Curriculum Vitae

Dr. Sergii Skakun
Associate Professor
Department of Geographical Sciences, College of Information (INFO)
University of Maryland, College Park, MD, USA

CONTACT INFORMATION

Address: 4600 River Road, Suite 318, Riverdale, MD 20737
Telephone: +1-(301)405-2179
E-Mail: skakun@umd.edu

EDUCATION

2004 – 2005	**Ph.D. in System Analysis and Theory of Optimal Solutions (Computer Science)** Space Research Institute of National Academy of Sciences of Ukraine and National Space Agency of Ukraine Dissertation title: "Analysis of Computer Users Behavior Using Neural Networks" Advisor: Prof. Nataliia Kussul
2002 – 2004	**M.S. in Applied Mathematics (with honors)** National Technical University of Ukraine "Kyiv Polytechnic Institute"
1998 – 2002	**B.S. in Applied Mathematics (with honors)** National Technical University of Ukraine "Kyiv Polytechnic Institute"

CAREER/EMPLOYMENT (EMPLOYERS, POSITIONS AND DATES)

2023/Jun – present	Associate Professor, Department of Geographical Sciences, College of Information (INFO), University of Maryland, College Park, MD, USA
2019/Jan – 2023/Jun	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

2024/Aug-Dec	Instructor for **GEOG371 "Programming for Image Analysis"** course (Fall semester, 18 students).
2024/Jan-May	Instructor for **INST156 / GEOG156"How NASA Sees the Earth"** course (Spring semester, 81 students).
2023/Jan-May	Instructor for **INST156 "How NASA Sees the Earth"** course (Spring semester, 41 students).
2022/Aug-Dec	Instructor for **GEOG371 "Programming for Image Analysis"** course (Fall semester, 7 students).
2021/Aug-Dec	Instructor for **GEOG371 "Programming for Image Analysis"** course (Fall semester, 13 students).
2021/Jan-May	Instructor for **INST208A "How NASA Sees the Earth"** course (Spring semester, 16 students).
2020/Aug-Dec	Instructor for **GEOG372 "Remote Sensing"** course (Fall semester, 97 students).
2020/Jan-May	Instructor for **INST208A "How NASA Sees the Earth"** course (Spring semester, 29 students).
2019/Aug-Dec	Instructor for **GEOG372 "Remote Sensing"** course (Fall semester, 83 students).
2018/Jan-May	Co-instructor for **GEOG372 "Remote Sensing"** course (Spring semester, 48 students).
2018/Jan	Guest lecturer for GEOG372 "Remote Sensing" course (Winter semester). Lecture: "Basics of Synthetic Aperture Radar (SAR)"
2007/Sep – 2013/Jun	Associate Professor, National Technical University of Ukraine «Kiev Polytechnic Institute», Kyiv, Ukraine Courses: • "*Computer System Architecture*" (Instructor, Fall semesters, undergraduate) • "*Distributed Computing Systems*" (Instructor, Fall semesters, undergraduate) • "*Programming*" (Assistant for labs, Fall-Spring semesters, undergraduate) • "*Intelligent Systems*" (Assistant for labs, Fall-Spring semesters, undergraduate)
2012/Sep – 2013/Jun	Associate Professor, National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine Instructor for various graduate courses: • "*Modelling in Environment*"; "*Risk Assessment Methods and Technologies*"; "*Grid Computing Technologies*"; "*Project Management*"; "*System and Application Software Engineering*"
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 Lecture: "*Flood Mapping and Flood Risk Analysis Using Satellite Data*" (course presentations available at http://un-spider.ikd.kiev.ua/?page_id=840)

2005/Sep – 2009/Jun Associate Professor, Branch of Software Engineering Department, National Aviation University
Courses:

- "*Object-Oriented Programming*" (Instructor, fall semesters, undergraduate)

RESEARCH FOCUS

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

PI or co-PI

2023 – 2026 PI for the NASA project "Detecting and Mapping War-Induced Damage to Agricultural Fields in Ukraine using Multi-Modal Remote Sensing Data".

2022 – 2023 PI for the NASA project "Environmental Injustice and Deaths of Despair: Lessons from Montana's Tribal Lands".

2023 – 2024 PI for the NASA Rapid Response project "Artillery Craters and Unexploded Ordnance Mapping in Ukraine using High Resolution Satellite Imagery".

2022 – 2025 PI for the NASA project "Agriculture Velocity of Winter Wheat" within Future Investigators in NASA Earth and Space Science and Technology (FINESST).
FI: L. Shumilo (graduate student)

2022 – 2025 Co-PI for the NSF project "FAI: Advancing Deep Learning Towards Spatial Fairness" (NSF Program on Fairness in Artificial Intelligence in Collaboration with Amazon).
PI: X. Jia (University of Pittsburgh), Co-PI: Y. Xie (UMD)

2021 – 2024 UMD PI for the NASA project "Maintenance and refinement of the Suomi NPP and NOAA-20 VIIRS Land Surface Reflectance product suite".
PI: E. Vermote (NASA/GSFC)

2021 – 2024 PI 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).
FI: A. Qadir (graduate student)

2021 – 2023 PI for the NASA project "High-Impact Hot Spots of Land Cover Land Use Change: Ukraine and Neighboring Countries"

2021 – 2022 UMD PI for the IARPA/NGA project "WATCH: Wide Area Terrestrial Change Hypercube"
PI: M. Leotta (Kitware)

2019 – 2022 UMD PI for the NASA project "Integration of L-band, C-band, and optical observations for agricultural monitoring"
PI: N. Torbick (Applied GeoSolutions)

2018 – 2021 PI for the NASA project "Crop yield assessment and mapping by a combined use of Landsat-8, Sentinel-2 and Sentinel-1 images"

2018 – 2021 UMD PI for the NASA project "Maintenance and refinement of the Suomi NPP VIIRS Land Surface Reflectance product suite"
PI: E. Vermote (NASA/GSFC)

