

Hamed Gholizadeh

Associate Professor, Department of Geography, Oklahoma State University
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PROFESSIONAL EXPERIENCE

For the last several years, my research has focused on using proximal, airborne, and spaceborne hyperspectral remote sensing for monitoring terrestrial ecosystems. My most recent research focuses on studying biodiversity and biological invasions in grasslands. In doing so, I bring together concepts from remote sensing, image processing, plant ecophysiology, and landscape ecology.

PROFESSIONAL PREPARATION

University of Isfahan	Isfahan, Iran	Civil Engineering	B.S.	2009
K.N. Toosi University of Technology	Tehran, Iran	Remote Sensing	M.S.	2012
Indiana University	Bloomington, IN	Geography	Ph.D.	2016
University of Nebraska	Lincoln, NE	Remote Sensing	Postdoc	2016-2019

APPOINTMENTS

2024 – <i>present</i>	Associate Professor, Department of Geography, Oklahoma State University, Stillwater, OK
2019 – 2024	Assistant Professor, Department of Geography, Oklahoma State University, Stillwater, OK
2019 – <i>present</i>	Co-Director, Center for Applications of Remote Sensing, Oklahoma State University, Stillwater, OK
2021 – <i>present</i>	IPGS Endowed Professor, Oklahoma State University, Stillwater, OK

SELECTED HONORS AND AWARDS

2025	CAS Early Career Faculty Award for Scholarly Excellence, Oklahoma State University
2025	Holistic Science Prize, Oklahoma State University
2021	NASA New (Early Career) Investigator Award
2021	IPGS Professorship, School of Global Studies and Partnerships, Oklahoma State University
2021	Arts & Sciences Summer Research Award (ASR and +1), Oklahoma State University
2016	Alumni AI Teaching Award, Indiana University
2015	Graduate Sustainability Research Development Grant, Indiana University Office of Sustainability
2015	IndianaView Student Scholarship Award
2013	Lester Spicer Award, Department of Geography, Indiana University

FUNDED PROJECTS

NASA	HI-GRASS - Holistic Investigation of Grassland Systems Across Scales, NASA, PI Hamed Gholizadeh with Co-PIs Benedicte Bachelot, Nicholas McMillan, Ran Wang, and John Gamon, 02/01/2025 – 1/31/2028, \$731,344.
USGS	Optimizing Invasive Plant Management in Grasslands with Remote Sensing and Climate Sciences, PI Hamed Gholizadeh , Co-PI Yuting Zhou, Co-PI Samuel Fuhlendorf, and Co-PI Robert Hamilton, 08/01/2024 – 07/31/2027, \$410,294.
USGS	Next-Generation Monitoring: Satellite Remote Sensing and eDNA Integration for the Detection and Management of Aquatic Invasive Plants in the Upper Mississippi Basin, USGS, PI Antonio Castilla Alvarez with Co-PI Andy Dzialowski, Co-PI Gordon Luikart, Co-PI Hamed Gholizadeh , and Co-PI Abu Mansaray, 09/01/2024 – 08/31/2027, Total: \$344,527 (\$73,413 to Gholizadeh).
NSF	MRI: Track 1 Acquisition of an Advanced Low-altitude Earth Observing System (ALEOS) with Hyperspectral and LiDAR Capabilities to Advance Interdisciplinary Research and Training, PI Hamed Gholizadeh , Co-PI Kristen Baum, Co-PI Jamey Jacob, Co-PI Gail Wilson, and Co-PI Samuel Fuhlendorf, and 13 collaborators, 09/01/2023 – 08/31/2026, \$467,796.
NASA	Near real-time updated wildfire risk map model informed by powerline fault status, NASA, PI Hamidreza Nazaripouya, Co-PI Drew Daily, Co-PI Reginald Freeman, Co-PI Hamed Gholizadeh , Co-PI Haejun Park, Co-PI Nick Shumaker, and Co-PI Jia Yang, 10/01/2024 – 09/30/2027, \$1,051,838 (\$205,666 to Gholizadeh).
NASA	Leveraging multiscale airborne and spaceborne imaging spectroscopy to monitor grassland plant diversity under different management practices, PI Hamed Gholizadeh , 06/01/2021 – 05/31/2025, \$398,654.
OCAST	The effect of drought on wildfire in Oklahoma: an improved quantification of the role of vegetation for forecasting wildfire risk, PI Bryan Murray, Co-PI Hamed Gholizadeh , 07/01/2020 – 06/30/2023, \$99,266.
OCAST	Mapping invasive <i>Lespedeza cuneata</i> using airborne imaging to detect its spread and determine its ecological and economic impacts, PI Hamed Gholizadeh , Co-PI Henry Adams, Co-PI Omkar Joshi, 07/01/2020 – 09/30/2023, \$99,980.

