA project “Environmental Injustice and Deaths of Despair: Lessons from Montana’s Tribal Lands”<br>PI: J. Silva (UMD)                                                                                                              |
| 2022 – 2023 | <u>Co-I</u> for the NASA project “Coupled Statistics-Physics Guided Learning to Harness Heterogeneous Earth Data at Large Scales”<br>PI: Y. Xie (UMD)                                                                                                    |
| 2020 – 2023 | <u>Co-I</u> for the NASA project “In-Season Crop Monitoring using Earth Observations in Major Food-Producing Countries to Mitigate Market Uncertainty Caused by the COVID-19 Pandemic”<br>PI: H. Kerner (UMD)                                            |
| 2020 – 2023 | <u>Co-I</u> for the NOAA project “Development of a Next-Generation Science-Quality Geostationary Satellite Active Fire Product”<br>PI: L. Giglio (UMD)                                                                                                   |
| 2020 – 2022 | <u>Co-I</u> for the NASA project “Earth Observation for National Agricultural Monitoring”<br>PI: C. Nakalembe (UMD)                                                                                                                                      |
| 2019 – 2022 | <u>Co-I</u> for the NASA project “Development of Surface Reflectance Products for the NASA Harmonization Landsat Sentinel Project”<br>PI: J.-C. Roger (UMD)                                                                                              |
| 2018 – 2020 | <u>Collaborator</u> for the Science and Technology Center in Ukraine (STCU) project “Intelligent technologies for satellite monitoring of environment based on deep learning and cloud computing (InTeLLeCT)” (no. 6386)<br>PI: N. Kussul (SRI, Ukraine) |

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| 2017 – 2020    | <u>Co-I</u> for the NASA project “Long Term Land Surface Reflectance Record and Applications”<br>PI: J.-C. Roger (UMD)                                                                                                                                                                                              |
| 2016 – 2018    | <u>Co-I</u> for the NASA project “Support for the HLS (Harmonized Landsat-Sentinel-2) Project”<br>PI: J. Masek (NASA/GSFC)                                                                                                                                                                                          |
| 2013 – 2015    | <u>Co-I</u> for the EC FP7 project “Stimulating Innovation for Global Monitoring of Agriculture and its Impact on the Environment in support of GEOGLAM” (SIGMA) ( <a href="http://www.geoglam-sigma.info">www.geoglam-sigma.info</a> ).<br>PI: L. Bydekerke, S. Williams (VITO), Institutional PI: N. Kussul (SRI) |
| 2012           | <u>Responsible officer</u> for the State Space Agency of Ukraine contract on the development of the geoportal for Ukrainian remote sensing satellite Sich-2.<br>PI: N. Kussul (SRI)                                                                                                                                 |
| 2012 – 2013    | <u>Co-I</u> for the Canadian Space Agency SOAR-JECAM project “SAR parameters optimization for crop classification”.<br>PI: N. Kussul (SRI)                                                                                                                                                                          |
| 2011 – present | <u>Co-I</u> for the project Joint Experiment for Crop Assessment and Monitoring (JECAM) Ukraine.<br>PI: N. Kussul (SRI)                                                                                                                                                                                             |
| 2011 – 2012    | <u>Co-I</u> for the U.S. Civilian Research & Development Foundation (CRDF) project “Analysis of Climate Change & Food Security based on Remote Sensing & In Situ Data Sets”.<br>Co-PIs: F. Kogan (NOAA), N. Kussul (SRI)                                                                                            |
| 2010 – 2011    | <u>Co-I</u> for the EC Joint Research Center (JRC) project “Crop area estimation with satellite images in Ukraine”.<br>PI: N. Kussul (SRI)                                                                                                                                                                          |
| 2010 – 2013    | <u>Co-I</u> for the international project “The Namibian Trans-boundary Flood-Disease Monitoring and Mitigation System – An International SensorWeb Pilot Project” ( <a href="http://sensorweb.nasa.gov/NamibiaFlood.html">http://sensorweb.nasa.gov/NamibiaFlood.html</a> ).<br>Institutional PI: N. Kussul (SRI)   |
| 2009 – 2012    | <u>Co-I</u> for the National Academy of Sciences of Ukraine (NASU) project “Development of distributed Grid system for disaster monitoring for UN-SPIDER Regional Support Office in Ukraine”.<br>PI: N. Kussul (SRI)                                                                                                |
| 2009           | <u>Co-I</u> for the GEOSS Architecture Implementation Pilot Phase 2 (AIP-2) project “Sensor Web for Flood Applications”.<br>PI: N. Kussul (SRI)                                                                                                                                                                     |
| 2007 – 2011    | <u>Co-I</u> for the European Space Agency (ESA) Category-1 project “Wide Area Grid Testbed for Flood Monitoring using Spaceborne SAR and Optical Data”.<br>PI: N. Kussul (SRI)                                                                                                                                      |
| 2007 – 2011    | <u>Co-I</u> for the European Space Agency (ESA) Category-1 project “Regional drought monitoring using wide swath SAR and optical data”.<br>PI: N. Kussul (SRI)                                                                                                                                                      |
| 2005 – 2007    | <u>Co-I</u> for the Science and Technology Center in Ukraine (STCU) and National Academy of Sciences of Ukraine (NASU) project “Grid technologies for environmental monitoring using satellite data”.<br>PI: N. Kussul (SRI)                                                                                        |