2018	UMD PI for the NASA SBIR project "Open-Source Deep Learning Classification and Visualization of Multi-Temporal Multi-Source Satellite Data" PI: A. Chaudhary (Kitware Inc.)
2016	Co-PI for the Google Earth Engine Research Awards Program project "Large scale crop mapping in Ukraine using SAR and optical data fusion" Co-PI: A. Shelestov (NTUU KPI, Ukraine)
2013	PI for the National Academy of Sciences of Ukraine Grant for young researches "Development of geo-information agro portal and agroservices using satellite imagery"
2011 – 2013	Co-Lead 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). Co-Lead: K. Moe (NASA/GSFC)
2009 – 2010	PI 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	PI for the Grant of President of Ukraine "Development of cascade of hydro meteorological models for flood prediction"
2008 – 2009	PI for the World Federation of Scientists (WFS) National Scholarship Programme Fellowship "Flood extent extraction from SAR and optical satellite imagery"
2007 – 2008	PI 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

2023 – 2028	Co-I for the NASA project "NASA ACRES: A Climate Resilient Ecosystem Approach to Strengthening US Agriculture" PI: A. Whitcraft (UMD)
2023 – 2028	Co-I for the NASA project "NASA Harvest: NASA Food and Agriculture Consortium" PI: I. Becker-Reshef (UMD)
2023 – 2026	Co-I for the UMD Grand Challenge project "Climate Mitigation and Land-Use: Detection and Monitoring of Second-Generation Biofuel Crops in the USA" PI: L. Chini (UMD)
2022 – 2023	Co-I for the NASA project "Environmental Injustice and Deaths of Despair: Lessons from Montana's Tribal Lands" PI: J. Silva (UMD)
2022 – 2023	Co-I for the NASA project "Coupled Statistics-Physics Guided Learning to Harness Heterogeneous Earth Data at Large Scales" PI: Y. Xie (UMD)
2020 – 2023	Co-I 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" PI: H. Kerner (UMD)
2020 – 2023	Co-I for the NOAA project "Development of a Next-Generation Science-Quality Geostationary Satellite Active Fire Product" PI: L. Giglio (UMD)

2020 – 2022	Co-I for the NASA project "Earth Observation for National Agricultural Monitoring" PI: C. Nakalembe (UMD)
2019 – 2022	Co-I for the NASA project "Development of Surface Reflectance Products for the NASA Harmonization Landsat Sentinel Project" PI: J.-C. Roger (UMD)
2018 – 2020	Collaborator 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) PI: N. Kussul (SRI, Ukraine)
2017 – 2020	Co-I for the NASA project "Long Term Land Surface Reflectance Record and Applications" PI: J.-C. Roger (UMD)
2016 – 2018	Co-I for the NASA project "Support for the HLS (Harmonized Landsat-Sentinel-2) Project" PI: J. Masek (NASA/GSFC)
2013 – 2015	Co-I for the EC FP7 project "Stimulating Innovation for Global Monitoring of Agriculture and its Impact on the Environment in support of GEOGLAM" (SIGMA) (www.geoglam-sigma.info). PI: L. Bydekerke, S. Williams (VITO), Institutional PI: N. Kussul (SRI)
2012	Responsible officer for the State Space Agency of Ukraine contract on the development of the geoportal for Ukrainian remote sensing satellite Sich-2. PI: N. Kussul (SRI)
2012 – 2013	Co-I for the Canadian Space Agency SOAR-JECAM project "SAR parameters optimization for crop classification". PI: N. Kussul (SRI)
2011 – present	Co-I for the project Joint Experiment for Crop Assessment and Monitoring (JECAM) Ukraine. PI: N. Kussul (SRI)
2011 – 2012	Co-I for the U.S. Civilian Research & Development Foundation (CRDF) project "Analysis of Climate Change & Food Security based on Remote Sensing & In Situ Data Sets". Co-PIs: F. Kogan (NOAA), N. Kussul (SRI)
2010 – 2011	Co-I for the EC Joint Research Center (JRC) project "Crop area estimation with satellite images in Ukraine". PI: N. Kussul (SRI)
2010 – 2013	Co-I for the international project "The Namibian Trans-boundary Flood-Disease Monitoring and Mitigation System – An International SensorWeb Pilot Project" (http://sensorweb.nasa.gov/NamibiaFlood.html). Institutional PI: N. Kussul (SRI)
2009 – 2012	Co-I 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". PI: N. Kussul (SRI)
2009	Co-I for the GEOSS Architecture Implementation Pilot Phase 2 (AIP-2) project "Sensor Web for Flood Applications". PI: N. Kussul (SRI)

2007 – 2011	Co-I for the European Space Agency (ESA) Category-1 project "Wide Area Grid Testbed for Flood Monitoring using Spaceborne SAR and Optical Data". PI: N. Kussul (SRI)
2007 – 2011	Co-I for the European Space Agency (ESA) Category-1 project "Regional drought monitoring using wide swath SAR and optical data". PI: N. Kussul (SRI)
2005 – 2007	Co-I 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". PI: N. Kussul (SRI)