STUDENT-LED FUNDED PROJECTS

NASA Assessing the impacts of invasive plants on ecosystem characteristics using multi-scale
 FINESST imaging spectroscopy, NASA FINESST, Future Investigator (FI) M. Ny Aina
 Rakotoarivony, 01/01/2025 – 12/31/2027, \$148,526.

PEER-REVIEWED PUBLICATIONS

Published or accepted (* graduate student or post-doc; ** undergraduate student)

Rakotoarivony M. N.*, **Gholizadeh, H.**, Hassani, K., Zhai, L., Rossi, C., (2025) “Mapping the Spatial Distribution of Species using Airborne and Spaceborne Imaging Spectroscopy: A Case Study of Invasive Plants”, *Remote Sensing of Environment*. <https://doi.org/10.1016/j.rse.2024.114583>

- Kamaraj, N. P.*, **Gholizadeh, H.**, Hamilton, R. G., Fuhlendorf, S., and Gamon, J. (2024) “Estimating plant β -diversity using airborne and spaceborne imaging spectroscopy”, *International Journal of Remote Sensing*. <https://doi.org/10.1080/01431161.2024.2410959>
- Rakotoarivony M. N.*, **Gholizadeh, H.**, Hassani, K., McMahan, S.**, Struble, E.**, Hamilton, R. G., Fuhlendorf, S. D., and Bachelot, B., (2024) “Using imaging spectroscopy to assess the impact of invasive plants on aboveground and belowground characteristics”, *GIScience Remote Sensing*. <https://doi.org/10.1080/15481603.2024.2399388>
- Murray, S., Will, R., **Gholizadeh, H.**, Joshi, O., Zhai, L., (2024), “Structural diversity is an important predictor of forest productivity responses to drought”, *Journal of Applied Ecology*. <https://doi.org/10.1111/1365-2664.14883>
- Fathi, M. R., Latifi, H., **Gholizadeh, H.**, and Khare, S., (2024), “PaRaVis: a tool for parallel, efficient and ensemble analysis of plant beta diversity using remote sensing proxies”, *Ecological Indicators*. <https://doi.org/10.1016/j.ecoinf.2024.102739>
- Rossi, C., McMillan, N. M., Schweizer, J. M., **Gholizadeh, H.**, Ioannidis, N. and Hauser, L. T. (2024), “Parcel level temporal variance of remotely sensed spectral reflectance predicts plant diversity”, *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/ad545a>
- Gholizadeh, H.**, Rakotoarivony, M. N.*, Hassani, K.*, Johnson, K. G.**, Hamilton, R. G., Fuhlendorf, S. D., Schneider, F. D., and Bachelot, B. (2024), “Advancing our understanding of plant diversity-biological invasion relationships using imaging spectroscopy”, *Remote Sensing of Environment*, 304, 114028. <https://doi.org/10.1016/j.rse.2024.114028>
- Rakotoarivony, N.*, **Gholizadeh, H.**, Hammond, W. M., Hassani, K.*, Joshi, O., Hamilton, R. G., Fuhlendorf, S. D., Trowbridge, A. M., Adams, H. D., (2023) “Detecting the invasive *Lespedeza cuneata* in grasslands using commercial small satellite imagery”, *International Journal of Remote Sensing*, 44, 6802–6824. <https://doi.org/10.1080/01431161.2023.2275321>
- Rossi, C.*, **Gholizadeh, H.**, (2023). “Uncovering the hidden: Leveraging sub-pixel spectral diversity to estimate plant diversity from space”, *Remote Sensing of Environment*, 296, 113734. <https://doi.org/10.1016/j.rse.2023.113734>
- Hassani, K.*, **Gholizadeh, H.**, Taghvaeian, S., Natalie, V. A., Carpenter, J., and Jacob, J., (2023). “Assessing the Impact of Spatial Resolution of UAS-based Remote Sensing and Spectral Resolution of Proximal Sensing on Crop Nitrogen Retrieval Accuracy”, *International Journal of Remote Sensing*, 44, 4441–4464. <https://doi.org/10.1080/01431161.2023.2237162>
- Pamula, A., **Gholizadeh, H.**, Krzmarzick, M., Mausbach, W., and Lampert, D. (2023). “A Remote Sensing Tool for Near Real-Time Monitoring of Harmful Algal Blooms and Turbidity in Reservoirs”, *Journal of the American Water Resources Association*, <https://doi.org/10.1111/1752-1688.13121>
- Hassani, K.*, **Gholizadeh, H.**, Taghvaeian, S., Natalie, V. A., Carpenter, J., and Jacob, J., (2023). “Application of UAS-based remote sensing in estimating winter wheat phenotypic traits and yield during the growing season”, *Journal of Photogrammetry, Remote Sensing and Geoinformation Science*. <https://doi.org/10.1007/s41064-022-00229-5>
- Gholizadeh, H.**, Dixon, A. P.*, Pan, K. H.**, McMillan, N. A., Hamilton, R. G., Fuhlendorf, S. D., Cavender-Bares, J., Gamon, J. A., (2022). “Using airborne and DESIS imaging spectroscopy to map plant diversity across the largest contiguous tract of tallgrass prairie on Earth”, *Remote Sensing of Environment*, 281, 113254. <https://doi.org/10.1016/j.rse.2022.113254>
- Sapes, G., Lapadat, C., Schweiger, A. K., Juzwik, J., Montgomery, R., **Gholizadeh, H.**, Townsend, P., Gamon, J. A., and Cavender-Bares, J., (2022). “Canopy spectral reflectance detects oak wilt decline at landscape scale using phylogenetic discrimination”, *Remote Sensing of Environment*, 273, 112961. <https://doi.org/10.1016/j.rse.2022.112961>
- Gholizadeh, H.**, Friedman, M. S.*, McMillan, N. A.*, Hammond, W. H., Hassani, K.*, Sams, A. V.**, Charles, M. D.**, Garrett, D. R.**, Joshi, O., Hamilton, R. G., Fuhlendorf, S. D., Trowbridge, A. M., Adams, H. D., (2022). “Mapping invasive alien species in grassland ecosystems using airborne

