

Steven K. Mickelson

Charles R. and Jane F. Olsen Professor of Engineering and Department Chair

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Education

Ph.D. Agricultural Engineering, 1991
Iowa State University

M.S. Agricultural Engineering, 1984
Iowa State University

B.S. Agricultural Engineering, 1982
Iowa State University

Honors and Awards

Fellow—ASABE (2018)

ISU Award for Departmental Leadership (2017)

ASABE James Gilley Academic Leadership Award (2017)

ISU College of Agriculture and Life Sciences Dean's Citation Award (2015)

Honorary Degree, Georgian Technical University (2014)

ISU Corly Brooke Learning Community Advocate Award (2014)

Recent Publications

Webber, D.F., M. Bansal, S.K. Mickelson, M.J. Helmers, K. Arora, B.K. Gelder, M. Shrivastav, and C.J. Judge. 2018. Assessing Surface Flowpath Interception by Vegetative Buffers Using ArcGIS Hydrologic Modeling and Geospatial Analysis for Rock Creek Watershed, Central Iowa. *Transactions of the ASABE*. Submitted 8-2-17

Gassman, P.W., A. Valcu, C.L. Kling, S.K. Mickelson, Y. Panagopoulos, R. Cibin, I. Chaubey, C.F. Wolter and K.E. Schilling. 2018. Assessment of Bioenergy Cropping Scenarios for the Boone River Watershed in North Central Iowa, United States. *Journal of the American Water Resources Association*. Accepted 8-31-17

Laugerman, M., D. Rover, **S. Mickelson** and M. Shelley. 2017. The Middle Years in Engineering: An Effective Transfer Partnership Drives Student Success in STEM. *Advances in Engineering Education*.

Ambert-Sanchez, M., **S.K. Mickelson**, S.I. Ahmed, J.N. Gray, D. Webber. 2016. Evaluating Soil Tillage Practices Using X-Ray Computed Tomography and Conventional Laboratory Methods. *Transactions of the ASAE* 59(2):455-463

Laugerman, M., D. Rover, M., M. Shelley, and **S. Mickelson**. 2015. Determining Graduation Rates in Engineering for Community College Transfer Students Using Data Mining. *IJEE* 31(6):1448-1457.

Administration

Dr. Steven K. Mickelson is the current chair for the Department of Agricultural and Biosystems Engineering (ABE). He became the chair for the department on August 1, 2011. Prior to this, he was the Director of the Center for Excellence in Learning and Teaching and the Co-Director of Learning Communities at Iowa State University. He holds the Chuck R. and Jane F. Olsen Professor of Engineering title. His vision for the department includes that:

- ABE will become the #1 Agricultural and Biosystems department in the nation.
- ABE will strengthen our partnerships with our constituents by effectively communicating the value and impact of our educational, research and extension/outreach programs.
- ABE will be recognized by our national and international peers as experts in our themes of excellence (focus areas).



Teaching

Dr. Mickelson teaches classes in engineering design, engineering computer graphics, soil and water conservation, and engineering workplace competency development. He is also an author of the *Engineering Fundamentals and Problem Solving* textbook published by McGraw-Hill.

Research

Dr. Mickelson's research focuses on the evaluation of agricultural best management practices for determining their effectiveness in reducing chemical and soil losses to surface water bodies. More recent projects have focused on the effectiveness of vegetative buffer strips in improving the water quality in surface runoff from row-crop fields, cattle grazed paddocks, and composting pads. He also conducts research related to the scholarship of teaching and learning, focusing on effective classroom techniques for engaging students in learning. He is also leading an ISU—Georgian Technical University program that has established five new agricultural curriculum programs in the country of Georgia.

Professional Engagement

- Member of the American Society for Agricultural and Biological Engineers
- Member of the American Society of Engineering Educators
- Member of Alpha Epsilon Honor Society
- Member of Tau Beta Pi
- Member Epsilon Pi Tau