PUBLICATIONS

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
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
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
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. Kalecinski, N. I., Skakun, S., Torbick, N., Huang, X., Franch, B., Roger, J. C., & Vermote, E. (2024). Crop yield estimation at different growing stages using a synergy of SAR and optical remote sensing data. **Science of Remote Sensing**, *10*, 100153. https://doi.org/10.1016/j.srs.2024.100153
2. Kerner, H. R., Nakalembe, C., Yeh, B., Zvonkov, I., Skakun, S., Becker-Reshef, I., & McNally, A. (2024). Satellite Data Shows Resilience of Tigrayan Farmers in Crop Cultivation During Civil War. **Science of Remote Sensing**, *10*, 100140. https://doi.org/10.1016/j.srs.2024.100140
3. Qadir, A.*, Skakun, S., Becker-Reshef, I., Kussul, N., & Shelestov, A. (2024). Estimation of sunflower planted areas in Ukraine during full-scale Russian invasion: Insights from Sentinel-1 SAR data. **Science of Remote Sensing**, *10*, 100139. https://doi.org/10.1016/j.srs.2024.100139
4. Qadir, A.*, Skakun, S., Kussul, N., Shelestov, A., & Becker-Reshef, I. (2024). A generalized model for mapping sunflower areas using Sentinel-1 SAR data. **Remote Sensing of Environment**, *306*, 114132. https://doi.org/10.1016/j.rse.2024.114132
5. Feng, T.*, Duncanson, L., Hancock, S., Montesano, P., Skakun, S., Wulder, M. A., ... & Loboda, T. (2024). Characterizing fire-induced forest structure and aboveground biomass changes in boreal forests using multi-temporal lidar and Landsat**. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *17*, 10108-10125. https://doi.org/10.1109/JSTARS.2024.3400218
6. Shumilo, L.*, & Skakun, S. (2024). Optical flow of temperature reveals climate change patterns for agriculture and forestry. **Remote Sensing Applications: Society and Environment**, *34*, 101198. https://doi.org/10.1016/j.rsase.2024.101198
7. He, E., Xie, Y., Chen, W., Skakun, S., Bao, H., Ghosh, R., ... & Jia, X. (2024). Learning With Location-Based Fairness: A Statistically-Robust Framework and Acceleration**. IEEE Transactions on Knowledge and Data Engineering**, *36*(9), 4750-4765. https://doi.org/10.1109/TKDE.2024.3371460
8. Abys, C.*, Skakun, S., & Becker-Reshef, I. (2024). Two decades of winter wheat expansion and intensification in Russia. **Remote Sensing Applications: Society and Environment**, *33*, art. num. 101097. https://doi.org/10.1016/j.rsase.2023.101097
9. Shumilo, L.*, Skakun, S., Gore, M. L., Shelestov, A., Kussul, N., Hurtt, G., Karabchuk, D., Yarotskiy, V. (2023). Conservation policies and management in the Ukrainian Emerald Network have maintained reforestation rate despite the war. **Communications Earth & Environment**, *4*, art. num. 443. https://doi.org/10.1038/s43247-023-01099-4
10. Crawford, C.J., Roy, D.P., Arab, S., Barnes, C., Vermote, E., Hulley, G., Gerace, A., Choate, M., Engebretson, C., Micijevic, E., Schmidt, G., Anderson, C., Anderson, M., Bouchard, M., Cook, B., Dittmeier, R., Howard, D., Jenkerson, C., Kim, M., Kleyians, T., Maiersperger, T., Mueller, C., Neigh, C., Page, B., Pahlevan, N., Rengarajan, R., Roger, J-C., Sayler, K., Scaramuzza, P., Skakun, S., Yan, L., Zhang, H., Zhu, Z., Zahn, S. (2023). The 50-year Landsat collection 2 archive. **Science of Remote Sensing**, *8*, 100103. https://doi.org/10.1016/j.srs.2023.100103
11. 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
12. 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
13. 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
14. 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

15. 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
16. 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
17. 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
18. 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
19. 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
20. 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
21. 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
22. 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
23. 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
24. 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
25. 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
26. 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
27. 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

28. 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

29. Franch, B., Vermote, E., Skakun, S., Santamaria-Artigas, A., Kalecinski, N., Roger, J.-C., Becker-Reshef, I., Barker, B., Justice, C., Sobrino, J.A. (2021). The ARYA Crop Yield Forecasting Algorithm: Application to the Main Wheat Exporting Countries. **International Journal of Applied Earth Observation and Geoinformation**, *104*, art. num. 102552. https://doi.org/10.1016/j.jag.2021.102552

30. 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

31. Hall, J.V., Zibtsev, S.V., Giglio, L., Skakun, S., Myroniuk, V., Zhuravel, O., Goldammer, J. G., Kussul, N. (2021). Environmental and Political Implications of Underestimated Cropland Burning in Ukraine. **Environmental Research Letters**, *16*(6), art. num. 064019. https://doi.org/10.1088/1748-9326/abfc04

32. Gitelson, A., Arkebauer, T., Viña, A., Skakun, S., & Inoue Y. (2021). Evaluating plant photosynthetic traits via absorption coefficient in the photosynthetically active radiation region. **Remote Sensing of Environment**, 258, art. num. 112401. https://doi.org/10.1016/j.rse.2021.112401

33. Santamaria-Artigas, A.*, Vermote, E.F., Franch, B., Roger, J.-C., & Skakun, S. (2021). Evaluation of the AVHRR surface reflectance long term data record between 1984 and 2011. **International Journal of Applied Earth Observation and Geoinformation**, *98*, art. num. 102317. https://doi.org/10.1016/j.jag.2021.102317

34. Huang, X., Reba, M., Coffin, A., Runkle, B. R., Huang, Y., Chapman, B., Ziniti, B., Skakun, S., Kraatz, S., Siqueira, P., & Torbick, N. (2021). Cropland mapping with L-band UAVSAR and development of NISAR products. **Remote Sensing of Environment**, *253*, art. num. 112180. https://doi.org/10.1016/j.rse.2020.112180

35. Vermote, E.F., Skakun, S., Becker-Reshef, I., & Saito, K. (2020). Remote Sensing of Coconut Trees in Tonga Using Very High Spatial Resolution WorldView-3 Data. **Remote Sensing**, *12*(19), art. num. 3113.

36. Brown, M. G.*, Skakun, S., He, T., & Liang, S. (2020). Intercomparison of Machine-Learning Methods for Estimating Surface Shortwave and Photosynthetically Active Radiation. **Remote Sensing**, *12*(3), art. num. 372.

37. Kussul, N., Lavreniuk, M., Kolotii, A., Skakun, S., Rakoid, O., & Shumilo, L. (2020). A Workflow for Sustainable Development Goals Indicators Assessment Based on High Resolution Satellite Data. **International Journal of Digital Earth**, *13*(2), 309–321.

38. Skakun, S., Justice, C. O., Kussul, N., Shelestov, A., & Lavreniuk, M. (2019). Satellite data reveal cropland losses in South-Eastern Ukraine under military conflict. **Frontiers in Earth Science**, *7*, art. num. 305.

39. Skakun, S., Vermote, E., Franch, B., Roger, J. C., Kussul, N., Ju, J., & Masek, J. (2019). Winter Wheat Yield Assessment from Landsat 8 and Sentinel-2 Data: Incorporating Surface Reflectance, Through Phenological Fitting, into Regression Yield Models. **Remote Sensing**, *11*(15), art. num. 1768.

40. Skakun, S., Vermote, E. F., Roger, J.-C., Justice, C. O., & Masek, J. G. (2019). Validation of the LaSRC cloud detection algorithm for Landsat 8 images. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *12*(7), 2439–2446.

