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EXPERIENCE

Agricultural Engineer, Research and Development Associate, 2007 – present
Environmental Sciences Division, Bioenergy Resource and Engineering Systems Group
Oak Ridge National Laboratory, Oak Ridge, Tennessee

Technical Advisor, M&O Contractor, 2008-2009
Energy Efficiency and Renewable Energy, Biomass Program
Department of Energy, Washington, DC

Adjunct Assistant Professor, 2007 – present
Department of Biosystems and Agricultural Engineering
University of Kentucky, Lexington, Kentucky

Assistant Extension Professor, 2005 – 2007
Department of Biosystems and Agricultural Engineering
University of Kentucky, Lexington, Kentucky

EDUCATION

Ph.D., Agricultural and Biological Engineering, December 2005
University of Florida, Gainesville, Florida

M.S., Biosystems and Agricultural Engineering, May 2002
University of Kentucky, Lexington, Kentucky

B.S., Agricultural Engineering, biological engineering concentration, Summa cum laude, December 1999
University of Tennessee, Knoxville, Tennessee

HONORS AND AWARDS

ASABE Presidential Citation, 2009
Outstanding Dissertation, University of Florida Agricultural and Biological Engineering, 2005
NASA Graduate Student Researchers Program Fellowship, 2003 - 2005
National Science Foundation Graduate Research Fellowship, 2000 - 2003
University of Kentucky Gamma Sigma Delta Outstanding M.S. Student, 2001
AGCO Student Design Competition – Finalist team, 1999
University of Tennessee Agricultural Engineering Undergraduate with Professional Promise, 1999
University of Tennessee College of Agricultural Sciences and Natural Resources Outstanding Junior, 1998; Outstanding Senior, 1999
ASAE Student Honor Award, 1999

PROFESSIONAL REGISTRATION

Professional Engineer (agricultural), Commonwealth of Kentucky, 2007

PROFESSIONAL SOCIETIES AND ACTIVITIES

ORNL Committee for Women, 2007-present
American Society of Agricultural and Biological Engineers (ASABE)
- Bioenergy Engineering Conference Planning Committee, 2009
- T-11: Energy Committee, 2008-present; Vice-Chair, 2008; Chair, 2009-2010
- Professional Engineers Institute
- FPE-709: Biomass Energy & Industrial Products, 2007 - present
- E-07: Issues Management and Social Action Committee, 2005 – present
- SE-303: Environment of Plant Structures, 2000-2005
- P-120: Student Organizations Committee, 1999-2007; officer, 2004-2007

Sigma Xi (research), inactive
Tau Beta Pi (engineering), inactive
Gamma Sigma Delta (agriculture), inactive

TECHNICAL WORKING GROUPS

Biomass Research and Development Board Interagency Feedstock Logistics Working Group, 2008-2009
USDA Feedstock Logistics Advisory Team, 2008-present
Southern Biomass Transportation and Logistics Working Group, 2008

STUDENT ADVISING

Member of advisory committee for Jamie R. Marsh, M.S. in Biosystems and Agricultural Engineering, University of Kentucky, completed August 2008

REFEREED PUBLICATIONS

*Marsh, J. R., G. B. Day, R. S. Gates, and E. G. Wilkerson. 2008. Performance Assessment of Radio Frequency Identification and Temperature Sensors used in Horses. *Biological Engineering* (in review)

*Amaral, M. F. P., R. S. Gates, I. F. F. Tinoco, D. G. Overhults, H. Li, R. T. Burns, H. Xin, **E. G. Wilkerson**, and J. W. Earnest. 2008. Evaluation of Two Systems for Monitoring Ammonia Emissions. *Applied Engineering in Agriculture* (in review)

Wilkerson, E. G., R. A. Bucklin, P. A. Fowler, and V. Y. Rygalov. 2007. Convective Heat Transfer of Radish Leaves in Hypobaric Conditions. *Transactions of the ASABE* 50(3): 981-991

Wilkerson, E. G., R. A. Bucklin, and P. A. Fowler. 2007. Development of Small-Scale Hypobaric Plant Chambers. *Applied Engineering in Agriculture* 23(4): 531-537

Wilkerson, E.G., R. S. Gates, S. Zolnier, S. T. Kester, and R. L. Geneve. 2005. Transpiration Capacity in Poinsettia Cuttings at Different Rooting Stages and the Development of a Cutting Coefficient for Scheduling Mist. *Journal of the American Society for Horticultural Science* 130(3):295-301

Wilkerson, E.G., R.S. Gates, S. Zolnier, S.T. Kester, and R.L. Geneve. 2005. Predicting rooting stages in poinsettia cuttings using a root zone temperature-based model. *Journal of the American Society for Horticultural Science* 130(3):302-307

