

2018 ASABE Fellow



Paul Ayers, PE, professor, biosystems engineering and soil science, Institute of Agriculture, University of Tennessee, Knoxville, is being recognized for applying engineering principles to solve natural resource problems, including off-road vehicle impacts, aquatic habitat mapping, and rollover protection structure (ROPS) designs.

Ayers has developed a viable research program to improve ROPS for tractors and other machines that has spanned over 30 years. The scope of his research has been wide, from providing means to judge the suitability of fitting older non-ROPS tractors with retrofit ROPS, to accurately predicting the plastic deformation present during ROPS testing, to the development of ROPS for non-tractor applications such as zero-turn lawn mowers. Ayers' work on assistive devices for raising and lowering foldable ROPS has improved both the ergonomics and safety of such ROPS. His efforts have widened the understanding of ROPS and in many cases have been successfully translated into practice which has resulted in fewer deaths and injuries from equipment overturns.

Ayers has also made outstanding contributions to the general area of soil dynamics research, understanding the multidisciplinary aspects of soil-machine-plant interrelations—and student mentorship in this area—and providing unique design solutions to the industry. He has also done research on tractor stability, providing the ability to use sensors to predict vehicle stability and roll angle.

A 34-year member of ASABE, Ayers has been a member and leader on many Machinery Systems technical committees including the Soil Dynamics committee, the Soil-Plant Dynamics committee, and the Agricultural Tractor Standards ROPS committee, among others. Ayers is a member of the steering committee on the National ROPS Rebate Program for the National Tractor Safety Coalition and is chair of the Taskforce for ROPS Technology and Manufacturing. He also coordinates ROPS supply issues and tractor manufacturers' support of the rebate program promotional materials.

Ayers is author or coauthor of more than 200 refereed journal articles, conference proceeding papers, and other publications. His expertise led him to be the special editor for the Journal of Agriculture, Safety, and Health ROPS and stability research issue. Throughout his career, Ayers has received many awards, including several ASABE paper awards and an Educational Aids Blue Ribbon award. He has also been the recipient of numerous teaching awards from University of Tennessee and Colorado State University. Ayers received the 2017 ASABE SMV Technologies Ergonomics, Safety, and Health award.