

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). *Prevention methods of aircraft bird-strikes. On-site surveys and contractual research for ecological and environmental impact for tactical Air Force training activities, including space shuttle activities at Vandenberg AFB. (USAF Veteran).*

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 for AGEN and BSEN degree programs):

| | |
|--------------------|--|
| AGEN/BSEN 460/860* | <i>Instrumentation and Controls</i> (3 cr. core course, 1988-2017). |
| BSEN 244* | <i>Thermodynamics for Living Systems</i> (3 cr. core course, 2001-2018). |

| | |
|---------------|---|
| AGEN/BSEN 951 | <i>Advanced Modeling in Biological and Environmental Systems</i> (3 cr. graduate only course, 2013-2018. (Earlier versions cotaught with W. Woldt and D. Jones from 2002-2012). |
| AGEN 951 | <i>Bioengineering Relationships of Plant Systems</i> (3 cr. graduate only course, 1978-2001). |
| AGEN 344* | <i>Environmental Factors Affecting Biological Systems</i> (3 cr. core course, 1978-2000). |

Selected Past Publications:

1. Adams, S.A., E.T. Paparozzi, 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. Abimbola, O. P., **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. Paparozzi, 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. (*Research Gate: 46 Citations*).
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. Paparozzi, 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. (*Research Gate: 37 Citations*).
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. (*Research Gate: 17 Citations*).
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. (*Research Gate: 8 Citations*).
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. (*Research Gate: 7 Citations*).
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. Kabengele, 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. Paparozzi, 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.

(Career publication totals: 63 refereed journal articles, 30 invited/referred conference papers, 6 book chapters (some invited), 49 contributed, 4 popular, 8 abstracts, and 4 US Air Force publications.

Total number of documented citations and reads, reported by Research Gate:

(https://www.researchgate.net/profile/George_Meyer2/stats) are currently: **5063 and 17,924**, respectively.

Copies of my publications are available from publishers, Research Gate, UNL Digital Commons, or by special request. My full vita lists all career publications. Five of my most cited publications, including my graduate students are listed below:

1. Woebbecke, D.M., **G.E. Meyer**, K. Von Bargaen, and D.A. Mortensen. 1995. Color Indices for Weed Identification under Various Soil Residue and Lighting Conditions. Transactions of the ASABE. 38(1):259-269. (*Google Scholar: 1711 Citations. Research Gate: 1280 Citations*).
2. **Meyer, G.E.** and J. Camargo Neto, 2008. Verification of Color Vegetation Indices for Automated Crop Imaging Applications, Computers and Electronics in Agriculture (Elsevier), 63:282-293. (*Google Scholar: 1106 Citations. Research Gate: 846 Citations*).
3. Camargo Neto, J., **G.E. Meyer**, D.D. Jones, A.K. Samal. 2006. Plant Species Identification using Elliptic Fourier Analysis. Computers and Electronics in Agriculture (Elsevier), 50:121-134. (*Google Scholar: 420 Citations, Research gate: 335 Citations*).
4. Woebbecke, D.M., **G.E. Meyer**, K. Von Bargaen, and D.A. Mortensen. 1995. Shape Features for Identifying Young Weeds Using Image Analysis. Transactions of the ASABE. 38(1):271-281. (*Google Scholar: 391 Citations, Research Gate: 257 Citations*).
5. **Meyer, G. E.**, J. Camargo Neto, D.D. Jones, T. W. Hindman. 2004. Intensified fuzzy clusters for determining plant, soil, and residue regions of interest from color images. Computers and Electronics in Agriculture (Elsevier), 42(3):161-180. (*Google Scholar: 238 Citations. Research Gate: 162 Citations*).

Current Professional Societies:

- American Society for Agricultural and Biological Engineers (ASABE), Emeritus member.
- Other past professional memberships are reported on my full vitae.

Notable Past Honors and Awards:

- UNL Engineering College Professor and Teacher of the Year Award, 1999.
- ASABE Superior Paper Awards: 1982, 2001.
- American Society for Engineering Education (ASEE) Outstanding Paper Awards: 2007 and 2008.
- ASABE Blue Ribbon Award, 2009.

- “*Certificate of Outstanding Contribution in Reviewing*”. The Editors of *Computers and Electronics in Agriculture* (Elsevier), Amsterdam, The Netherlands, March 2015.
- “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.
- Other past honors and awards are reported on my full vitae.

Notable Past 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.
- Other past service activities are reported on my full vitae.