Bucklin, R. A., P. A. Fowler, V. Y. Rygalov, R. M. Wheeler, Y. Mu, I. Hublitz, **E. G. Wilkerson**. 2004. Greenhouse Design for the Mars Environment: Development of a Prototype, Deployable Dome. *Acta Horticulturae* 659: 127-134

Geneve, R.L., R.S. Gates, S. Zolnier, **E. Wilkerson**, and S. T. Kester. 2004. Environmental Control Systems for Mist Propagation of Cuttings. *Acta Horticulturae* 630:297-303

Wilkerson, E. G. and R. S. Gates. 2003. Controlled Environment System for Studying Root Zone Temperature Effects on Cutting Propagation. *Applied Engineering in Agriculture* 19(4): 483-489

Pordesimo, L. O., **E. G. Wilkerson**, A. R. Womac, and C. N. Cutter. 2002. Process Engineering Variables in the Spray Washing of Meat and Produce. *Journal of Food Protection* 65(1): 222-237

Shubin S., S. Kester, **E. Wilkerson**, J. Buxton and R. L. Geneve. 2001. Design of a propagation unit that independently controls atmospheric and medium moisture. *Combined Proceedings International Plant Propagator's Society* 51:518-520

BOOKS/CHAPTERS

Wilkerson, E. G. and R. D. Perlack. Chapter 3 – Resource Assessment, Economics and Technology for Collection and Harvesting. In *Renewable Energy from Forest Resources of the United States*. B. Soloman and V. Luzadis, ed. (in press)

TECHNICAL REPORTS

Turhollow, A. F., **E. G. Wilkerson**, and S. Sokhansanj. 2008. *Cost Methodology for Biomass Feedstocks: Herbaceous Crops*. Oak Ridge National Laboratory. ORNL/TM-2008-105 (in preparation)

Gunderson, C. A., E. B. Davis, H. I. Jager, T. O. West, R. D. Perlach, C. C. Brandt, S. D. Wullschleger, L. M. Baskaran, **E. G. Wilkerson**, and M. E. Downing, 2008. Exploring Potential U. S. Switchgrass Production for Lignocellulosic Ethanol. Oak Ridge National Laboratory, ORNL/TM-2007-183

S. Sokhansanj, A. F. Turhollow, and **E. G. Wilkerson**. 2008. *Development of the Integrated Biomass Supply Analysis and Logistics (IBSAL) Model*. Oak Ridge National Laboratory, ORNL/TM-2006/57

Wilkerson, E. G., D. B. Blackwelder, R. D. Perlack, D. J. Muth, and J. R. Hess. 2008. *A preliminary assessment of the state of harvest and collection technology for forest residues*. Oak Ridge National Laboratory, ORNL/TM-2007/195

EXTENSION PRESENTATIONS AND PUBLICATIONS

Wilkerson, E. G. 2007. *Planning and Building Hay Barns that Work.* Tennessee Nutrition Conference. Franklin, Tennessee

Wilkerson, E. G. 2007. *Buildings and Facilities for Beef Farms*. 2007 Advanced Master Cattleman. Oldham County, Kentucky

Wilkerson, E. G. 2006. *Diagnosing Stray Voltage Problems in Dairies*. Stray Voltage Awareness Workshop. Bowling Green, Kentucky

Bucklin, R. A., J. D. Leary, D. B. McConnell, and **E. G. Wilkerson**. 2004. *Fan and Pad Greenhouse Evaporative Cooling Systems*. Gainesville, Florida: University of Florida IFAS Extension

CONFERENCE PRESENTATIONS AND PROCEEDINGS

Wilkerson, E. G., S. Sokhansanj, and R. D. Perlack. 2008. Modeling the Availability of Agricultural Residues Suitable for Wet or Dry Harvest Technologies (poster). *American Society of Agricultural and Biological Engineers Annual International Meeting*, Providence, Rhode Island

Wilkerson, E. G., S. Sokhansanj, A. F. Turhollow, and A. R. Womac. 2008. Switchgrass Storage Options for Tennessee Producers. *American Society of Agricultural and Biological Engineers Annual International Meeting*: Providence, Rhode Island.

*Marsh, J., R. S. Gates, G. B. Day, G. E. Aiken, and **E. G. Wilkerson**. 2008. Assessment of an Injectable RFID Temperature Sensor for Indication of Horse Well-Being. *American Society of Agricultural and Biological Engineers Annual International Meeting*, Providence Rhode, Island

Wilkerson, E. G. 2008. *Costs of Storing Biomass*. Agricultural Equipment Technology Conference: Louisville, Kentucky

*Amaral, M.F.P., R.S. Gates, **E.G. Wilkerson**, D.G. Overhults, I.F.F. Tinoco, H. Li, R.T. Burns, H. Xin, and J.W. Earnest. 2007. Comparison between two systems for ammonia emission monitoring in broiler houses. *Proceedings of the International Symposium on Air Quality and Waste Management for Agriculture*. Broomfield, Colorado, USA.