41. Franch, B., Vermote, E. F., Skakun, S., Roger, J. C., Becker-Reshef, I., Murphy, E., & Justice, C. (2019). Remote sensing based yield monitoring: Application to winter wheat in United States and Ukraine. **International Journal of Applied Earth Observation and Geoinformation**, *76*, 112–127.

42. Franch, B., Vermote, E., Skakun, S., Roger, J.-C., Masek, J. G., Ju, J., & Villaescusa-Nadal, J.-L. (2019). A new method for Landsat and Sentinel 2 (HLS) BRDF normalization and surface albedo. **Remote Sensing**, *11*(6), art. num. 632.

43. Villaescusa-Nadal, J. L.*, Franch, B., Roger, J. C., Vermote, E. F., Skakun, S., & Justice, C. (2019). Spectral Adjustment Model's Analysis and Application to Remote Sensing Data. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *12*(3), 961–972.

44. Santamaria-Artigas, A. E.*, Franch, B., Guillevic, P., Roger, J.-C., Vermote, E. F., & Skakun, S. (2019). Evaluation of Near-Surface Air Temperature from Reanalysis Over the United States and Ukraine: Application to Winter Wheat Yield Forecasting. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *12*(7), 2260–2269.

45. Waldner, F., Bellemans, N., Hochman, Z., Newby, T., de Abelleyra, D., Verón S. R., Bartalev, S., Lavreniuk, M., Kussul, N., Le Maire, G., Simões, M., Skakun, S., & Defourny, P. (2019). Roadside collection of training data for cropland mapping is viable when environmental and management gradients are surveyed. **International Journal of Applied Earth Observation and Geoinformation**, *80*, 82–93.

46. Skakun, S., Justice, C., Vermote, E., & Roger, J.-C. (2018). Transitioning from MODIS to VIIRS: an analysis of inter-consistency of NDVI data sets for agricultural monitoring. **International Journal of Remote Sensing**, *39*(4), 971–992.

47. Claverie, M., Ju, J., Masek, J. G., Dungan, J. L., Vermote, E. F., Roger, J.-C., Skakun, S. V., & Justice, C. (2018). The Harmonized Landsat and Sentinel-2 surface reflectance data set. **Remote Sensing of Environment**, *219*, 145–161.

48. Franch, B., Vermote, E., Skakun, S., Roger, J. C., Santamaria-Artigas, A., Villaescusa-Nadal, J. L., & Masek, J. (2018). Towards Landsat and Sentinel-2 BRDF normalization and albedo estimation: a case study in the Peruvian Amazon forest. **Frontiers in Earth Science**, *6*, art. num. 185.

49. Kussul, N., Lavreniuk, M., Shelestov, A., & Skakun, S. (2018). Crop inventory at regional scale in Ukraine: developing in season and end of season crop maps with multi-temporal optical and SAR satellite imagery. **European Journal of Remote Sensing**, *51*(1), 627–636.

50. Zhang, H. K., Roy, D. P., Yan, L., Li, Z., Huang, H., Vermote, E., Skakun, S., Roger, J.-C. (2018). Characterization of Sentinel-2A and Landsat-8 top of atmosphere, surface, and nadir BRDF adjusted reflectance and NDVI differences. **Remote Sensing of Environment**, *215*, 482–494.

51. Becker-Reshef, I., Franch, B., Barker, B., Murphy, E., Santamaria-Artigas, A., Humber, M., Skakun, S., & Vermote, E. (2018). Prior Season Crop Type Masks for Winter Wheat Yield Forecasting: A US Case Study. **Remote Sensing**, *10*(10), art. num. 1659.

52. Skakun, S., Franch, B., Vermote, E., Roger, J.-C., Becker-Reshef, I., Justice, C., & Kussul, N. (2017). Early season large-area winter crop mapping using MODIS NDVI data, growing degree days information and a Gaussian mixture model. **Remote Sensing of Environment**, *195*, 244–258.

53. Skakun, S., Vermote, E., Roger, J.-C., & Justice, C. (2017). Multi-spectral misregistration of Sentinel-2A images: analysis and implications for potential applications. **IEEE Geoscience and Remote Sensing Letters**, *14*(12), 2408–2412.

54. Skakun, S., Roger, J.-C., Vermote, E., Masek, J., & Justice, C. (2017). Automatic sub-pixel co-registration of Landsat-8 OLI and Sentinel-2A MSI images using phase correlation and machine learning based mapping. **International Journal of Digital Earth**, *10*(12), 1253–1269.

55. Skakun, S., Vermote, E., Roger, J.-C., & Franch, B. (2017). Combined Use of Landsat-8 and Sentinel-2A Images for Winter Crop Mapping and Winter Wheat Yield Assessment at Regional Scale. **AIMS Geosciences**, *3*(2), 163–186.

56. Kussul, N., Lavreniuk, M., Skakun, S., & Shelestov, A. (2017). Deep Learning Classification of Land Cover and Crop Types Using Remote Sensing Data. **IEEE Geoscience and Remote Sensing Letters**, *14*(5), 778–782.

57. Shelestov, A., Kolotii, A., Skakun, S., Baruth, B., Lopez-Lozano, R., Yailymov, B. (2017). Biophysical parameters mapping within the SPOT-5 Take 5 initiative. **European Journal of Remote Sensing**, *50*(1), 300–309.

58. Shelestov, A., Lavreniuk, M., Kussul, N., Novikov, A., & Skakun S. (2017). Exploring Google Earth Engine Platform for Big Data Processing: Classification of Multi-Temporal Satellite Imagery for Crop Mapping. **Frontiers in Earth Science**, *5*, art num. 17.

59. Skakun, S., Kussul, N., Shelestov, A., & Kussul, O. (2016). The use of satellite data for agriculture drought risk quantification in Ukraine. **Geomatics, Natural Hazards and Risk**, *7*(3), 901–917.

60. Skakun, S., Kussul, N., Shelestov, A. Y., Lavreniuk, M., & Kussul, O. (2016). Efficiency assessment of multitemporal C-band Radarsat-2 intensity and Landsat-8 surface reflectance satellite imagery for crop classification in Ukraine. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *9*(8), 3712–3719.