Books

1. Kussul N., Skakun S., Shelestov A. “**Risk analysis of natural hazards based on satellite data**”, Kyiv, “Naukova Dumka”, 2014, 184 p. ISBN 978-966-00-1449-7 (in Ukrainian)
2. Kussul N., Skakun S., Shelestov A. “**Geospatial analysis of risk of natural hazards**”, Kyiv, “Naukova Dumka”, 2014, 258 p. ISBN 978-966-00-1207-3 (in Ukrainian)
3. Kussul N., Shelestov A., Skakun S., Kravchenko A. “**Intelligent Computations for Earth Observation Data Processing**”, Kyiv: “Naukova Dumka”, 2007, 196 p. ISBN 978-966-00-0788-8 (in Russian)

Book chapters

1. Becker-Reshef, I. *et al.* (2022). **The NASA Harvest Program on Agriculture and Food Security**. In: Vadrevu, K.P., Le Toan, T., Ray, S.S., Justice, C. (eds) *Remote Sensing of Agriculture and Land Cover/Land Use Changes in South and Southeast Asian Countries*. Springer, Cham., pp. 53–80. [https://doi.org/10.1007/978-3-030-92365-5\\_3](https://doi.org/10.1007/978-3-030-92365-5_3)
2. Bandaru, V., Chirumamilla, P., Skakun, S., Lasko, K., Yampracha, S. (2022). **Application of Geo-CropSim Framework for Rainfed Sugarcane Yield Assessment in Thailand**. In: Vadrevu, K.P., Le Toan, T., Ray, S.S., Justice, C. (eds) *Remote Sensing of Agriculture and Land Cover/Land Use Changes in South and Southeast Asian Countries*. Springer, Cham., pp. 381–397. [https://doi.org/10.1007/978-3-030-92365-5\\_22](https://doi.org/10.1007/978-3-030-92365-5_22)
3. Howard, A., Chipanshi, A., Davidson, A., Desjardins, R., Kolotii, A., Kussul, N., McNairn, H., Skakun, S. and Shelestov, A. (2018). **Measurement Techniques**. In *Agroclimatology* (eds J.L. Hatfield, M.V. Sivakumar and J.H. Prueger), pp. 489–517. doi:[10.2134/agronmonogr60.2014.0056.5](https://doi.org/10.2134/agronmonogr60.2014.0056.5)
4. Kerdiles, H., Gallego, J., Leo, O., Skakun, S., Kravchenko, O., Kussul, N. “**Agriculture Services. Kiev Oblast, Ukraine**”, In: *The Growing Use of GMES across Europe’s Regions*. Joint publication of European Space Agency (ESA) and Network of European Regions Using Space Technologies (NEREUS), 2012, pp. 22–23.
5. Kussul N., Shelestov A., Skakun S. “**Grid Technologies for Satellite Data Processing and Management Within International Disaster Monitoring Projects**”, In: S. Fiore, G. Aloisio (Eds.) *Grid and Cloud Database Management*, 2011, Springer, pp. 279–306. ISBN 978-3-642-20044-1
6. Kussul N., Shelestov A., Skakun S. “**Flood Monitoring on the Basis of SAR Data**”, In: F. Kogan, A. Powell, O. Fedorov (Eds.) “*Use of Satellite and In-Situ Data to Improve Sustainability*”. NATO Science for Peace and Security Series C: Environmental Security, 2011, Springer, pp. 19–29. ISBN 978-90-481-9617-3
7. Kussul N., Shelestov A., Skakun S., Kravchenko O. “**High performance Intelligent Computations for Environmental and Disaster Monitoring**”, *Intelligent Data Analysis in Global Monitoring for Environment and Security* (Krassimir Markov, Vitalii Velychko editors), ITHEA, Sofia, Bulgaria, 2011, pp. 64–92. ISBN 978-954-16-0045-0

Journal articles (peer-reviewed)

(\* denotes graduate students)

1. Qadir, A.\*, Skakun, S., Eun, J., Prashnani, M.\*, Shumilo, L.\* (2023). Sentinel-1 time series data for sunflower (*Helianthus annuus*) phenology monitoring. **Remote Sensing of Environment**, 295, art. num. 113689. <https://doi.org/10.1016/j.rse.2023.113689>
2. Duncan, E. C., Skakun, S., Kariryaa, A., & Prishchepov, A. V. (2023). Detection and mapping of artillery craters with very high spatial resolution satellite imagery and deep learning. **Science of Remote Sensing**, 7, art. num. 100092. <https://doi.org/10.1016/j.srs.2023.100092>
3. Doxani, G., Vermote, E. F., Roger, J. C., Skakun, S., Gascon, F., Collison, A., ... & Yin, F. (2023). Atmospheric Correction Inter-comparison eXercise, ACIX-II Land: An assessment of atmospheric

