

# IOWA STATE UNIVERSITY

Agricultural and Biosystems Engineering

## Charles V. Schwab

### Professor

#### Extension Safety Specialist

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### Education

Ph.D. Agricultural Engineering, 1989  
University of Kentucky

M.S. Agricultural Engineering, 1982  
University of Kentucky

B.S. Agricultural Engineering, 1979  
University of Kentucky

### Recent Honors and Awards

*Superior Paper Award ASABE* (2019)

*Distinguished Member of Epsilon Pi Tau*  
(2018)

*Outstanding Reviewer, ASABE Ergonomics,  
Safety and Health Division* (2013)

*Faculty Award for Academic Excellence in  
Universities, ATMAE* (2010)

### Recent Publications

Field, W. E., Tormoehlen, R., Ehlers, S.,  
Cheng, C., Talbert, A., Deboy, G., Haberlin, D.,  
& **Schwab, C. V.** (2019). ROPS are not  
homemade. *J. Agric. Saf. Health.* 25(3), 129-  
131.

**Schwab, C. V.**, Schwab, L. E., & Schwab, P.  
J. (2019). Extraction force prediction for male  
entrapment victims with different body types  
submerged below the grain surface. *J. Agric.  
Saf. Health.* 25(2), 77-90.

**Schwab, C. V.**, Arbuckle, J. G., & Hanna, H.  
M. (2019). Barriers and motivators for tractor  
ROPS retrofitting in Iowa. *J. Agric. Saf.  
Health.* 25(1), 1-9

Issa, S.F., Wassgren, C., **Schwab, C.V.**,  
Stroshine, R., & Field, W.E. (2018). Estimating  
passive stress acting on a grain entrapment  
victim's chest. *J. Agric. Saf. Health.* 24(3), 113-  
126.

Field, W.E., Cheng, Y.-h., Tormoehlen, R.,  
Aherin, R., **Schwab, C.**, Neenan, D., &  
Roberts, M. (2018). Let's stop treating our  
youth like dummies. *J. Agric. Saf. Health.* 24  
(2), 57-58.

**Schwab, C.V.**, & Rempe, I. J. (2017).  
Likelihood of entanglement when materials  
are dropped vertically onto a rotating PTO  
knuckle. *J. Agric. Saf. Health.* 23(4), 281-295.

**Schwab, C.V.**, (2017). Apparent coefficient  
of friction of wheat on denim. *J. Agric. Saf.  
Health.* 23(3), 175-181.

## Extension

As the extension safety specialist for the state of Iowa, Dr. Schwab provides leadership for Safe Farm, Iowa State University (ISU)

Extension's program helping to make Iowa farms a safer place to work and live. The activities of the ISU Extension Safe Farm program are directed toward the following four major objectives: (1) Increasing farm safety awareness to encourage farmers to adopt safe farming practices, (2) Reducing the number of farm-related injuries and fatalities, (3) Enhancing the efficiency of ISU Extension to provide farm safety programming, and (4) Providing leadership and expertise for the development of farm safety programs. Dr. Schwab is the ISU Extension and Outreach lead coordinator for radiological emergency preparedness.



## Research

Dr. Schwab conducts research projects concerning agricultural safety and health issues. Current project include exploring the phenomenon that influences the extraction forces for victims entrapped in grain. The three objectives of this project are refinement of an extraction force prediction model for victims entrapped in granular materials; exploration of how different body types influence the extraction forces on a grain entrapment victim; and exploration of innovative techniques to reduce the extraction forces on a grain entrapment victim. His other research includes efforts in the injury and fatality identification and analysis and safety education and intervention methods.

## Other Professional Activities

Dr. Schwab serves on several multi-state and interdisciplinary teams, committees, boards, and organizations that promote injury prevention and foster emergency preparedness. He is the ISU representative with the Extension Disaster Education Network (EDEN), Iowa Ingestion Pathway Plan for nuclear power station radiological emergency response, International Honor Society Epsilon Pi Tau Board of Directors, and NCERA 197. He is also the editor of the *Journal of Technology Studies* and associated editor for the *Journal of Agricultural Safety and Health*. He is an active member of ASABE, ASSP, ATMAE, and ISASH.