

MARTY D. MATLOCK, Ph.D., P.E., B.C.E.E.

Professor of Ecological Engineering
Executive Director, University of Arkansas Office for Sustainability
Director, Center for Agricultural and Rural Sustainability

EDUCATIONAL BACKGROUND

- Ph.D.** Biosystems Engineering, 1996. Oklahoma State University, Stillwater, Oklahoma.
United States Department of Agriculture Water Science National Needs Fellow.
Dissertation Title: "A Lotic Ecosystem Trophic Status Index using the Periphytic Community as a Bio-Indicator." Advisors: Daniel E. Storm, C. Thomas Haan, Michael D. Smolen and Sterling L. Burks.
- M.S.** Plant Physiology (Department of Botany), 1989. Oklahoma State University, Stillwater, Oklahoma. Thesis Title: "Identification of the Mechanism of Aluminum Toxicity in Wheat Roots." Advisor: James D. Ownby.
- B.S.** Soil Chemistry (Department of Agronomy), 1984. Oklahoma State University, Stillwater, Oklahoma.

PROFESSIONAL EXPERIENCE

- Executive Director, Office for Sustainability (July 1, 2012 – Present)** University of Arkansas, Fayetteville, Arkansas.
Provide programmatic leadership in facilitating and coordinating implementation of sustainability initiatives across the University of Arkansas.
- Area Director, Center for Agricultural and Rural Sustainability, UA Division of Agriculture (November 2007-Present)** University of Arkansas, Fayetteville, Arkansas.
Provide leadership in assessing and developing sustainable practices in agricultural production to improve the prosperity of rural communities.
- Professor of Ecological Engineering, Biological and Agricultural Engineering Department (July 2009-Present)** University of Arkansas, Fayetteville, Arkansas.
- Associate Professor of Ecological Engineering, Biological and Agricultural Engineering Department (August 2003-June 2009)** University of Arkansas, Fayetteville, Arkansas.
- Assistant Professor, Biological and Agricultural Engineering Department (August 2001-2003)** University of Arkansas, Fayetteville, Arkansas.
- Assistant Professor, Agricultural Engineering Department, (May 1996- August 2001)** Texas A&M University, College Station, Texas.
- Post-Doctoral Fellow (January 1996 - May 1996)** Oklahoma State University, Stillwater, OK.
Development of a Statewide Agricultural Waste Management Strategy for Oklahoma
- USDA National Needs Fellow/Graduate Research Assistant (November 1992-January 1996)** Department of Biosystems and Agricultural Engineering, Oklahoma State University, Stillwater, Oklahoma.
- Vice-President/Director of Laboratories (September 1990-November 1992)** Stover Biometric Laboratories, Inc., Stillwater, Oklahoma.

PROFESSIONAL CERTIFICATIONS

- **Professional Engineer**, License Number 88864, Texas Board of Professional Engineers, Austin, TX, 2001 – Present.
- **Certified Ecological Designer**, American Ecological Engineering Society, 2011-2016
- **Board Certified Environmental Engineer**, American Academy of Environmental Engineers, 2011-Present
- **Certified Senior Ecologist**, Ecological Society of America, 2007-2012

PUBLICATIONS

Peer Reviewed/Refereed Journals

- Matlock, M.**, G. Thoma, E. Cummings, J. Cothren, M. Leh, and J. Wilson. 2012. Geospatial analysis of water use, water stress, and eutrophication impacts from US dairy production. *International Dairy Journal*.
- Leh, M., **M. Matlock**, E. Cummings, G. Thoma, and J. Cothren. 2012. Measuring Ecosystem Service Change- A Case Study from a Northwest Arkansas Dairy Farm. *International Dairy Journal*.
- Ludwig, A., **M. D. Matlock**, B. Haggard, I. Chaubey. 2012. Periphyton nutrient limitation and maximum potential productivity in the Beaver Lake Basin, USA. *Journal of the American Water Resources Association*. 48(5):896-908.
- Thoma, Greg, Jennie Popp, David Shonnard, Darin Nutter, Richard Ulrich, **Marty D. Matlock**, Dae Soo Kim, 2012. Greenhouse gas Emissions from Milk Production and Consumption in the United States: A cradle to grave life cycle assessment circa 2008. *International Dairy Journal*.
- Thoma, Greg, Jennie Popp, David Shonnard, Darin Nutter, Richard Ulrich, **Marty D. Matlock**, Dae Soo Kim, et al. 2012. Regional analysis of greenhouse gas emissions from US dairy farms. *International Dairy Journal*.
- Nalley, L., M. Popp, K. Brye, Z.Niederman and **M. Matlock**. 2012. How Potential Carbon Policies Could Affect Cotton Location and Production Practices in the United States. *Agricultural and Resource Economics Review*. 41(2):215-231.
- Sandefur, H., **M. Matlock**, and T. Costello. 2011. Seasonal productivity of a periphytic algal community for biofuel feedstock generation and nutrient treatment. *Ecological Engineering*, 37(10): 1476-1480.
- Morgan, R. and **M. Matlock**, 2008. A collaborative learning matrix for combining science with stakeholder involvement to prioritize watershed implementation in Arkansas' nonpoint source state management plan. *Journal of Environmental Assessment Policy and Management*. 10(3):1-25.
- G. S. Osborn, D. A. Charbonnet, P. K. Smith, and **M. D. Matlock**, 2008. A Chamberless Method for Determining SOD. *Transactions of the ASABE*. 50(2): 1123-1131.
- Rodriguez, A. and **M. Matlock**, 2008. Measuring Temporal Variability in Algal Nutrient Response in the Lake Waco/Bosque River Watershed. *Journal of Biological Engineering*. 2:1 (11Jan2008).
- Ludwig, A., **M. D. Matlock**, B. Haggard, M. E. Matlock, E. Cummings. 2008. Identification and evaluation of nutrient limitation of periphyton growth in headwater streams in the Pawnee Nation, Oklahoma. *Journal of Ecological Engineering*. 32(2008): 178-186.
- Charbonnet, D. A., Osborn, G. S., P. K. Haan, **M. D. Matlock**. 2007. Application and Validation of the Spreadsheet Method for Determining SOD. *Transactions of the ASABE*. 49(6): 2039-2050.
- Chaubey, I., D. Sahoo, B. Haggard, **M. Matlock**, and T. Costello. 2007. Nutrient-Retention, Nutrient-Limitation, and Sediment-Nutrient Interactions in a Pasture Dominated Stream. *Transactions of the ASABE*. 50(1): 35-44.