- imaging spectroscopy and remotely observable vegetation functional traits”, *Remote Sensing of Environment*, 271, 112887. <https://doi.org/10.1016/j.rse.2022.112887>
- Cavender-Bares, J., Schweiger, A., Gamon, J., **Gholizadeh, H.**, Helzer, K., Lapadat, C., Madritch, M., Townsend, P., Wang, Z., Hobbie, S., (2021). “Remotely detected aboveground plant function predicts belowground processes in two midwestern prairie grassland experiments”, *Ecological Monographs*, e1488. <https://doi.org/10.1002/ecm.1488>
- Schweiger, A., Cavender-Bares, J., Townsend, P., Hobbie, S., Madritch, M., Kothari S., Grossman, J., **Gholizadeh, H.**, Wang, R., and Gamon, J., (2021). “Spectral niches reveal taxonomic identity and complementarity in plant communities”, *Proceedings of the Royal Society B*, 288: 20211290. <https://doi.org/10.1098/rspb.2021.1290>
- Hassani, K.*, Taghvaeian, S., **Gholizadeh, H.**, (2021). “A geographical survey of center pivot irrigation systems in the central and southern high plains aquifer region of the united states”, *Applied Engineering in Agriculture*. <https://doi.org/10.13031/aea.14693>
- Mansaray, A., Dzialowski, A., Martin M., Wagner, K., **Gholizadeh, H.**, Stoodley, S., (2021). “Comparing PlanetScope to Landsat-8 and Sentinel-2 for sensing water quality in reservoirs in agricultural watersheds”, *Remote Sensing*, 13, 1847. <https://doi.org/10.3390/rs13091847>
- Cawse-Nicholson, K., Townsend, P., Schimel, D., Assiri, A., Blake, P., Fabrizia Buongiorno M., Campbell, P., Carmon, N., Casey, K., Correa-Pabón, R.E., Dahlin, K., Dashti, H., Dennison, P., Dierssen, H., Erickson, A., Fisher, J., Frouin, R., Gatebe, C., **Gholizadeh, H.**, Gierach, M., Glenn, N., Goodman, J., Griffith, D., Guild, L., Hakkenberg, C., and the Algorithms Working Group Community, (2021). “NASA’s Surface Biology and Geology Designated Observable: A Perspective on Surface Imaging Algorithms”, *Remote Sensing of Environment*, 257, 112349. <https://doi.org/10.1016/j.rse.2021.112349>
- Gholizadeh, H.**, Gamon, J., Helzer, C., and Cavender-Bares, J., (2020). “Multi-temporal assessment of grassland α - and β -diversity using hyperspectral imaging”, *Ecological Applications*, 30, e02145. <https://doi.org/10.1002/eap.2145>
- Franz, T., Pokal, S., Gibson, J, Zhou, Y., **Gholizadeh, H.**, Tenorio, F., Rudnick, D., Heeren, D., McCabe, M., Ziliani, M., Jin, Z., Guan, K., Pan, M., Gates, J., and Wardlow, B., (2020). “The role of topography, soil, and remotely sensed vegetation condition towards predicting subfield-scale crop yield”, *Field Crops Research*, 252, 107788. <https://doi.org/10.1016/j.fcr.2020.107788>
- Zhou, Y., **Gholizadeh, H.**, LaVanchy, G.T., Hasan, E., (2020). “Inspecting the Food–Water Nexus in the Ogallala Aquifer Region Using Satellite Remote Sensing Time Series”, *Remote Sensing*, 12, 2257. <https://doi.org/10.3390/rs12142257>
- Gholizadeh, H.**, Gamon, J., Townsend, P., Zygielbaum, A., Helzer, C., Hmimina, G., Yu, R., Moore, R., Schweiger, A., and Cavender-Bares, J., (2019). “Detecting prairie biodiversity with airborne remote sensing”, *Remote Sensing of Environment*, 221, 38-49. <https://doi.org/10.1016/j.rse.2018.10.037>
- Gholizadeh, H.**, Gamon, J., Zygielbaum, A., Wang R., Schweiger A. and Cavender-Bares J., (2018). “Remote sensing of biodiversity: soil correction and data dimension reduction methods to improve assessment of α -diversity (species richness) in prairie ecosystems”, *Remote Sensing of Environment*, 206, 240-253. <https://doi.org/10.1016/j.rse.2017.12.014>
- Hwang, T., **Gholizadeh, H. (co-first author)**, Sims, D., Novick, K., Brzostek, E., Phillips, R., Roman, T., Robeson, S. and Rahman, F., (2017). “Capturing species-level drought responses in a temperate deciduous forest using ratios of photochemical reflectance indices between sunlit and shaded canopies”, *Remote Sensing of Environment*, 199, 350-359. <https://doi.org/10.1016/j.rse.2017.07.033>
- Gholizadeh, H.** and Robeson, S., (2016). “Revisiting empirical ocean-colour algorithms for remote estimation of chlorophyll-*a* content on a global scale”, *International Journal of Remote Sensing*, 37 (11), 2682–2705. <https://doi.org/10.1080/01431161.2016.1183834>
- Gholizadeh, H.**, Robeson, S., and Rahman, F., (2015). “Comparing the performance of multispectral vegetation indices and machine-learning algorithms for remote estimation of chlorophyll content: a case study in the Sundarbans mangrove forest”, *International Journal of Remote Sensing*, 36(12), 3114-3133. <https://doi.org/10.1080/01431161.2015.1054959>