61. Kussul, N., Lemoine, G., Gallego, J., Skakun, S., Lavreniuk, M., & Shelestov, A. (2016). Parcel-based Crop Classification in Ukraine Using Landsat-8 Data and Sentinel-1A Data. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *9*(6), 2500–2508.

62. Waldner, F., de Abelleyra, D., Veron, S. R., Zhang, M., Wu, B., Plotnikov, D., Bartalev, S., Lavreniuk, M., Skakun, S., Kussul, N., Le Maire, G., Dupuy, S., Jarvis, I., & Defourny, P. (2016). Towards a set of agrosystem-specific cropland mapping methods to address the global cropland diversity. **International Journal of Remote Sensing**, *37*(14), 3196–3231.

63. Lavreniuk, M. S., Skakun, S. V., Shelestov, A. Ju, Yalimov, B. Ya., Yanchevskii, S. L., Yaschuk, D. Ju., & Kosteckiy A.I. (2016). Large-Scale Classification of Land Cover Using Retrospective Satellite Data. **Cybernetics and Systems Analysis**, *52*(1), 127–138.

64. Skakun, S., Kussul, N., Shelestov, A., & Kussul, O. (2014). Flood hazard and flood risk assessment using a time series of satellite images: A case study in Namibia. **Risk Analysis**, *34*(8), 1521–1537.

65. Gallego, F. J., Kussul, N., Skakun, S., Kravchenko, O., Shelestov, A., & Kussul, O. (2014). Efficiency assessment of using satellite data for crop area estimation in Ukraine. **International Journal of Applied Earth Observation and Geoinformation**, *29*, 22–30.

66. Kussul, N., Shelestov, A., Skakun, S., Li, G., Kussul, O., & Xie, J. (2014). Service-oriented infrastructure for flood mapping using optical and SAR satellite data. **International Journal of Digital Earth**, *7*(10), 829–845.

67. Kussul, N., Skakun, S., Shelestov, A. Y., Kussul, O., & Yailymov, B. (2014). Resilience aspects in the sensor Web infrastructure for natural disaster monitoring and risk assessment based on Earth observation data. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *7*(9), 3826–3832.

68. Kussul, O., Kussul, N., & Skakun, S. (2014). A Utility-based Reputation Model for Grid Resource Management System. **Computing and Informatics**, *33*(5), 1139–1167.

69. Skakun, S.V., & Basarab, R.M. (2014). Reconstruction of missing data in time-series of optical satellite images using self-organizing Kohonen maps. **Journal of Automation and Information Sciences**, *46*(12), 19–26.

70. Mandl, D., Frye, S., Cappelaere, P., Handy, M., Policelli, F., Katjizeu, M., Van Langenhove, G., Aube, G., Saulnier, J.-F., Sohlberg, R., Silva, J.A., Kussul, N., Skakun, S., Ungar, S.G., Grossman, R., & Szarzynski, J. (2013). Use of the Earth Observing One (EO-1) Satellite for the Namibia SensorWeb Flood Early Warning Pilot. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *6*(2), 298–308.

71. Kogan, F., Kussul, N., Adamenko, T., Skakun, S., Kravchenko, O., Kryvobok, O., Shelestov, A., Kolotii, A., Kussul, O. & Lavrenyuk, A. (2013). Winter wheat yield forecasting in Ukraine based on Earth observation, meteorological data and biophysical models. **International Journal of Applied Earth Observation and Geoinformation**, *23*, 192–203.

72. Shelestov, A.Yu., Kravchenko, A.N., Skakun, S.V., Voloshin, S.V., & Kussul, N.N. (2013). Geospatial information system for agricultural monitoring. **Cybernetics and Systems Analysis**, *49*(1), 124–132.

73. Kussul, O., Kussul, N., & Skakun, S. (2013). Assessing security threat scenarios for utility-based reputation model in Grids. **Computers & Security**, *34*, 1–15.

74. Kogan, F., Kussul, N., Adamenko, T., Skakun, S., Kravchenko, O., Kryvobok, O., Shelestov, A., Kolotii, A., Kussul, O., & Lavrenyuk A. (2013). Winter wheat yield forecasting: A comparative analysis of results of regression and biophysical models. **Journal of Automation and Information Sciences**, *45*(6), 68–81.

75. Kussul, N., Mandl, D., Moe, K., Mund, J.-P., Post, J., Shelestov, A., Skakun, S., Szarzynski, J., Van Langenhove, G., & Handy, M. (2012). Interoperable Infrastructure for Flood Monitoring: SensorWeb, Grid

and Cloud. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *5*(6), 1740–1745.

76. Kussul, N., Shelestov, A., Skakun, S., Li, G., & Kussul, O. (2012). The Wide Area Grid Testbed for Flood Monitoring Using Earth Observation Data. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**, *5*(6), 1746–1751.
77. Kussul, N., Sokolov, B., Zyelyk, Y., Zelentsov, V., Skakun, S., & Shelestov, A. (2010). Disaster Risk Assessment Based on Heterogeneous Geospatial Information. **Journal of Automation and Information Sciences**, *42*(12), 32–45.
78. Kussul, N., Shelestov, A., Skakun, S., Kravchenko, O., Gripich, Y., Hluchy, L., Kopp, P., & Lupian, E. (2010). The Data Fusion Grid Infrastructure: Project Objectives and Achievements. **Computing and Informatics**, *29*(2), 319–334.
79. Skakun, S. (2010). A Neural Network Approach to Flood Mapping Using Satellite Imagery. **Computing and Informatics**, *29*(6), 1013–1024.
80. Kussul, N., Shelestov, A., & Skakun, S. (2009). Grid and Sensor Web Technologies for Environmental Monitoring. **Earth Science Informatics**, *2*(1-2), 37–51.
81. Kussul, N., Shelestov, A., & Skakun, S. (2008). Grid System for Flood Extent Extraction from Satellite Images. **Earth Science Informatics**, *1*(3-4), 105–117.
82. Popov, M., Kussul, N., Stankevich, S., Kozlova, A., Shelestov, A., Kravchenko, O., Korbakov, M., & Skakun, S. (2008). Web Service for Biodiversity Estimation Using Remote Sensing Data. **International Journal of Digital Earth**, *4*(1), 367–376.
83. Skakun, S., Nasuro, E., Lavrenyuk, A., & Kussul, O. (2007). Analysis of Applicability of Neural Networks for Classification of Satellite Data. **Journal of Automation and Information Sciences**, *39*(3), 37–50.
84. Kussul, N.N., Lupian, E.A., Shelestov, A.Yu., Skakun, S.V., Tishchenko, Yu.G., & Hluchy, L. (2007). Determination of inundated territories on the basis of integration of heterogeneous data. **Journal of Automation and Information Sciences**, *39*(12), 42–51.
85. Shelestov, A.Yu., Kussul, N.N., & Skakun, S.V. (2006). Grid technologies in monitoring systems based on satellite data. **Journal of Automation and Information Sciences**, *38*(3), 69–80.