- correction processors for Landsat 8 and Sentinel-2 over land. **Remote Sensing of Environment**, 285, art. num. 113412. <https://doi.org/10.1016/j.rse.2022.113412>
4. Skakun, S., Wevers, J., Brockmann, C., Doxani, G., Aleksandrov, M., Batič, M., Frantz, D., Gascon, F., Gómez-Chova, L., Hagolle, O., López-Puigdollers, D., Louis, J., Lubej, M., Mateo-García, G., Osman, J., Peressutti, D., Pflug, B., Puc, J., Richter, R., Roger, J.-C., Scaramuzza, P., Vermote, E., Vesel, N., Zupanc, A., Žust, L. (2022). Cloud Mask Intercomparison eXercise (CMIX): An evaluation of cloud masking algorithms for Landsat 8 and Sentinel-2. **Remote Sensing of Environment**, 274, art. num. 112990. <https://doi.org/10.1016/j.rse.2022.112990>
  5. Zhang, Y.\*, Skakun, S., Adegbenro, M.O., & Ying, Q. (2022). Leveraging the use of labeled benchmark datasets for urban area change mapping and area estimation: a case study of the Washington DC–Baltimore region. **International Journal of Digital Earth**, 15(1), 1169–1186. <https://doi.org/10.1080/17538947.2022.2094001>
  6. Abys, C.\*, Skakun, S., & Becker-Reshef, I. (2022). The Rise and Volatility of Russian Winter Wheat Production. **Environmental Research Communications**, 4(10), art. num. 101003. <https://doi.org/10.1088/2515-7620/ac97d2>
  7. Prudente, V.H.R.\*, Skakun, S., Oldoni, L.V., Xaud, H.A., Xaud, M.R., Adami, M., & Sanches, I.D.A. (2022). Multisensor approach to land use and land cover mapping in Brazilian Amazon. **ISPRS Journal of Photogrammetry and Remote Sensing**, 189, 95–109. <https://doi.org/10.1016/j.isprsjprs.2022.04.025>
  8. Eun, J.\*, & Skakun, S. (2022). Characterizing land use with night-time imagery: the war in Eastern Ukraine (2012–2016). **Environmental Research Letters**, 17, art. num. 095006. <https://doi.org/10.1088/1748-9326/ac8b23>
  9. Thieme, A.N.\*, Hively, W.D., Gao, F., Jennewein, J., Mirsky, S., Soroka, A., Keppler, J., Bradley, D., Skakun, S., McCarty, G. T. (2022). Remote Sensing Evaluation of Winter Cover Crop Springtime Performance and the Impact of Delayed Termination. **Agronomy Journal**, 1–17. <https://doi.org/10.1002/agj2.21207>
  10. Roger, J.-C., Vermote, E., Skakun, S., Murphy, E., Dubovik, O., Kalecinski, N., Korgo, B., & Holben, B. (2022). Aerosol models from the AERONET database: application to surface reflectance validation. **Atmospheric Measurement Techniques**, 15, 1123–1144. <https://doi.org/10.5194/amt-15-1123-2022>
  11. Kerner, H. R., Sahajpal, R., Pai, D. B., Skakun, S., Puricelli, E., Hosseini, M., ... & Becker-Reshef, I. (2022). Phenological normalization can improve in-season classification of maize and soybean: A case study in the central US Corn Belt. **Science of Remote Sensing**, 6, art. num. 100059. <https://doi.org/10.1016/j.srs.2022.100059>
  12. Franch, B., Cintas, J., Becker-Reshef, I., Sanchez-Torres, M. J., Roger, J., Skakun, S., Sobrino, J. A., Van Tricht, K., Degerickx, J., Gilliams, S., Koetz, B., Szantoi, Z., & Whitcraft, A. (2022). Global crop calendars of maize and wheat in the framework of the WorldCereal project. **GIScience & Remote Sensing**, 59(1), 885–913. <https://doi.org/10.1080/15481603.2022.2079273>
  13. Huang, X., Fu, Y., Wang, J., Dong, J., Zheng, Y., Pan, B., Skakun, S., & Yuan, W. (2022). High-Resolution Mapping of Winter Cereals in Europe by Time Series Landsat and Sentinel Images for 2016–2020. **Remote Sensing**, 14(9), art. num. 2120. <https://doi.org/10.3390/rs14092120>
  14. Skakun, S., Vermote, E. F., Artigas, A. E. S.\*, Rountree, W. H., & Roger, J. C. (2021). An experimental sky-image-derived cloud validation dataset for Sentinel-2 and Landsat 8 satellites over NASA GSFC. **International Journal of Applied Earth Observation and Geoinformation**, 95, art. num. 102253. <https://doi.org/10.1016/j.jag.2020.102253>
  15. Skakun, S., Kalecinski, N.I., Brown, M.G.L.\*, Johnson, D.M., Vermote, E.F., Roger, J.-C., & Franch, B. (2021). Assessing within-Field Corn and Soybean Yield Variability from WorldView-3, Planet, Sentinel-2, and Landsat 8 Satellite Imagery. **Remote Sensing**, 13, art. num. 872. <https://doi.org/10.3390/rs13050872>
  16. Villaescusa-Nadal, J.L.\*, Vermote, E., Franch, B., Santamaría-Artigas, A.E., Roger, J.-C., & Skakun, S. (2021). MODIS-Based AVHRR Cloud and Snow Separation Algorithm. **IEEE Transactions on Geoscience and Remote Sensing**, 60, art. num. 5400513. <https://doi.org/10.1109/TGRS.2021.3059428>

17. Shumilo, L.\*, Lavreniuk, M., Skakun, S., Kussul, N. (2021). Is Soil Bonitet an Adequate Indicator for Agricultural Land Appraisal in Ukraine? **Sustainability**, 13, art. num. 12096. <https://doi.org/10.3390/su132112096>
18. Franch, B., Bautista, A.S., Fita, D., Rubio, C., Tarrazó-Serrano, D., Sánchez, A., Skakun, S., Vermote, E., Becker-Reshef, I., Uris, A. (2021). Within-Field Rice Yield Estimation Based on Sentinel-2 Satellite Data. **Remote Sensing**, 13, art. num. 4095. <https://doi.org/10.3390/rs13204095>
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20. Gutman, G., Skakun, S., Gitelson, A. (2021). Revisiting the Use of Red and Near-Infrared Reflectances in Vegetation Studies and Numerical Climate Models. **Science of Remote Sensing**, 4, art. num. 100025. <https://doi.org/10.1016/j.srs.2021.100025>
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35. Skakun S., Kussul N., Kussul O., Shelestov A. (2014). "Quantitative estimation of drought risk in Ukraine using satellite data," *IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014)*, 13–18 July 2014, Quebec City, Canada, pp. 5091–5094.

