

JOBY M. (PRINCE) CZARNECKI

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Education and Training

2001	B.S.	Plant & Soil Sciences	Oklahoma State University
2002	M.S.	Plant & Soil Sciences	Oklahoma State University
2011	Ph.D.	Plant & Soil Sciences	Mississippi State University

Research and Professional Experience

Positions

2015 –	Assistant Research Professor, Geosystems Research Institute, Mississippi State University, MS
2013 – 2015	Research Associate III, Dept. of Wildlife, Fisheries, and Aquaculture, Mississippi State University, MS
2004 – 2013	Research Associate II/I, Geosystems Research Institute, Mississippi State University, MS
2002 – 2004	Instructor of GIS, Dept. of Physical Sciences, Delta State University, MS
2002 – 2003	Remote Sensing Specialist, Mid-South Ag Data, Sumner, MS

Related Activities

2020 –	Review Panel Member, USDA NIFA CARE, SBIR, and DSFAS programs
2020 – 2021	Task Force Member, “Bachelor of Applied Science in Unmanned Systems Task Force,” Mississippi State University. Provide specific expertise in agricultural applications or unmanned aerial and ground systems as part of ten-person task force charged with creating an undergraduate degree program in Unmanned Systems
2015 –	Course Developer and Instructor, Mississippi State University Extension GEOProject which offers in-person and online training in Geographic Information Systems

Memberships/Affiliations

International Society of Precision Agriculture; Soil and Water Conservation Society; Gamma Sigma Delta (National Agriculture Honor Society); Mississippi Association for Spatial Technologies

Related Synergistic Activities

- 2020 **Developer & Lead Instructor, “Smart Farming: Data-enabled Agriculture,” Freshman Experience Course, Mississippi State University.** This course introduces incoming students to concepts and challenges in data-enabled agriculture, from three perspectives: agronomy, economics, and engineering.
- 2018 **Chair, USDA Multi-State Research and Extension for Unmanned Aircraft Systems (UAS) Applications in U.S. Agriculture and Natural Resources (S1069).** In addition

to my responsibilities as Chair, I have been a primary author of both founding and renewal proposals for this multi-state project.

Related Federal Grants Received \$3M total funding from all grants received

- USDA NIFA CARE 2022-68008-36356 “Partners in success: Expanding the intersection between producer experimentation and university research.” Role: Principal Investigator, (3/2022 – 2/2025), \$298,312
- USDA ARS NACA “Advancement of UAS/UAV application systems.” Role: Co-Principal Investigator, (10/2018 – 6/2022), \$863, 093
- USDA NIFA AG ENG 2018-67021-27668 “Enhancing accessibility, reliability, and validation of actionable information from unmanned aerial vehicle image data.” Role: Principal Investigator, (4/2018 – 4/2021), \$473,430

Related Peer-Reviewed Publications 29 total peer-reviewed publications, 1 book chapter, 7 conference papers, 2 technical reports, 1 dataset, 6 invited presentations, 73 conference abstracts, 13 popular press and media presentations, 2 story maps

- Prince Czarnecki, J.M.**, Jones, M.A., 2022. The problem with open geospatial data for on-farm research. *Agricultural and Environmental Letters* 7(1):e20062
- Wilber, A.L., **Czarnecki, J.M.P.**, McCurdy, J.D., 2022. An ArcGIS Pro workflow to extract vegetation indices from aerial imagery of small-plot turfgrass research. *Crop Science* 62(1):503-511.
- Prince Czarnecki, J. M.**, Samiappan, S., Zhou, M., McCraine, C. D., Wasson, L. L., 2021. Real-time automated classification of sky conditions using deep learning and edge computing. *Remote Sensing* 13(19):3859.
- Wilber, A., McCurdy, J.D., **Prince Czarnecki, J.M.**, Stewart, B.R., Dong, H., 2021. Aerial and ground-based assessment of preemergence herbicide effects on St. Augustinegrass grow-in. *International Turfgrass Society Research Journal* (not yet volumized).
- Sumner, Z., Varco, J. J., Dhillon, J. S., Fox, A., **Czarnecki, J.**, Henry, W. B., 2021. Ground versus aerial canopy reflectance of corn: red-edge and non-red-edge vegetation indices. *Agronomy Journal* 113(3):2782-2797.
- Prince Czarnecki, J. M.**, Samiappan, S. and Hathcock, L. A., 2019. The application of structure from motion techniques in late-season corn damage. *In* John V. Stafford (Ed.), *Precision Agriculture '19* (pp. 405-411). Wageningen Academic Publishers: Wageningen, The Netherlands.
- Samiappan, S., **Prince Czarnecki, J. M.**, Foster, H., Strickland, B. K., Tegt, J. L., Moorhead, R. J., 2018. Quantifying damage from wild pigs with small unmanned aerial systems. *Wildlife Society Bulletin* 42:304–309.
- Prince Czarnecki, J. M.**, Samiappan, S., Wasson, L. L. McCurdy, J. D., Reynolds, D. B., Williams, W. P., Moorhead, R. J., 2017. Applications of unmanned aerial vehicles in weed science. *Advances in Animal Biosciences: Precision Agriculture (ECPA) 2017* 8(2):807–811