- Gholizadeh, H.**, Mojaradi, B., and Zoej, M., (2015). “Local prototype space-based band selection for hyperspectral subpixel analysis”, *Journal of Photogrammetry, Remote Sensing and Geoinformation Science*, 2015(5), 0373–0380. <https://doi.org/10.1127/pfg/2015/0275>
- Ficklin, D., Letsinger, S., **Gholizadeh, H.**, and Maxwell, J., (2015). “Incorporation of the Penman–Monteith potential evapotranspiration method into a Palmer Drought Severity Index Tool”, *Computers and Geosciences*, 85, 136–141. <https://doi.org/10.1016/j.cageo.2015.09.013>
- Ficklin, D., Maxwell, J., Letsinger, S., and **Gholizadeh, H.**, (2015). “A climatic deconstruction of recent drought trends in the United States”, *Environmental Research Letters*, 10(4), 044009. <https://doi.org/10.1088/1748-9326/10/4/044009>
- Gholizadeh, H.**, Zoej, M., and Mojaradi, B., (2012). “A decision fusion framework for hyperspectral subpixel target detection”, *Journal of Photogrammetry, Remote Sensing and Geoinformation Science*, 2012(3), 267–280. <https://doi.org/10.1127/1432-8364/2012/0116>

Book chapters

- Gamon, J. A., R. Wang, **H. Gholizadeh**, B. Zutta, P. A. Townsend, and J. Cavender-Bares., (2020). “Consideration of Scale in Remote Sensing of Biodiversity”, Pages 425–447 in J. Cavender-Bares, J. A. Gamon, and P. A. Townsend, editors. *Remote Sensing of Biodiversity*. Springer Nature, Springer, New York.