36. Kussul N., Skakun S., Shelestov A., Kussul O. (2014). "The use of satellite SAR imagery to crop classification in Ukraine within JECAM project", *IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014)*, 13–18 July 2014, Quebec City, Canada, pp. 1497–1500.
37. Kussul N., Kolotii A., Skakun S., Shelestov A., Kussul O., Oliynuk T. (2014). "Efficiency estimation of different satellite data usage for winter wheat yield forecasting in Ukraine", *IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2014)*, 13–18 July 2014, Quebec City, Canada, pp. 5080–5082.
38. Kussul, N., Skakun, S., Shelestov, A. (2014). "Heterogeneous Data Fusion Methods for Disaster Risk Assessment using Grid Infrastructure", *EGU General Assembly Conference Abstracts*, Vol. 16, p. 5924.
39. Kussul N., Kolotii A., Skakun S., Shelestov A., Kussul O., Kravchenko O. (2014). "Ensemble approach to wheat yield forecasting in Ukraine", *EGU General Assembly Conference Abstracts*, Vol. 16, p. 5437.
40. Skakun, S., Kussul, N., Basarab, R. (2014). "Restoration of Missing Data due to Clouds on Optical Satellite Imagery Using Neural Networks", *ESA SENTINEL-2 for Science Workshop*, 20-22 May 2014, ESA-ESRIN, Frascati, Rome, Italy.
41. Kussul N., Skakun S., Shelestov A., Kussul O. (2013). "Sensor Web approach to Flood Monitoring and Risk Assessment", *2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2013)*, 21-26 July 2013, Melbourne, Australia, pp. 815–818.
42. Kussul O., Kussul N., Skakun S., Kravchenko O., Shelestov A., Kolotii A. (2013). "Assessment of relative efficiency of using MODIS data to winter wheat yield forecasting in Ukraine", *2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2013)*, 21-26 July 2013, Melbourne, Australia, pp. 3235–3238.
43. Kussul N., Skakun S., Shelestov A., Kravchenko O., Gallego J.F., and Kussul O. (2012.) "Crop area estimation in Ukraine using satellite data within the MARS project", *IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2012)*, pp. 3756–3759.
44. Kussul N., Shelestov A., Skakun S., Li G. (2008). "InterGrid testbed for flood monitoring", *European Geosciences Union General Assembly 2008*, (Vienna, Austria, 13 - 18 April 2008).
45. Kussul N., Skakun S., Kussul O. (2006). "Comparative Analysis of Neural Networks and Statistical Approaches to Remote Sensing Image Classification", *Proc. Of The Fourth International Conference on Neural Networks and Artificial Intelligence (ICNNAI'2006)*, Brest, Belarus, pp. 175–181.
46. Skakun, S., Kussul, N. (2006) "An agent approach for providing security in distributed systems", In *Proceedings of International Conference Modern Problems of Radio Engineering, Telecommunications and Computer Science, TCSET 2006*, pp. 212–215.
47. Kussul, N., Skakun, S. (2004) "Neural network approach for user activity monitoring in computer networks", In *IEEE International Conference on Neural Networks - Conference Proceedings*, vol. 2, pp. 1557–1561.
48. Kussul, N., Shelestov, A., Sidorenko, A., Skakun, S., Veremeenko, Y. (2003) "Intelligent multi-agent information security system", In *Proceedings of the 2nd IEEE International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications, IDAACS 2003*, pp. 120–122.

## **PARTICIPATION AT CONFERENCES, WORKSHOPS, SEMINARS**

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### *Presenting author*

- Skakun, S. (2023). The impact of war in Ukraine on LCLUC. **SCERIN-10 Workshop on Earth System Observations and 10<sup>th</sup> Anniversary, 26<sup>th</sup> - 29<sup>th</sup> June 2023, Brno, Czech Republic**, "Recent terrestrial ecosystems LCLU changes and driving forces – challenges for remote sensing and sustainable management".
- Skakun, S., Duncan, E., Becker-Reshef, I. (2023). Identification and Mapping Missiles Craters & Unexploded Ordnance in Agricultural Fields Using Very High Spatial Resolution Satellite Imagery. **International Conference on Agricultural Statistics (ICAS) IX, May 17-19, 2023, Washington, DC.**
- Skakun S. (2023). High-Impact Hot Spots of Land Cover Land Use Change: Ukraine and Neighboring Countries. **NASA LCLUC Science Team Meeting 2023. May 8-9, 2023, College Park, MD, US.**

