

GEORGE E. MEYER

Biological Systems Engineering Department
University of Nebraska, Lincoln, NE 68583-0726

Education:

B.S.	Cornell University, Ithaca, NY	1967
M.S.	University of Massachusetts, Amherst, MA	1971
Ph.D.	University of Massachusetts, Amherst, MA	1972

Professional Experience:

Professor Emeritus, University of Nebraska Lincoln, October 1, 2018-present.

Professor, University of Nebraska Lincoln, 1995-2018, *Plant Growth Modeling and Instrumentation. Agronomy and Horticulture (Courtesy).*

Associate Professor, University of Nebraska Lincoln, 1984-1995, *Plant Growth Modeling.*

Assistant Professor, University of Nebraska Lincoln, 1978-1984, *Plant Growth Modeling.*

Post Doctorate, Ohio Agricultural Research and Development Center, 1974-1978, *SOYMOD Soybean Model.*

Officer and Scientist, United States Air Force, Systems Command, Active; 1972-1974; Reserve: 1974-1978). *On-site surveys and contractual research for ecological and environmental impact for tactical Air Force training activities including space shuttle (at Vandenberg AFB) and prevention of aircraft bird-strikes.*

National Science Foundation Trainee, University of Massachusetts, 1967-1972, *Plant Growth Modeling.*

Past Research Activities:

Research included: electronic instrumentation, sensors, controls, thermal and spectral image analysis for plant growth response, water use and stress; crop, weeds, machine vision identification and enumeration of plant species; measurement of plant physiological properties for field and greenhouse production systems; mathematical modeling of plant growth processes; statistical methods; soft computing (fuzzy logic) methods; data driven, approximate reasoning modeling; neural-network learning techniques; and Virtual Reality Modeling (VRML) for plant taxonomy and canopy energy relationships. Greenhouse sensors and monitoring systems; alternative heating systems; bio-mass fuels; and winter-time greenhouse strawberry and basil crop production.

Past Teaching Activities (ABET accredited AGEN and BSEN degree programs):

AGEN/BSEN 460/860	<i>Instrumentation and Controls (3 cr. core course, 1988-2017).</i>
BSEN 244	<i>Thermodynamics for Living Systems (3 cr. core course, 2001-2018).</i>
AGEN/BSEN 951	<i>Advanced Modeling in Biological and Environmental Systems (3 cr. graduate only course, Taught with W. Woldt and D. Jones from 2002-2018).</i>
AGEN 951	<i>Bioengineering Relationships of Plant Systems (3 cr. graduate only course, 1978-2001).</i>
AGEN 344	<i>Environmental Factors Affecting Biological Systems (3 cr. core course, 1978-2000).</i>

Selected Publications: (Career totals: 63 refereed journal articles, 30 invited/refereed conference papers, 5 book chapters, 49 contributed, 4 popular, 8 abstracts, 3 Air Force). Citations reported by Research Gate: 3858. Some publications are available at UNL Digital Commons.