Conference proceedings/abstracts (referred)

1. Xie, Y., Li, Z., Bao, H., Jia, X., Xu, D., Zhou, X., & Skakun, S. (2023, June). Auto-CM: Unsupervised Deep Learning for Satellite Imagery Composition and Cloud Masking Using Spatio-Temporal Dynamics. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 37, No. 12, pp. 14575-14583).
2. Li, Z., Xie, Y., Jia, X., Stuart, K., Delaire, C., & Skakun, S. (2023, June). Point-to-Region Co-learning for Poverty Mapping at High Resolution Using Satellite Imagery. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 37, No. 12, pp. 14321-14328).
3. Xie, Y., He, E., Jia, X., Chen, W., Skakun, S., Bao, H., Jiang, Z., Ghosh, R., & Ravirathinam, P. (2022). Fairness by "Where": A Statistically-Robust and Model-Agnostic Bi-level Learning Framework. *Proceedings of the AAAI Conference on Artificial Intelligence*, *36*(11), 12208–12216. https://doi.org/10.1609/aaai.v36i11.21481
4. Vermote, E., McCorkel, J., Rountree, W. H., Santamaria-Artigas, A., Skakun, S., Franch, B., & Roger, J. C. (2022, July). Validation of high spatial resolution surface reflectance using a camera system (CAMSIS). In *IGARSS 2022-2022 IEEE International Geoscience and Remote Sensing Symposium* (pp. 7729-7732). IEEE.
5. Franch, B., Becker-Reshef, I., Skakun, S., Sobrino, J. A., van Tricht, K., Degerickx, J., & Gilliams, S. (2021, July). Generating Winter Wheat Global Crop Calendars in the Framework of Worldcereal. In *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS* (pp. 6583-6586). IEEE.
6. Franch, B., Vermote, E., Skakun, S., Santamaria-Artigas, A., Kalecinski, N., Roger, J. C., ... & Justice, C. (2021, July). Forecasting Wheat Yield Using Remote Sensing: The ARYA Forecasting System. In *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS* (pp. 6419-6422). IEEE.

7. Hosseini, M., Becker-Reshef, I., Sahajpal, R., Fontana, L., Lafluf, P., Leale, G., Puricelli, E., Skakun,S., & Varela, M. (2021, July). Crop Yield Forecast at Field Scale Using Deep Neural Network Algorithm. In *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS* (pp. 6080-6083). IEEE.

8. Skakun, S., Brown, M. G. L., Roger, J. C., & Vermote, E. Capturing Corn and Soybean Yield Variability at Field Scale Using Very High Spatial Resolution Satellite Data. In *IGARSS 2020-2020 IEEE International Geoscience and Remote Sensing Symposium* (pp. 3723-3726). IEEE.

9. Zhang, Y., Skakun, S., & Prudente, V. (2020). Detection of Changes in Impervious Surface Using Sentinel-2 Imagery. In *IGARSS 2020-2020 IEEE International Geoscience and Remote Sensing Symposium* (pp. 4787-4790). IEEE.

10. V. H. R. Prudente *et al*., "SAR Data for Land Use Land Cover Classification in a Tropical Region with Frequent Cloud Cover," *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, Waikoloa, HI, USA, 2020, pp. 4100-4103, doi: 10.1109/IGARSS39084.2020.9323404.

11. G. Ghazaryan, S. Skakun, S. König, E. E. Rezaei, S. Siebert and O. Dubovyk, "Crop Yield Estimation Using Multi-Source Satellite Image Series and Deep Learning," *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, Waikoloa, HI, USA, 2020, pp. 5163-5166, doi: 10.1109/IGARSS39084.2020.9324027.

12. Kerner, H., Sahajpal, R., Skakun, S., Becker-Reshef, I., Barker, B., Hosseini, M., Puricelli, E., and Gray, P. (2020). "Resilient In-Season Crop Type Classification in Multispectral Satellite Observations using Growth Stage Normalization." In *Proceedings of the ACM SIGKDD Conference on Data Mining and Knowledge Discovery (KDD) Workshops*.

13. Skakun, S., Franch, B., Vermote, E., Roger, J. C., Kussul, N., & Masek, J. (2019, July). The Use of Landsat 8 and Sentinel-2 Data and Meteorological Observations for Winter Wheat Yield Assessment. In *IGARSS 2019-2019 IEEE International Geoscience and Remote Sensing Symposium* (pp. 6291-6294). IEEE.

14. Skakun, S., Franch, B., Vermote, E., Roger, J. C., Justice, C., Masek, J., & Murphy, E. (2018, July). Winter Wheat Yield Assessment Using Landsat 8 and Sentinel-2 Data. In *IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium* (pp. 5964-5967). IEEE.

15. Masek, J., Ju, J., Roger, J. C., Skakun, S., Claverie, M., & Dungan, J. (2018, July). Harmonized Landsat/Sentinel-2 Products for Land Monitoring. In *IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium*(pp. 8163-8165). IEEE.

16. Franch, B., Vermote, E., Skakun, S., Roger, J. C., Becker-Reshef, I., & Justice, C. (2018, July). Enhancing Remote Sensing Based Yield Forecasting: Application to Winter Wheat in United States. In *IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium* (pp. 8177-8180). IEEE.

17. Vermote, E., Roger, J. C., Franch, B., & Skakun, S. (2018, July). LaSRC (Land Surface Reflectance Code): Overview, application and validation using MODIS, VIIRS, LANDSAT and Sentinel 2 data's. In *IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium* (pp. 8173-8176). IEEE.