Peer-reviewed proceedings

- Gamon, J., Hminina, G., Miao, G., Guan, K., Springer, K., Wang, R., Yu, R., **Gholizadeh, H.**, Moore, R., Walter-Shea, E., Arkebauer, T., Sukyer, A., Franz, T., Wardlow, B., and Wedin, D., (2018). “Imaging spectrometry and fluorometry in support of flex: what can we learn from multi-scale experiments?”, IGARSS 2018, Valencia, Spain.
- Gholizadeh, H.**, (2013). “Band selection for hyperspectral remote sensing data through correlation matrix to improve image clustering”, Proc. SPIE 8870, Imaging Spectrometry XVIII, 88700D; doi:10.1117/12.2027032, SPIE Optical Engineering+Applications, San Diego, California, USA.
- Gholizadeh, H.**, Zoej, M., and Mojaradi, B., (2012). “A decision fusion approach for clustering of hyperspectral data using spectral unmixing methods”, IEEE Aerospace Conference, 978-1-4577-0557-1/12, Big Sky, Montana, USA.
- Gholizadeh, H.**, Zoej, M., and Mojaradi, B., (2012). “A novel hyperspectral image clustering method based on spectral unmixing”, IEEE Aerospace Conference, 978-1-4577-0557-1/12, Big Sky, Montana, USA.
- Gholizadeh, H.**, Zoej, M., and Mojaradi, B., (2011). “Impact of informative band selection on target detection performance”, Proc. SPIE 8180, 81801C (2011); doi:10.1117/12.898320, Prague, Czech Republic.

Archived and published data sets

- Gholizadeh, H.**, (2022). Airborne Hyperspectral Reflectance L1 Tallgrass Prairie Preserve Oklahoma Multi-Day 1 m V001. NASA EOSDIS Land Processes DAAC. Accessed 2022-05-13 from <https://doi.org/10.5067/Community/Airborne/AEHYP1TPPOK.001>
- Gholizadeh, H.**, Gamon, J., Helzer, C., Cavender-Bares, J., (2020). Airborne Hyperspectral Reflectance Wood River Nebraska Multi-Day 1 m V001. NASA EOSDIS Land Processes DAAC. Accessed 2020-12-13 from <https://doi.org/10.5067/Community/Airborne/AEHYPWRNE1M.001>

PRESENTATIONS (*graduate student; ** undergraduate student)

- Gholizadeh, H.**, Gamon, J., Rossi, C. (2024). “Monitoring Grassland Biodiversity with Hyperspectral Imaging”, AGU Fall Meeting, December 9 – 13, Washington D.C., USA (*invited keynote speaker*).
- Rakotoarivony, M. N.*, Gholizadeh, H, Hassani, K., McMahan, S.**, Struble, E.**, Fuhlendorf, S., Hamilton, R., Bachelot, B. (2024), “Using Imaging Spectroscopy to Assess the Impacts of Invasive

- Plants on Aboveground and Belowground Characteristics”, AGU Fall Meeting, December 9 – 13, Washington D.C., USA.
- Gholizadeh, H.** (2024). “Invasive Species Monitoring with Remote Sensing”, NASA ARSET, August 28.
- Rakotoarivony M. N.*, Hassani, K., Kamaraj, N. P., Hamilton, R. G., Fuhlendorf, S. D., Bachelot, B., and **Gholizadeh, H.** (2024), “Using imaging spectroscopy to assess the impact of invasive plants on aboveground and belowground properties and productivity”, IALE-North America Annual Meeting, April 1 – 5, Oklahoma City, OK, USA.
- Rossi, C., Perrone, M., Risch, A. C., **Gholizadeh, H.** (2024), “From drones to satellites: Unveiling phylogenetic diversity in grasslands via spectral species”, 3rd World Biodiversity Forum, June 16 – 21, Davos, Switzerland.
- Gholizadeh, H.**, Rakotoarivony, M.N. *, Hassani*, K., Johnson, K. *, Hamilton, R., Fuhlendorf, S., Dschneider, F., and Bachelot, B. (2023). “Advancing our understanding of plant diversity-biological invasion linkages using imaging spectroscopy”, AGU Fall Meeting, December 11 – 15, San Francisco, CA, USA.
- Gholizadeh, H.**, Rakotoarivony, N.*, Hassani, K.*, and Bachelot, B., (2023). “Hyperspectral earth observation data reveal the impact of biological invasion on ecosystem characteristics”, Ecological Society of America Annual Meeting, August 6-11, Portland, OR (*invited*).
- Rakotoarivony, M.N., Hassani, K., McMillan, N.A., Kamaraj, N.P., Hamilton, R.G., Fuhlendorf, S.D., Bachelot, B., **Gholizadeh, H.**, (2023). “Using remote sensing to determine the impact of invasive species on plant characteristics, soil properties, and primary productivity”, Ecological Society of America Annual Meeting, August 6-11, Portland, OR.
- Kamaraj, N., Dixon, A., Pan, K., Rakotoarivony, N., Hamilton, R., Fuhlendorf, S., **Gholizadeh, H.** (2023). “Detecting grassland plant diversity using airborne and spaceborne imaging spectroscopy”, Ecological Society of America Annual Meeting, August 6-11, Portland, OR.
- Gholizadeh, H.** (2023), “Using imaging spectroscopy to unpack the association between biodiversity and biological invasion”, NASA JPL Carbon Club, June 22, (*invited*; virtual).
- Gholizadeh, H.**, Rakotoarivony, N.*, Tessier, V.**, Hassani, K.*, and Bachelot, B. (2023), “Advancing our understanding of biological invasion-biodiversity relationships using imaging spectroscopy”, 2023 NASA Carbon Cycle & Ecosystems Joint Science Workshop, May 8-11, College Park, MD.
- Rossi, C., **Gholizadeh, H.** (2023), “Uncovering the hidden: Leveraging sub-pixel spectral diversity to estimate plant diversity from space”, 2023 NASA Carbon Cycle & Ecosystems Joint Science Workshop, May 8-11, College Park, MD.
- Rossi, C., Hauser, L., and **Gholizadeh, H.**, (2023). “How to overcome different limitations in estimating plant diversity via spectral diversity?”, EGU General Assembly 2023, April 23 – 28, Vienna, Austria.
- Schweizer, J., Hauser, L., Schweiger, A., **Gholizadeh, H.**, and Rossi, C., (2023) “Hybrid retrieval of canopy foliar biomass and nitrogen content between and beyond grassland ecosystems: trade-offs in ecosystem specificity versus model transferability”, EGU General Assembly 2023, April 23 – 28, Vienna, Austria.
- Gholizadeh, H.**, (2023). “Using remotely sensed optical traits to map biological invasions in grassland ecosystems”, The Remote Sensing Laboratories (RSL), University of Zurich, March 23 (*invited*; virtual).
- Gholizadeh H.**, Dixon A., Pan K. **, McMillan N. *, Hamilton R., Fuhlendorf S., Cavender-Bares J., and Gamon J., (2022). “Can airborne and SBG-like imaging spectroscopic data capture plant diversity in naturally-assembled heterogeneous grassland ecosystems?”, AGU Fall Meeting, December 12 – 16, Chicago, IL, USA.
- Rossi C. and **Gholizadeh H.**, (2022). “Subpixel spectral diversity: Using endmember diversity as a proxy for plant diversity?”, AGU Fall Meeting, December 12 – 16, Chicago, IL, USA.

