



Steven J. Thomson, national program leader, USDA-NIFA, is being honored for outstanding leadership in promoting research focused on engineering processes to improve agricultural systems.

Thomson serves as national program leader, where he engages universities, other federal agencies, and industry to provide national leadership in capacity and competitive grant programs. He utilizes his background

in crop modeling, decision support systems, sensing systems and electronics, aerial application, and general precision agriculture technologies.

Thomson began his career as an MS research engineer at the Coastal Plain Experiment Station in Tifton, Georgia. There, he extended his MS thesis on automatic sensor-based irrigation scheduling to the field. The microcomputer-based control system he developed for automatic scheduling was successfully implemented, and he published his first primary-authored journal article in 1987 while obtaining his PhD at the University of Florida. While there, Thomson developed a commercially adopted temperature effects model for a popular granular matrix soil water sensor. As a faculty member at Virginia Tech, Thomson was an early adopter of SPICE simulation for teaching sensing, instrumentation, and controls in an agricultural setting. He expanded his ideas further into crop modeling and AI, coupling his extension and research to publish in AI and computing journals on the topic of irrigation management with adaptive learning. While at USDA-ARS, Thomson developed algorithms to guide agricultural pilots on when to safely spray crop protection materials to avoid temperature inversions and stable atmospheric conditions. More recently, he has developed a new grants program at USDA-NIFA focused on precision crop and water management that has seen a 70% increase in applications in one year. He leads grant programs for the NIFA-NSF AI Institutes, Cyber-Physical Systems, and National Robotics Initiative.

Thomson is a 43-year member of ASABE. He has served and been chair of numerous ASABE committees as a member as well as associate editor. He was also community editor of the Machinery Systems Technical Community. Thomson has been an invited speaker for research organizations and universities in the US, Canada, Japan, Indonesia, Thailand, Oman, and China.

Thomson has authored or coauthored over 100 publications. He has won numerous awards including one for computer-based instructional materials for agricultural safety under a CDC/NIOSH grant, which received an ASABE Educational Aids Blue Ribbon. He also received awards award from Alpha Epsilon and the Outstanding Faculty award for research, extension and instruction in the same year at Virginia Tech. He was elected distinguished alumnus of the University of Florida in 2018.