18. Nadal, J. L. V., Franch, B., Roger, J. C., Skakun, S., Vermote, E., & Justice, C. (2018, July). Spectrally Adjusted Surface Reflectance and its Dependence with NDVI for pAssive Optical Sensors. In *IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium* (pp. 6452-6455). IEEE.

19. Shelestov, A., Sumilo, L., Lavreniuk, M., Vasiliev, V., Bulanaya, T., Gomilko, I., ... & Skakun, S. (2018, July). Indoor and outdoor air quality monitoring on the base of intelligent sensors for smart city. In *XVIII International Conference on Data Science and Intelligent Analysis of Information* (pp. 134-145). Springer, Cham.

20. Skakun, S., Vermote, E., Roger, J.-C., Justice, C. (2018). "Analysis of Multi-spectral Misregistration of Sentinel-2A/MSI Images," In *2nd Sentinel-2 Validation Team Meeting*, 29–31 January 2018, Frascati, Rome, Italy, p. 40.

21. Vermote, E., Roger, J.-C., Skakun, S. (2018). "Validation of the LaSRC Sentinel 2 Land Surface Reflectance Product," In *2nd Sentinel-2 Validation Team Meeting*, 29–31 January 2018, Frascati, Rome, Italy, p. 18.

22. Roger, J.-C., Vermote, E., Skakun, S. (2018). "Validation of the Sentinel-2 Land Surface Reflectances Retrieved from LaSRC," In *2nd Sentinel-2 Validation Team Meeting*, 29–31 January 2018, Frascati, Rome, Italy, p. 36.

23. 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," In *2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Fort Worth, TX, 2017, pp. 5272–5274.

24. Roger, J.-C., Vermote, E., Skakun, S., Murphy, E., Holben, B, & Justice, C. (2017). "Evaluation of the land surface reflectance fundamental climate data record," In *2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Fort Worth, TX, 2017, pp. 44–47.

25. Kussul, N., Lavreniuk, M., Skakun, S., & Shelestov, A. (2017). "Cropland productivity assessment for Ukraine based on time series of optical satellite images," In *2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Fort Worth, TX, 2017, pp. 5007–5010.

26. Shelestov, A., Lavreniuk, M., Kussul, N., Novikov, A. & Skakun, S. (2017). "Large scale crop classification using Google earth engine platform," In *2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Fort Worth, TX, 2017, pp. 3696–3699.

27. Skakun, S., Franch, B., Roger, J. C., Vermote, E., Becker-Reshef, I., Justice, C., & Santamaría-Artigas, A. (2016, November). "Incorporating yearly derived winter wheat maps into winter wheat yield forecasting model," In *Geoscience and Remote Sensing Symposium (IGARSS), 2016 IEEE International* (pp. 7164–7167). IEEE.

28. Kussul, N., Shelestov, A., Lavreniuk, M., Butko, I., & Skakun, S. (2016, November). "Deep learning approach for large scale land cover mapping based on remote sensing data fusion", In *Geoscience and Remote Sensing Symposium (IGARSS), 2016 IEEE International* (pp. 198–201). IEEE.

29. Kussul, N., Lemoine, G., Gallego, J., Skakun, S., Lavreniuk, M. (2015). "Parcel based classification for agricultural mapping and monitoring using multi-temporal satellite image sequences", *IEEE International Geoscience and Remote Sensing Symposium* (*IGARSS 2015*), 26–31 July 2015, Milan, Italy, pp. 165–168.

30. Lavreniuk M., Kussul N., Skakun S., Shelestov A., Yailymov B. (2015). "Regional retrospective high resolution land cover for Ukraine: methodology and results", *IEEE International Geoscience and Remote Sensing Symposium* (*IGARSS 2015*), 26–31 July 2015, Milan, Italy, pp. 3965–3968.

31. Shelestov A., Kolotii A., Camacho F., Skakun S., Kussul O., Lavreniuk M. (2015). "Mapping of biophysical parameters based on high resolution EO imagery for JECAM test site in Ukraine", *IEEE International Geoscience and Remote Sensing Symposium* (*IGARSS 2015*), 26–31 July 2015, Milan, Italy, pp. 1733–1736.

32. Kussul N., Skakun S., Shelestov A., Lavreniuk M., Yailymov B., Kussul O. (2015). "Regional scale crop mapping using multi-temporal satellite imagery", *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, vol. XL-7/W3 (*36th International Symposium on Remote Sensing of Environment*, 11–15 May 2015, Berlin, Germany), pp. 45–52.

33. Kolotii A., Kussul N., Shelestov A., Skakun S., Yailymov B., Basarab R., Lavreniuk M., Oliinyk T., Ostapenko V. (2015) "Comparison of biophysical and satellite predictors for wheat yield forecasting in Ukraine", *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, vol. XL-7/W3 (*36th International Symposium on Remote Sensing of Environment*, 11–15 May 2015, Berlin, Germany), pp. 39–44.

34. Kussul N., Shelestov A., Basarab R., Skakun S., Kussul O., Lavreniuk M. (2015) "Geospatial intelligence and data fusion techniques for sustainable development problems", *11th International Conference on ICT in Education, Research and Industrial Applications: Integration, Harmonization and Knowledge Transfer, ICTERI 2015*, 14-16 May 2015, Lviv, Ukraine, vol. 1356, pp. 196–203.

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

Presenting author

- Skakun, S. (2024). Detecting and mapping war-induced damage to agricultural fields in Ukraine using satellite data. **The Seventh International Conference on Establishment Statistics (ICES VII)**, Glasgow, Scotland, June 17–20, 2024.
- Skakun, S., Duncan, E. (2024). Satellite data show over 5.5 million artillery craters in agricultural fields in Ukraine due to the war. **GEOINT2024**, Orlando, FL, May 5-8, 2024.
- Skakun, S. (2023). The impact of war in Ukraine on land cover and land use. **2023 Fall Colloquium Speaker Series. University at Buffalo**, 9/29/2023 (invited)
- Skakun, S., Duncan, E., Beker-Reshef, I. (2023). Identification and mapping of missiles craters and unexploded ordnance in agricultural fields in Ukraine using very high spatial resolution satellite imagery. **Advancing Success Towards SDG2 (Zero Hunger) Through Science & Technology. National Academy of Sciences.** Washington DC, July 13, 2023.

