

## **2018 Superior Paper Award Winners Presented in 2019**

The articles published by ASABE in its three peer-reviewed journals during 2018 are eligible for 2019 Superior Paper Awards. Each Technical Community selects up to 5% of the papers published by their community for Paper Awards based on the articles timeliness, fundamental value, originality, and benefits to society, as well as for the quality of writing. Winning Paper Award authors are presented with a certificate at the Annual International Meeting.

### **ES - Energy Systems**

#### **Assessment of Perennial Grass Inventories Predicted in the Billion-Ton Studies**

D. S. Jones, S. W. Searcy, L. M. Eaton

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### **ESH - Ergonomics, Safety, & Health**

#### **Estimating Passive Stress Acting on a Grain Entrapment Victim's Chest**

S. F. Issa, C. Wassgren, C. V. Schwab, R. Strohshine, W. E. Field

Published in Journal of Agricultural Safety and Health 24(3): 113-126  
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### **ITSC – Information Technology, Sensors, & Control System**

#### **A Computational Fluid Dynamics Model of Biological Heat and Gas Generation in a Dairy Holding Area**

J. L. Drewry, M. R. Mondaca, B. D. Luck, C. Y. Choi

Published in Transactions of the ASABE 61(2): 449-460 (doi: 10.13031/trans.12394).  
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### **Structured Illumination Reflectance Imaging for Enhanced Detection of Subsurface Tissue Bruising in Apples**

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Published in Transactions of the ASABE 61(3): 809-819 (doi: 10.13031/trans.12243).  
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### **MS – Machinery Systems**

#### **Prediction of Aerial Spray Release from UAVs**

M. E. Teske, D. A. Wachspress, H. W. Thistle

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#### **A Precision Pruning Strategy for Improving Efficiency of Vibratory Mechanical Harvesting of Apples**

X. Zhang, L. He, Y. Majeed, M. D. Whiting, M. Karkee, Q. Zhang

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## **NRES – Natural Resources & Environmental Systems**

### **Identification of Hydrologically Sensitive Areas Considering Watershed Process Dynamics**

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Published in Transactions of the ASABE 61(6): 1891-1906 (doi: 10.13031/trans.12792).  
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### **How Do Temperature and Rainfall Affect Nitrous Oxide Emissions from Open-Lot Beef Cattle Feedyard Pens?**

D. B. Parker, H. M. Waldrip, K. D. Casey, B. L. Woodbury, M. J. Spiehs, K. Webb, W. M. Willis

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### **Improved APEX Model Simulation of Buffer Water Quality Benefits at Field Scale**

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### **Process-Based Modeling of Infiltration, Soil Loss, and Dissolved Solids on Saline and Sodic Soils**

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## **PAFS - Plant, Animal, & Facility Systems**

### **Carbon Footprint Assessment of a Large-Scale Pig Production System in Northern China: A Case Study**

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### **Dimensions of the Modern Pig**

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## **Simulation of Hydrogen Sulfide Emission from Deep-Pit Manure Storage During Agitation**

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## **PRS- -Processing Systems**

### **Thermal Conductivity of Selected Foods at High-Pressure Processing Conditions**

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### **Nanoporous Stainless Steel Surfaces for Anti-Bacterial Adhesion Performances**

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