- Rakotoarivony, A. M. *, **Gholizadeh, H.**, Hassani, K. *, Hamilton, R. G., Fuhlendorf, S. D., Charles, M. **, Garrett, D. R. **, Friedman, M. S., Hammond, W., Trowbridge, A. M., and Adams, H., (2022). “How Do Spatial and Spectral Resolutions Affect Our Ability to Detect Grassland Invasive Plants?”, AGU Fall Meeting, December 12 – 16, Chicago, IL, USA.
- Hassani, K. *, **Gholizadeh, H.**, Taghvaeian, S., Natalie, V. A., Carpenter, J., Jacob, J., (2022). “Assessing the Impact of Spatial and Spectral Resolution of Spectral Data on Retrieval Accuracy of Sorghum and Corn Nitrogen Content”, AGU Fall Meeting, December 12 – 16, Chicago, IL, USA.
- Gholizadeh, H.**, (2022). “Estimating plant diversity using airborne and SBG-like data in naturally-assembled grasslands”, NASA Ecological Forecasting Team Meeting, September 20-22, College Park, MD.
- Gholizadeh, H.**, Dixon, A., Pan, K.**, McMillan, N., Rossi, C., Hamilton, R., Fuhlendorf, S., (2022). “Using big satellites to monitor small plants: Exploring the potential of SBG-like data for monitoring grassland plant diversity”, Ecological Society of America Annual Meeting, August 14-19, Montreal, Canada (*invited*).
- Rakotoarivony, Ny Aina M. *, **Gholizadeh, H.**, Friedman, M. S., McMillan, N. A., Hammond, W. H., Hassani, K., Sams, A. V. **, Charles, M. D. **, Garrett, D. R. **, Joshi, O., Hamilton, R. G., Fuhlendorf, S. D., Trowbridge, A. M., Adams, H. D., (2022), “Detecting an invasive species in grasslands using Planetscope cubesat time-series”, Ecological Society of America Annual Meeting, August 14-19, Montreal, Canada.
- Gholizadeh, H.**, (2022). “Remote sensing of invasive alien species in grasslands using imaging spectroscopy: opportunities and challenges”, German Centre for Integrative Biodiversity Research, June 22 (*invited; virtual*).
- Gholizadeh, H.**, (2022). “Remote sensing of plant diversity”, NSF Biology Integration Institute ASCEND, May 12 (*invited; virtual*).
- Gholizadeh, H.**, Friedman, M. S., McMillan, N. A., Hammond, W. M., Hassani, K. *, Sams, A. V.**, Charles, M. D.**, Garrett, D. R.**, Hamilton, R. G., Fuhlendorf, S. D., Trowbridge, A. M., Adams, H. D., (2021). “Mapping Invasive Alien Plants in Grasslands through Remote Estimation of Vegetation Functional Traits”, AGU Fall Meeting, December 13 – 17, New Orleans, Louisiana, USA.
- Gholizadeh, H.**, (2021). “Estimating plant diversity in grasslands using remote sensing”, Department of Plant Biology, Ecology, and Evolution, Oklahoma State University, November 4 (*invited; virtual*).
- Gholizadeh, H.**, (2021), “Remote sensing of biodiversity in grasslands”, NASA Biodiversity and Ecological Forecasting Meeting, October 19 (*virtual*).
- Gholizadeh, H.**, McMillan, N. *, Hammond, W. *, Friedman, M., Hassani, K. *, Trowbridge, A., Fuhlendorf, S., and Adams, H., (2021). “Remote sensing of biodiversity in grasslands: opportunities and challenges”, Ecological Society of America Annual Meeting, August 2 – 6 (*invited; virtual*).
- Gholizadeh, H.**, McMillan, N. *, Fuhlendorf, S., Gamon, J., Hammond, W. *, Hassani, K. *, Adams, H., Sams, A. **, Charles, M. **, Garrett, D. **, and Cavender-Bares, J., (2020). “Scale-dependence of remote sensing of biodiversity: A test in grasslands under different management practices”, AGU Fall Meeting, December 1 – 17 (*virtual*).
- Gholizadeh, H.**, Gamon, J., and Cavender-Bares, J., (2019). “Multi-temporal assessment of grassland plant diversity using imaging spectroscopy”, AGU Fall Meeting, December 9 – 13, San Francisco, California, USA.
- Gholizadeh, H.**, Gamon, J., Zygielbaum, A., and Cavender-Bares J., (2018), “Detecting biodiversity with multiscale imaging spectrometry in prairie ecosystems”, AGU Fall Meeting, December 10 – 14, Washington D.C., USA.
- Gholizadeh, H.**, Gamon, J., Hmimina, G., Zygielbaum, A., and Cavender-Bares J., (2018). “Mapping biodiversity in manipulated and natural grasslands using spectral diversity”, Ecological Society of America Annual Meeting, August 5 – 10, New Orleans, Louisiana, USA.
- Gholizadeh, H.**, Gamon, J., Zygielbaum, A., Schweiger, A., Cavender-Bares, J., Yang, Y., and Knops, J., (2017). “Evaluating productivity-biodiversity relationship and spectral diversity in prairie grasslands