- Skakun, S. (2023). The impact of war in Ukraine on LCLUC. **SCERIN-10 Workshop on Earth System Observations and 10th Anniversary, 26th - 29th 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 (LCLCU) 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 Sentinle-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

2024 – present	Maggie Wooten, PhD (Advisor)
2021 – present	Leonid Shumilo, PhD (Advisor)
2021 – present	Christian Abys, PhD (Advisor)
2019 – present	Yiming Zhang, PhD (Advisor)
2023 – present	Zhen Liu, PhD (Committee Member)
2023 – present	Zhili Li, PhD (Committee Member)
2023 – present	Sheila Baber, PhD (Committee Member)
2023 – present	Judith Rakowski, PhD (Committee Member)
2023 – present	Walid Ouaret, PhD (Committee Member)
2021 – present	Katherine Melocik, PhD (Committee Member)
2021 – present	Tuo Feng, PhD (Committee Member)
2019 – present	Allison Bredder, PhD (Committee Member)
2019 – present	Meghavi Prashnani, PhD (Committee Member)

Graduated students

2020 – 2023	Abdul Qadir, PhD (Advisor; works as Post-Doc at UMD)
2021 – 2023	Meredith Brown, PhD (Advisor; works as Post-Doc at Sandia)
2021 – 2023	Gasmine Myers, MSc (Advisor)
2021 – 2022	Jaemin Eun, MS (Advisor; PhD Student at KU Leuven)
2020 – 2022	Alison Thieme, PhD (Committee Member; Research Physical Scientist at USDA)
2019 – 2021	Victor Prudente, Visiting PhD student, INPE, Brazil (Foreign Supervisor; works as Post-Doc at University of Michigan)
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

2024	2023 Maryland Research Excellence Celebration Honoree, UMD
2023	Arrell Global Food Innovation Awards, Arrell Food Institute at the University of Guelph (part of NASA Harvest team)
2023	Planet Purpose "Do Good" Award, Planet (part of NASA Harvest team)
2023	2023 Maryland Research Excellence Celebration Honoree, UMD
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"

PROFESSIONAL SOCIETY/COMMUNITY MEMBERSHIP

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

Current

2020 – present	Associate Editor, *Remote Sensing of Environment*
2018 – present	Task Coordinator of the *Cloud Masking Inter-comparison eXercise* (CMIX) within CEOS WGCV

Past

2021 – 2024	Remote Sensing Teaching Team Lead
2023	Reviewer and panelist for *NASA* (5 proposals reviewed)
2022	Reviewer and panelist for *NASA* (9 proposals reviewed)
2021	Scientific Committee (as a reviewer) *IEEE/GRSS International Geoscience and Remote Sensing Symposium (IGARSS) 2021*
2021	Reviewer: *IEEE Transactions on Geoscience and Remote Sensing* (1), *IEEE Geoscience and Remote Sensing Letters* (2)

2021	Reviewer for the *National Research Foundation of Ukraine* (NRFU) (1 proposal reviewed)
2018 – 2021	Editorial Board Member, section "*Remote Sensing Image Processing*", journal *Remote Sensing*
2020	Reviewer for the *National Research Foundation of Ukraine* (NRFU) (13 proposals reviewed)
2020	Reviewer and panelist for *NASA* proposals (7 proposals reviewed)
2020	Reviewer for international peer-reviewed journals *Remote Sensing of Environment* (1 paper), *Earth System Science Data* (1), *Remote Sensing* (1)
2011 – 2020	Reviewer for international peer-reviewed journals *Remote Sensing of Environment*, *IEEE Transactions on Geoscience and Remote Sensing*, *IEEE Geoscience and Remote Sensing Letters*, *Remote Sensing Letters*, *Remote Sensing*, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, *International Journal of Remote Sensing*, *Sensors*, *Canadian Journal of Remote Sensing*, *Scientific Reports*, *Remote Sensing Applications: Society and Environment*, *PLOS ONE*
2019	Reviewer of the project proposal for *Natural Environment Research Council* (NERC, UK)
2018 – 2020	Member of the Symposia Working Group of the *UMD Year of Data Science* (YoDS) Initiative
2017 – 2020	Associate Editor of the journal *AIMS Geosciences* (Section: Computing Sciences for Environment)
2017	Reviewer of the project proposals for The Netherlands Organisation for Scientific Research (NWO)
2017	Chair of the *IEEE International Geoscience and Remote Sensing Symposium* (*IGARSS 2017*) Sessions on "*Land Use Applications I*" and "*Land Use and Land Cover Mapping*" (July 23-28, 2017, Fort Worth, Texas, USA)
2017	Reviewed a book proposal for the *Springer* Publishing House
2016	Chair of the *IEEE International Geoscience and Remote Sensing Symposium* (*IGARSS 2016*) Session on "*Remote Sensing for Agricultural Hydrology*" (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 *Elsevier* Publishing House
2012	Scientific Secretary of the Third Conference on "*Earth Observations for Sustainable Development and Security (GEO-UA)*" (September 3-7, 2012, Crimea, Ukraine)
2011, 2012	Referee for the *Regional Intel ISEF Competition in Ukraine* (Computer Science section)
2010 – 2013	Expert of the *United Nations Platform for Space-based Information for Disaster Management and Emergency Response* (UN-SPIDER) Regional Support Office in Ukraine
2010, 2012, 2013	Contribution as added value service provider to *International Charter "Space & Major Disasters"* activations (Jan 2010, Sep 2012, Jan 2013)
2010	Member of Organizing Committee for the Second Conference on "*Earth Observations for Sustainable Development and Security*" (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 *CEOS Working Group on Information Systems and Services* (WGISS)

MASS MEDIA COVERAGE

- **Maryland Today**: "*Unexploded Ordnance Is Scattered Across Ukraine's Front Lines. UMD Researchers Are Mapping Hot Spots With AI*.", https://today.umd.edu/unexploded-ordnance-is-scattered-across-ukraines-front-lines-umd-researchers-are-mapping-hot-spots-with-ai
- **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)

- **"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: September 9, 2024