- Skakun, S. (2022). High-Impact Hot Spots of Land Cover Land Use Change: Ukraine and Neighboring Countries. **LCLUC Science Team Meeting. October 18-20, 2022, Bethesda, MD.**
- Skakun, S., et al. (2022). CMIX: Cloud Mask Intercomparison eXercise. **ESA Living Planet Symposium 2022, Bonn, Germany, 23-27 May 2022.**
- Skakun, S., et al. (2022). From benchmarks to mapping: leveraging the use of labeled datasets for urban area change mapping and estimation. **ESA Living Planet Symposium 2022, Bonn, Germany, 23-27 May 2022.**
- Skakun, S. (2021). High-Impact Hot Spots of Land Cover Land Use Change: Ukraine and Neighboring Countries. **SCERIN-8 Virtual Workshop. May 30 – June 1, 2022.**
- Skakun, S. (2021). Land cover land use change monitoring in South-Eastern Ukraine under military conflict. **Impacts of Regional Conflicts on LCLUC - Webinar Series 2021.**
- Skakun, S., et al. (2021). Urban Change Detection using Sentinel-2 and Deep Learning. **UMD/NASA Workshop on AI and Machine Learning in Earth Sciences.** 09/22/2021. University of Maryland, College Park, MD, US.
- Skakun, S., et al. (2021). High-Impact Hot Spots of Land Cover Land Use Change: Ukraine and Neighboring Countries. **Joint MedRIN and SCERIN Virtual Capacity Building Workshop on Earth System Observations.**
- Skakun, S. (2020). Crop yield assessment and mapping by a combined use of Landsat-8, Sentinel-2 and Sentinel-1 images. **Land Cover Land Use Change (LCLUC) Science Team Meeting.** 10/19/2020 to 10/21/2020. Online
- Skakun, S. (2020). NASA Harvest. **ESA “EO for Agriculture under Pressure Virtual Event”,** 5-9 October 2020.
- Skakun, S. (2020). Capturing Corn and Soybean Yield Variability at Field Scale Using Very High Spatial Resolution Satellite Data. **2020 IEEE International Geoscience and Remote Sensing Symposium,** 26 September – 2 October, 2020, Virtual Event
- Skakun, S. (2020). Very high spatial resolution satellite data for agricultural monitoring. **IAMO Forum 2020 “Digital transformation – towards sustainable food value chains in Eurasia”.** (oral)
- Skakun, S. (2020). Land cover and land use change mapping with satellite data and machine learning. **UMBC Earth Day Symposium 2020.** (invited, oral)
- Skakun, S. (2020). CMIX — Cloud Masking Inter-comparison eXercise. **Landsat Science Team Meeting.** February 4-6, 2020, Phoenix, AZ (oral)
- Skakun, S., Roger, J. C., & Vermote, E. (2019, December). Analysis of corn and soybean yield variability at field scale using VHR satellite data. In **AGU Fall Meeting 2019.** AGU. (poster)
- Skakun S., et al. (2019) “Analysis of corn and soybean yield variability at field scale using VHR satellite data”, **IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2019,** July 28 – August 2, 2019, Yokohama, Japan (oral)
- Skakun S., et al. (2019) “LaSRC Cloud Detection Algorithm for Landsat 8 and Sentinel-2 Data”, **JpGU 2019,** May 26–30, 2019, Chiba, Japan (oral)
- Skakun S., et al. (2019) “Winter wheat yield assessment from Landsat 8 and Sentinel-2 data: why data normalization matters”, **ESA Living Planet Symposium,** May 13–17, 2019, Milan, Italy (poster)
- Skakun S., et al. (2019) “Crop Yield Assessment and Mapping by a Combined use of Landsat, Sentinel 2 and Sentinel 1”, **2019 NASA LCLUC Spring Science Team Meeting,** April 9–11, 2019, Rockville MD, USA (oral)
- Skakun S., et al. (2019) “Evaluation of High Resolution Data for LCLUC Science: Combined use of VHR WorldView-2/3 and Planet datasets for MuSLI agricultural monitoring”, **2019 NASA LCLUC Spring Science Team Meeting,** April 9–11, 2019, Rockville MD, USA (oral)
- Skakun S., et al. (2018) “LaSRC Cloud Detection Algorithm for Landsat 8 and Sentinel-2 Data”, **American Geophysical Union (AGU) Fall Meeting 2018,** December 10–14, 2018, Washington DC, USA (oral)