under different fire management treatments using in-situ and remote sensing hyperspectral data”, AGU Fall Meeting, December 11 – 15, New Orleans, Louisiana, USA.

Gholizadeh, H., Gamon, J., Zygielbaum, A., Wang R., Schweiger A. and Cavender-Bares J., (2017). “Remote sensing of biodiversity: dimension reduction and soil correction methods to improve assessment of α -diversity (species richness) in prairie ecosystems”, Ecological Society of America Annual Meeting, August 6 – 11, Portland, Oregon, USA.

Gholizadeh, H., and Robeson, S., (2015). “Improving global models of remotely sensed ocean chlorophyll content using partial least squares and geographically weighted regression”, AGU Fall Meeting, December 14 – 18, San Francisco, California, USA.

Gholizadeh, H., and Robeson, S., (2015). “Improving chlorophyll-a content estimation in open oceans using geographically weighted regression”, AAG Conference, April 21 – 25, Chicago, Illinois, USA.

Gholizadeh, H., Robeson, S., and Rahman, F., (2014). “Optimal term selection and weighting of vegetation-index spectral bands using genetic algorithms for chlorophyll content estimation”, AAG Conference, April 8 – 12, Tampa, Florida, USA.

TEACHING EXPERIENCE (as instructor of record)

- Remote Sensing (GEOG 4333/5333, Fall 2019-2024, Oklahoma State University)
- Geospatial Applications for Unmanned Aerial Systems (GEOG 4263/5263, Spring 2020-2023, Oklahoma State University)
- Geographic Information Systems: Resource Management Applications (GEOG 4343/5323, Fall 2021-2024, Oklahoma State University)
- Applications of the Global Positioning System in Field Research (GEOG 4303, Spring 2020-2022, Oklahoma State University)
- Geographic Information Science (GEOG 338/538, Spring 2016, Indiana University)
- Environmental Remote Sensing (GEOG 336/535, Fall 2014, Indiana University)
- Advanced Remote Sensing (GEOG 436/536, Spring 2014, Indiana University)

PROFESSIONAL DEVELOPMENT

- College of Arts and Sciences grant writing workshop series, Oklahoma State University, Spring 2020.
- NASA ROSES grant writing workshop, San Francisco, California, December 2019.
- Write Winning Grant Proposals workshop, Hanover Research, Oklahoma State University, November 2019.
- Early Career Support Program workshop series, Organized by Institute for Teaching and Learning Excellence (ITLE), Oklahoma State University, Fall 2019.