*Day, D. L., S. G. McNeill, and **E. G. Wilkerson**. 2007. Assessment of Safety in Cattle Handling Facilities on Kentucky Farms. *American Society of Agricultural and Biological Engineers Annual International Meeting*, Minneapolis, Minnesota

*Marsh, J., R. S. Gates, G. Aiken, and **E. G. Wilkerson**. 2007. Placement of an Injectable Temperature Sensor for Indication of Horse Well-Being. *American Society of Agricultural and Biological Engineers Annual International Meeting*, Minneapolis, Minnesota

Wilkerson, E.G., R. A. Bucklin, P. A. Fowler, and R. M. Wheeler. 2005. Plant Evapotranspiration in a Greenhouse on Mars. *American Society of Agricultural Engineers Annual International Meeting*, Tampa, Florida

Wilkerson, E.G., R. A. Bucklin, P. A. Fowler, R. M. Wheeler, and J. D. Peterson. 2004. Design Considerations for a Greenhouse on Mars: Accounting for Plant Evapotranspiration. *Society of Agricultural Engineers Annual International Meeting*, Ottawa, Ontario, Canada

Wilkerson, E. G., I. Hublitz, and R. Bucklin. 2004. Analysis of Design Considerations for a Mars Greenhouse. *Habitation 2004: Conference on Space Habitation Research and Technology Development*, Orlando, Florida

Wilkerson, E. G. 2003. Plant and Environment Interactions in a Mars Greenhouse. *Kennedy Space Center - Florida Space Grant Consortium Research Conference*, Kennedy Space Center, Florida

Wilkerson, E.G., R. L. Geneve, S. Kester, and R. S. Gates. 2002. Measuring and Quantifying the Root Generation Process Using Rapid Sectioning and Imaging Technologies. *Society of Agricultural Engineers Annual International Meeting*, Chicago, Illinois

Wilkerson, E.G., R. S. Gates, and R. L. Geneve. 2002. Effects of Root Zone Temperature on Root Development and Water Uptake During Poinsettia Propagation. *Society of Agricultural Engineers Annual International Meeting*, Chicago, Illinois

Colliver, D. G., R. S. Gates, and **E. G. Wilkerson**. 2002. Selection of Appropriate Design Weather Conditions for Sizing Evaporative Cooling Systems. ASAE Paper No. 024038. *Society of Agricultural Engineers Annual International Meeting*, Chicago, Illinois

Wilkerson, E.G., R. S. Gates, R. L. Geneve. 2002. Effects of Media Temperature on Poinsettia Propagation. Department of Agricultural Engineering, Federal University of Vicosa, Brazil

Wilkerson, E.G., R. S. Gates, and R. L. Geneve. 2002. Effects of Media Temperature on Poinsettia Propagation. *Kentucky Landscape Industries Conference*, Lexington, Kentucky

Wilkerson, E.G. and R. S. Gates. 2001. An Empirical Model of Water Uptake and Root Development for Poinsettia Cuttings. ASAE Paper No. 013040. *Society of Agricultural Engineers Annual International Meeting*, Sacramento, California

Wilkerson, E. G., R. L. Geneve, and R. S. Gates. 2000. Image Analysis for Indication of Seed Germination. *Society of Agricultural Engineers Annual International Meeting*, Milwaukee, Wisconsin

** First author is a student advisee*

FUNDING

Gates, R.S., Singh, A., Higgins, S. F., and **E. G. Wilkerson**. 2007. *Gaseous production from impermeable swine waste storage tanks and abatement using biofilters*. USDA/CSREES NRI, $487,087

Yeargan, R., M. Newman, A. Husband, R. Burris, R. Maurer, C. Thompson, S. McMurray, P. Scharko, R. Dwyer, R. Coffey, W. Crist, and **E. G. Wilkerson**. 2006-2007. Development *of an Animal Emergency/Biosecurity Management Center*. EDEN, $60,000

COURSES TAUGHT

BAE 581: Physics of Plant and Animal Environments, Spring 2007
Biosystems and Agricultural Engineering, University of Kentucky

BAE 427: Structures and Environment Design, Fall 2001, Spring 2006, Spring 2007
Biosystems and Agricultural Engineering, University of Kentucky

AOM 4642: Structures and Environment, Fall 2003
Agricultural and Biological Engineering, University of Florida