- Skakun S., et al. (2018) “Application of harmonized Landsat Sentinel-2 product for crop yield assessment”, **6th International Conference GEO-UA 2018 «Earth observations for sustainable development and security»**, 18-19 September 2018, Kyiv, Ukraine (*oral*)
- Skakun S., et al. (2018) “EOFSAC initiative and opportunities for Ukraine to contribute”, **6th International Conference GEO-UA 2018 «Earth observations for sustainable development and security»**, 18-19 September 2018, Kyiv, Ukraine (*oral*)
- Skakun S., Franch B., Vermote E., Roger J.-C., Justice C., Masek J., Murphy E. (2018) “Winter Wheat Yield Assessment Using Landsat 8 and Sentinel-2 Data”, **IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2018**, 22–27 July 2018, Valencia, Spain (*oral*)
- Skakun S., Franch B., Roger J.-C., Vermote E., Justice C., Masek J. (2018) “**Combined Use of Landsat-8 and Sentinel-2 Data for Agricultural Monitoring**”, Japan Geoscience Union (JpGU) 2018 Conference (May 20-24, 2018) in Chiba, Japan (*invited presentation, oral*)
- Skakun, S., Roger, J.-C., Vermote, E., Franch, B., Justice, C., & Masek, J. (2018). “Combined Use of Landsat-8 and Sentinel-2 Data for Agricultural Monitoring”, **Emerging Technologies and Methods in Earth Observation for Agricultural Monitoring**, USDA, February 13–15, 2018, Beltsville, MD, USA (*invited presentation, oral*)
- Skakun, S., Roger, J.-C., Vermote, E., Franch, B., Becker-Reshef, I., Justice, C.O., & Masek, J.G. (2017). “Combined Use of Landsat-8 and Sentinel-2 Data for Agricultural Monitoring”, **American Geophysical Union (AGU) Fall Meeting 2017**, December 11–15, 2017, New Orleans, LA, USA (*invited presentation, oral*)
- Skakun, S. (2017) “Machine Learning and Remote Sensing – what’s going on?”, **GEOG Seminar Series**, November 30, 2017, College Park, MD (*oral*)
- Skakun, S., Roger, J. C., Vermote, E., Justice, C., & Masek, J. (2017). “Automatic Co-registration of Multi-Temporal Landsat-8/OLI and Sentinel-2A/MSI Images”, **IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2017**, 23–28 July 2017, Fort Worth, Texas, USA (*oral*)
- Roger, J.-C., Vermote, E., Skakun, S., Murphy, E., Holben, B., & Justice, C. (2017). “Evaluation of the Land Surface Reflectance Fundamental Climate Data Record”, **IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2017**, 23–28 July 2017, Fort Worth, Texas, USA (*oral*)
- Skakun, S., Vermote, E., Roger, J.-C., Franch, B., (2017). “Combination of Landsat-8 and Sentinel-2A for winter wheat yield assessment at a regional level”, **2017 LCLUC Spring Science Team Meeting and MuSLI Meeting**, 12–14 April 2017, Rockville, MD, USA (*poster*)
- Skakun, S., Kussul, N., Shelestov, A., Lavreniuk, M. (2017). “Agriculture monitoring in Ukraine with remote sensing”, **USDA Foreign Agriculture Service (FAS) Geospatial Data Sharing Seminar GDSS**, 21 February 2017, Washington DC (*invited talk, oral*)
- Skakun, S., Franch, B., Vermote, E., Roger, J. C., Becker Reshef, I., Justice, C. O., Masek, J. G., Murphy, E. (2016). “Fusion of multi-source remote sensing data for agriculture monitoring tasks”, **American Geophysical Union (AGU) Fall Meeting 2016**, December 12–16, 2016, San Francisco, CA, USA (*poster*)
- Skakun, S., Franch, B., Roger, J. C., Vermote, E., Becker-Reshef, I., Justice, C., & Santamaría-Artigas, A. (2016). “Incorporating Yearly Derived Winter Wheat Maps into Winter Wheat Yield Forecasting Model”, **IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2016**, 10–15 July 2016, Beijing, China (*oral*)
- Skakun S., et al. (2013). “UN-SPIDER RSO in Ukraine recommended practices on flood extent extraction and winter wheat yield forecasting”, **United Nations/Germany Expert Meeting on the Use of Space Based Information in Early Warning Systems**, 25-26 June 2013, Bonn, Germany (*invited presentation, oral*)
- Kussul, N., Skakun, S., Shelestov, A. (2013) “Integration of Grid and Sensor Web for Flood Monitoring and Risk Assessment from Heterogeneous Data”, **European Geoscience Union (EGU) 2013**, April 9, 2013, Vienna, Austria (*oral*)
- Skakun S. (2013) “Disaster monitoring and risk assessment using EO and SensorWeb”, **GEOSS Future Products Workshop 2013**, March 26, 2013, NOAA, Silver Spring, USA (*invited, remotely, oral*)

- Skakun S., et al. (2012). “The use of satellite data for drought monitoring & food security in Ukraine in the context of climate change,” **United Nations International Conference on Space-based Technologies for Disaster Management - "Risk Assessment in the Context of Global Climate Change"**, November 7-9, 2012, Beijing, China (*oral*)
- Kussul N., Skakun S., Shelestov A., Kravchenko O., Gallego J.F., and Kussul O. (2012). “Crop area estimation in Ukraine using satellite data within the MARS project”, **IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2012**, 22-27 July, 2012, Munich, Germany (*oral*)
- Skakun S., et al. (2012). “Forecasting winter wheat yield in Ukraine using 3 different approaches,” **EC-JRC Geoland2 CROP CIS Technical Meeting**, May 14-15, 2012, Ispra, Italy (*oral*)
- Skakun S., et al. (2011). “The use of satellite data and geospatial intelligence for flood risk assessment at UN-SPIDER RSO in Ukraine”, **United Nations International Conference on Space-based Technologies for Disaster Risk Management**, November 22-25, 2011, Beijing, China (*oral*)
- Skakun S., et al. (2011). “Regression Models for Crop Yield Forecasting based on MODIS Data,” **EC-JRC CROP CIS Technical Meeting within Geoland-2 Forum**, September 13-15, 2011, Warsaw, Poland (*oral*)
- Skakun S., Kussul N., Shelestov A. (2008). “INTAS-CNES-NSAU Project: Data Fusion Grid Infrastructure”, **3rd ESA GRID & e-Collaboration Workshop for the Earth Science Community**, Jan. 16-17, 2008, ESA-ESRIN, Frascati, Italy (*invited presentation, oral*)
- Kussul, N., Skakun, S. (2004). “Neural network approach for user activity monitoring in computer networks”, **IEEE International Conference on Neural Networks**, Budapest; Hungary; 25-29 July 2004 (*poster*)