SERVICE AND OUTREACH

Proposal review: NASA Panelist (2020, 2021, 2022, 2023, 2025); NSF ad hoc reviewer (2024), Natural Sciences and Engineering Research Council of Canada ad hoc reviewer (2024); Czech Science Foundation ad hoc reviewer (2022).

Associate Editor, Ecological Solutions and Evidence (2024 – present)

Regular reviewer for scientific journals: Remote Sensing of Environment, Methods in Ecology and Evolution, Journal of Ecology, Ecological Applications, International Journal of Remote Sensing, Remote Sensing in Ecology and Conservation, Journal of Geophysical Research, Ecological Informatics, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Remote Sensing Letters, IEEE Access, Global Ecology and Biogeography, and Applied Vegetation Science.

NASA’s SBG (Surface Biology and Geology) mission Algorithms Working Group (2019 – present):

The aim of this group, which is made up of more than 100 scientists from academia, industry, and federal agencies, is supporting mission concept development for SBG mission.

Co-Director, Center for Applications of Remote Sensing (2019 – *present*), Department of Geography, Oklahoma State University.

Graduate Committee member (2021 – *present*), Department of Geography, Oklahoma State University.

Cartography/Remote Sensing/GIS Steering Committee member (2019 – *present*), Department of Geography, Oklahoma State University.

Oklahoma State University Scholars Day (October 2021, Stillwater, OK): Presenting some of the environmental applications of drones to high school students during Scholars Day.

CALMIT Airborne Data Processing Workshop (July 2019, Lincoln, NE): Presenter and co-organizer of a workshop on analyzing airborne hyperspectral data.

Finalist of the “Fall research fair: science slam – postdoc edition” (November 2018, Lincoln, NE): Presenting my research (*A Bird's-eye View of Biodiversity*) to the public with the goal of raising awareness about the importance of maintaining biological diversity.

2018 Nebraska Science Olympiad, Nebraska Academy of Science (April 2018, Lincoln, NE): This competition encourages young students to be involved in science and brings together top students from different regions of the state. My role in the Science Olympiad was designing questions for remote sensing topic and assessing students' performance.

Graduate student adviser

Saiful Islam (Ph.D. student; 2024 – *present*)

Ny Aina Rakotoarivony (Ph.D. student; 2021 – *present*)

Saiyed Nori (M.Sc. student; 2022 – 2024; *completed*)

Kianoosh Hassani (Ph.D. student; 2019 – 2023; *completed*; now assistant professor at Bridgewater State University, Massachusetts)

Graduate student committee member

- Kerrick Ray, Mechanical and Aerospace Engineering, Oklahoma State University (Ph.D. student; 2023-*present*).
- Zeeshan Mehmood, Department of Plant and Soil Sciences, Oklahoma State University (Ph.D. student; 2023-*present*).
- Tim Olsen, Natural Resource Ecology and Management Department, Oklahoma State University (Ph.D. student; 2023-*present*).
- Jamie Reeves, Department of Integrative Biology, Oklahoma State University (Ph.D. student; 2021-*present*).
- Wenqi Liu, Department of Geography, Oklahoma State University (Ph.D. student; 2021-*present*).
- Emmanuel Kumi, Department of Geography, Oklahoma State University (M.Sc. student; 2022-2024).
- Brice Zoungrana, Department of Geography, Oklahoma State University (Ph.D. student; 2021-2024).
- Samantha Murray, Natural Resource Ecology and Management Department, Oklahoma State University (M.Sc. student; 2022-2023; *completed*).
- Antigone Burke, Natural Resource Ecology and Management Department, Oklahoma State University (M.Sc. student; 2021-2023; *completed*).
- Abhiram Pamula, School of Civil and Environmental Engineering, Oklahoma State University (Ph.D. student; 2020-2022; *completed*).
- Luelseged Emishaw, Boone Pickens School of Geology, Oklahoma State University (Ph.D. student; 2019-2020; *completed*).
- Abby McCrea, Environmental Science Graduate Program, Oklahoma State University (M.Sc. student; 2019-2020; *completed*).
- Thornton Raskevitz, Department of Geography, Oklahoma State University (M.Sc. student; 2019-

2020; *completed*).

- Nicole Pauley, Department of Geography, Oklahoma State University (M.Sc. student; 2019-2020; *completed*).

PROFESSIONAL MEMBERSHIP

American Geophysical Union

Ecological Society of America