1. Adams, S.A., E.T. Papanozzi, R. Pekarek, D.P. Lambe, **G.E. Meyer**, M. E. Conley, and P. E. Read, 2021. *University Research on Winter Growing of Container-Grown Strawberries Translates to Grower's Farm Trial*, International Journal of Fruit Science (Taylor and Francis), 21:1, 1104-1113.
2. O. P. Abimbola, **G. E. Meyer**, A.R. Mittelstet, D.R. Rudnik, and T.E. Franz, 2021. *Knowledge-guided machine learning for improving daily soil temperature prediction across the United States*. Valdose Zone Journal, 20(5), Wiley Online Library.
3. **Meyer, G.E.**, E.T. Papanozzi, and E. Stevens. 2020. *Classification of Plant Moisture Conditions Using Canopy and Leaf Temperature Responses to Step Changes of Incident Radiation*. Paper number 2001085. American Society of Agricultural and Biological Engineers, St. Joseph, MI.
4. Amaranto, A., F. Munoz –Arriola, G. Corzo, D.P. Solomatine, and **G.E. Meyer**, 2018. *Semi-seasonal groundwater forecast using multiple data-driven models in an irrigated cropland*. Journal of Hydroinformatics. DOI10.2166/hydro.2018.002.
5. Woldt, W., C. Neale, D. Heeren, D., E. Frew, E., and **G.E. Meyer**, 2018. *Improving agricultural water efficiency with unmanned aircraft*. Paper presented at AUVSI XPONENTIAL 2018, Denver, CO.
6. Khan, M., F. Munoz-Arriola, J. Clarke, **G.E. Meyer**, R. Shaik, and A. Herrera-Leon, 2018. *Geospatial attribution of extreme rainfall and urban expansion in India using fuzzy clustering*. Geophysical Research Abstracts. Vol. 20, EGU2018-18337m, EGU General Assembly.
7. Papanozzi, E.T., **G. E. Meyer**, V. Schlegel, E. E. Blankenship, S. A. Adams, M. E. Conley, B. Loseke and P. E. Read. 2018. *Strawberry cultivars vary in productivity, sugars and phytonutrient content when grown in a greenhouse during the winter*. Scientia Horticulturae (Elsevier) 227:1-9.
8. Sharma V., S. Irmak, A. Kilic, V. Sharma, J.E. Gilley, **G.E. Meyer**, S.Z. Knezevic, and D. Marx, 2016. *Quantification and Mapping of Surface Residue Cover for Maize and Soybean Fields in South Central Nebraska*. Transactions of the ASABE. 59(3): 925-939.
9. Tai, C., D.S. Voltan, D.R. Keshwani, **G.E. Meyer**, and P.S. Kuhar, 2016. *Fuzzy logic feedback control for fed-batch enzymatic hydrolysis of lignocellulosic biomass*. Bioprocess Biosystems Engr. (Springer) 39:937–944.
10. Rudnick, D. R., V. Sharma, **G.E. Meyer**, and S. Irmak, 2015. *Using Fuzzy Logic to Predict and Evaluate the Magnitude and Distribution of Precipitation on Rainfed Maize and Soybean Yields in Nebraska*. Transactions of the ASABE, 58(5):1215-1229.
11. Naganathan. G.K., K. Cluff, A. Samal, C.R. Calkins, D.D. Jones, **G.E. Meyer**, and J. Subbiah, 2015. *Three dimensional chemometric analyses of hyperspectral images for beef tenderness forecasting*. Journal of Food Engineering 169: 309–320.
12. Woldt, W., E.W. Frew, and **G.E. Meyer**, 2014. *Feeding a Hungry World: The Potential for Unmanned Aircraft Systems*. XRDS Crossroads: the ACM for Students, 40(3), 24-27.
13. Kumar, A., D.D. Jones, **G.E. Meyer**, **G. E.**, and M.A. Hanna, 2014. *A Fuzzy Inference System (FIS) and Dimensional Analysis for Predicting Energy Consumption and Mean Residence Time in a Twin-Screw Extruder*. Journal of Food Process Engineering (doi: 10.1111/jfpe.12137).
14. Kabenge, I., S. Irmak, **G.E. Meyer**, J. Gilley, S. Knezevic, T. Arkebauer, M. Moravek, and D. Woodward, 2013. *Evapotranspiration and surface energy balance of a common reed-dominated riparian system in the Platte River Basin, Central Nebraska, USA*. Transactions of the ASABE 56(1):135-153.
15. **Meyer, G.E.**, E.T. Papanozzi, E.A. Walter-Shea, E.E. Blankenship, and S.A. Adams, 2012. *An Investigation of Reflective Mulches for Use over Capillary Mat Systems for Winter-time Greenhouse Strawberry Production*. Engineering in Agriculture 28(2):271-279.

Current Professional Societies:

American Society for Agricultural and Biological Engineers (ASABE), Emeritus Member.

Recent Honors and Awards:

“Award for Excellence in Multistate Research”. Presented to the Technical Committee of NE1335 “*Resource Management in Commercial Greenhouse Production*”, by the Northeastern Regional Association of State Agricultural Experiment Station Directors, June 5, 2018.

Past Notable Institutional and Professional Service:

- University of Nebraska Committee on Committees (member and past chair.), 2010-2018
- University of Nebraska Marshals Corps, (member and associate head marshal), 2006-2018.
- Editorial Staff: *Computers and Electronics in Agriculture* (Elsevier), 2005-2018.
- ASABE Associate Editor- (SE and PAFS) Divisions. 2001-2018.