## ADVISING

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|                |                                           |
|----------------|-------------------------------------------|
| 2021 – present | Leonid Shumilo, PhD (Advisor)             |
| 2021 – present | Christian Abys, PhD (Advisor)             |
| 2020 – present | Abdul Qadir, PhD (Advisor)                |
| 2019 – present | Yiming Zhang, PhD (Advisor)               |
| 2021 – present | Katherine Melocik, PhD (Committee Member) |
| 2021 – present | Tuo Feng, PhD (Committee Member)          |
| 2019 – present | Allison Baer, PhD (Committee Member)      |
| 2019 – present | Meghavi Prashnani, PhD (Committee Member) |

## Graduated students

|             |                                                                                     |
|-------------|-------------------------------------------------------------------------------------|
| 2021 – 2023 | Meredith Brown, PhD (Advisor)                                                       |
| 2021 – 2023 | Gasmine Myers, MSc (Advisor)                                                        |
| 2021 – 2022 | Jaemin Eun, MS (Advisor; works as Faculty Specialist at UMD)                        |
| 2020 – 2022 | Alison Thieme, PhD (Committee Member)                                               |
| 2019 – 2021 | Victor Prudente, Visiting PhD student, INPE, Brazil (Foreign Supervisor)            |
| 2018 – 2021 | Andres Eduardo Santamaria Artigas, PhD (Committee Member; works as Post-Doc at UMD) |
| 2018 – 2020 | José Luis Villaescusa, PhD (Committee Member; works at EUMETSAT)                    |

## AWARDS, HONORS & FELLOWSHIPS

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|             |                                                                                                                                                               |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2021        | UMD Graduate Faculty Mentor of the Year Award                                                                                                                 |
| 2009 – 2010 | President of Ukraine Fellowship for young researchers                                                                                                         |
| 2007 – 2008 | President of Ukraine Fellowship for young researchers                                                                                                         |
| 2005        | Special prize award for the project “Intelligent monitoring system of computer system’s users behaviour” in Young Scientists Day Contest sponsored by Samsung |

|      |                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------|
| 2003 | Young Scientists Award of the National Academy of Science of Ukraine for the project “Intelligent Multi-Agent Security System” |
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#### PROFESSIONAL SOCIETY/COMMUNITY MEMBERSHIP

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|             |                                                                                 |
|-------------|---------------------------------------------------------------------------------|
| 2019 – 2020 | IEEE Geoscience & Remote Sensing Society                                        |
| 2016 – 2020 | American Geophysical Union (AGU)                                                |
| 2011 – 2020 | Group on Earth Observations (GEO) Agricultural Monitoring Community of Practice |
| 2013        | IEEE Geoscience & Remote Sensing Society                                        |

#### SERVICE

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##### Current

|                |                                                                                                |
|----------------|------------------------------------------------------------------------------------------------|
| 2020 – present | Associate Editor, <i>Remote Sensing of Environment</i>                                         |
| 2018 – present | Task Coordinator of the <i>Cloud Masking Inter-comparison eXercise</i> (CMIX) within CEOS WGCV |
| 2021 – present | Remote Sensing Teaching Team Lead                                                              |
| 2023           | Reviewer and panelist for NASA (5 proposals reviewed)                                          |

##### Past

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022        | Reviewer and panelist for NASA (9 proposals reviewed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2021        | Scientific Committee (as a reviewer) <i>IEEE/GRSS International Geoscience and Remote Sensing Symposium (IGARSS) 2021</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2021        | Reviewer: <i>IEEE Transactions on Geoscience and Remote Sensing</i> (1), <i>IEEE Geoscience and Remote Sensing Letters</i> (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2021        | Reviewer for the <i>National Research Foundation of Ukraine</i> (NRFU) (1 proposal reviewed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 2018 – 2021 | Editorial Board Member, section “ <i>Remote Sensing Image Processing</i> ”, journal <i>Remote Sensing</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2020        | Reviewer for the <i>National Research Foundation of Ukraine</i> (NRFU) (13 proposals reviewed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2020        | Reviewer and panelist for NASA proposals (7 proposals reviewed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2020        | Reviewer for international peer-reviewed journals <i>Remote Sensing of Environment</i> (1 paper), <i>Earth System Science Data</i> (1), <i>Remote Sensing</i> (1)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2011 – 2020 | Reviewer for international peer-reviewed journals <i>Remote Sensing of Environment</i> , <i>IEEE Transactions on Geoscience and Remote Sensing</i> , <i>IEEE Geoscience and Remote Sensing Letters</i> , <i>Remote Sensing Letters</i> , <i>Remote Sensing</i> , <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , <i>International Journal of Remote Sensing</i> , <i>Sensors</i> , <i>Canadian Journal of Remote Sensing</i> , <i>Scientific Reports</i> , <i>Remote Sensing Applications: Society and Environment</i> , <i>PLOS ONE</i> |
| 2019        | Reviewer of the project proposal for <i>Natural Environment Research Council</i> (NERC, UK)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2018 – 2020 | Member of the Symposia Working Group of the <i>UMD Year of Data Science</i> (YoDS) Initiative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2017 – 2020 | Associate Editor of the journal <i>AIMS Geosciences</i> (Section: Computing Sciences for Environment)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2017        | Reviewer of the project proposals for The Netherlands Organisation for Scientific Research (NWO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2017        | Chair of the <i>IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2017)</i> Sessions on “ <i>Land Use Applications I</i> ” and “ <i>Land Use and Land Cover Mapping</i> ” (July 23-28, 2017, Fort Worth, Texas, USA)                                                                                                                                                                                                                                                                                                                                              |

|                  |                                                                                                                                                                                                                          |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017             | Reviewed a book proposal for the <i>Springer Publishing House</i>                                                                                                                                                        |
| 2016             | Chair of the <i>IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2016)</i> Session on “ <i>Remote Sensing for Agricultural Hydrology</i> ” (July 10-15, 2016, Beijing, China)                          |
| 2016 – 2017      | Alternate Representative of the Research Faculty for two Committees: Graduate Committee and MPS GIS Organizational Committee                                                                                             |
| 2016             | Reviewed a book proposal for the <i>Elsevier Publishing House</i>                                                                                                                                                        |
| 2012             | Scientific Secretary of the Third Conference on “ <i>Earth Observations for Sustainable Development and Security (GEO-UA)</i> ” (September 3-7, 2012, Crimea, Ukraine)                                                   |
| 2011, 2012       | Referee for the <i>Regional Intel ISEF Competition in Ukraine</i> (Computer Science section)                                                                                                                             |
| 2010 – 2013      | Expert of the <i>United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)</i> Regional Support Office in Ukraine                                                   |
| 2010, 2012, 2013 | Contribution as added value service provider to <i>International Charter “Space &amp; Major Disasters”</i> activations (Jan 2010, Sep 2012, Jan 2013)                                                                    |
| 2010             | Member of Organizing Committee for the Second Conference on “ <i>Earth Observations for Sustainable Development and Security</i> ” (June 14–17, 2010, Kyiv, Ukraine)                                                     |
| 2009 – 2013      | Scientific Secretary for the Specialized Scientific Council for defense of PhD and Doctoral dissertations (at Space Research Institute). Served as Scientific Secretary and Committee Member for 7 dissertation defenses |
| 2008             | Chair the Session on Computational Chemistry & Material Science at the 4th International Workshop on Grid Computing for Complex Problems (GCCP 2008), Bratislava, Slovak Republic, October 27-29, 2008                   |
| 2005 – 2013      | Member of the <i>CEOS Working Group on Information Systems and Services (WGISS)</i>                                                                                                                                      |

## MASS MEDIA COVERAGE

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- **Bloomberg:** “*Russia Reaped \$1 Billion of Wheat in Occupied Ukraine, NASA Says*”, <https://www.bloomberg.com/news/articles/2022-12-03/russia-reaped-1-billion-of-wheat-in-occupied-ukraine-nasa-says> (December 2022)
  - >100+ other media outlets citing this report
- **NASA Earth Observatory:** “*Larger Wheat Harvest in Ukraine Than Expected*”, <https://earthobservatory.nasa.gov/images/150590/larger-wheat-harvest-in-ukraine-than-expected>
- **PlanetLabs:** “*NASA Harvest Tracks Frontline Agriculture Patterns With Planet’s Satellite Data*”, <https://www.planet.com/pulse/nasa-harvest-tracks-frontline-agriculture-patterns-with-planets-satellite-data/> (September 2022)
- **PlanetLabs:** “*Measuring War’s Effect On A Global Breadbasket*”, <https://www.planet.com/pulse/measuring-wars-effect-on-a-global-breadbasket> (July 2022)
- **New York Times:** “*Russia now occupies roughly 22 percent of Ukraine’s farmland, according to a NASA analysis*”, <https://www.nytimes.com/live/2022/07/07/world/russia-ukraine-war-news/russia-now-occupies-roughly-22-percent-of-ukraines-farmland-according-to-a-nasa-analysis?smid=url-share> (July 2022)
- **NASA Earth Observatory:** “*Measuring War’s Effect on a Global Breadbasket*”, <https://earthobservatory.nasa.gov/images/150025/measuring-wars-effect-on-a-global-breadbasket> (June 2022)
- **NASA Earth Observatory:** “*Tracking Night Lights in Ukraine*”, <https://earthobservatory.nasa.gov/images/150002/tracking-night-lights-in-ukraine> (June 2022)
- **Maryland Today:** “*Russian Attack on Ukraine Also Targeted Global Food Supply*”, <https://today.umd.edu/russian-attack-on-ukraine-also-targeted-global-food-supply> (March 2022)

## **CERTIFICATIONS (COURSES & TRAINING)**

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- **“Algorithms: Design and Analysis, Part 1”** by Stanford University on Coursera, March 2015 (online)
- **“Image and video processing: From Mars to Hollywood with a stop at the hospital”** by Duke University on Coursera, March 2015 (online)
- **“Machine Learning”** by Stanford University on Coursera, December 2014 (online)
- **“GIS for Emergency Preparedness” Workshop and Training organized by the US Army Corps of Engineers and Ministry of Emergencies of Ukraine** – Kyiv, Ukraine, April 2010
- **4th ESA Earth Observation Summer School “Earth System Monitoring and Modelling”** – Frascati, Rome, Italy, August 2008
- **Alpbach Summer School “Monitoring Natural Hazards from Space”** – Alpbach, Austria, July 2006
- **Workshop “Parallel and distributed computations: theory and practice”** – Kyiv, Ukraine, July 2005

Date: July 10, 2023