- Chaubey, I., and **M. Matlock**. 2007. Teaching Undergraduate Students to Manage Aquatic Ecosystems at the Watershed Level. *International Journal of Engineering Education*. 23(4): 1957-1959.
- Migliaccio, K., B. Haggard, I. Chaubey, and **M. Matlock**. 2007. Water quality monitoring at the War Eagle Creek Watershed, Beaver Reservoir, Arkansas. *Transactions of the ASABE*. 50(6):2007-2016.
- Sen, S., B.E. Haggard, I. Chaubey, K.R. Brye, T.A. Costello, and **M.D. Matlock**. 2006. Preliminary investigation into sediment phosphorus release at Beaver Reservoir, Northwest Arkansas, 2002-3. *Water, Air, & Soil Pollution*, 179:67-77.
- Ekka, S., B. Haggard, **M. Matlock**, and I. Chaubey. 2006. Dissolved phosphorus concentrations and sediment interactions in effluent-dominated Ozark streams. *Biological Engineering* 26:375-391.
- White, K., B. Haggard, **M. Matlock**, J. Kim. 2005. Periphytic chlorophyll-a response to triclosan exposure: application of a passive diffusion periphytometer. *Applied Engineering in Agriculture*. 21(2):307-311.
- Haggard, B., S. Ekka, **M. Matlock**, I. Chaubey. 2004. Phosphate equilibrium between stream sediments and water: Potential effect of chemical amendments. *Transactions of ASAE*, 47(4):1113-1118.
- Paul, S., P. Haan, **M. Matlock**, S. Mukhtar, and S. Pillai. 2004. Analysis of the HSPF Water Quality Parameter Uncertainty in Predicting Peak In-Stream Fecal Coliform Concentrations. *Transactions of ASAE*. 47(1): 69-78.
- Matlock M.**, K. Kasprzak, and S. Osborn. 2004. Discussion of Potential sediment oxygen demand in the Arroyo Colorado River in South Texas. *Journal of the American Water Resources Association*. 40(1):266.
- Matlock M.**, K. Kasprzak, and S. Osborn. 2003. Potential sediment oxygen demand in the Arroyo Colorado River in South Texas. *Journal of the American Water Resources Association*. 39(2):267-275.
- Neil, I. W. H., E. L. Oborny Jr., S. R. Craig, **M. D. Matlock** and D. M. Gatlin III. 2003. Estimating Metabolism of Fish in Aquacultural Production Systems. *International Journal of Recirculating Aquaculture*. 4:25-32.
- Kreuter, U., H. Harris, **M. Matlock**, R. Lacey. 2001. Change in ecosystem service values, San Antonio area, Texas. *Journal of Ecological Economics*. 39(4): 333-346.
- Matlock, M. D.**, G. S. Osborn, W. C. Hession, D. E. Storm, A. L. Kenimer. 2001. A rationale for standardized curriculum and professional certification in ecological engineering. *Journal of Ecological Engineering and Technology*. 17(2001): 403-409.
- Braud, L. M., M. E. Castell-Perez, and **M. D. Matlock**. 2000. Risk-based design of aseptic processing of heterogeneous food products. *Risk Analysis*. 20 (4): 405-412.
- Matlock M. D.**, D. E. Storm, M. D. Smolen and M. E. Matlock. 1999. Determining the lotic ecosystem nutrient and trophic status of three streams in eastern Oklahoma over two seasons. *Journal of Aquatic Ecosystem Health and Management*. 2(2): 115-127 .
- Matlock M. D.**, D. E. Storm, M. D. Smolen, M. E. Matlock, A. McFarland and L. Hauck. 1999. Development and application of a lotic ecosystem trophic status index. *Transactions of ASAE*. 42(3): 651-656.
- Matlock M. D.**, M. E. Matlock, D. E. Storm, M. D. Smolen and W.J. Henley. 1998. Limiting nutrient determination in lotic ecosystems using a quantitative nutrient enrichment periphytometer. *Journal of the American Water Resources Association*. 35 (5): 1141-1147.
- Hession W.C., D. E. Storm, C. T. Haan, S. L. Burks and **M. D. Matlock**. 1996. A watershed-level ecological risk assessment methodology. *Journal of the American Water Resources Association*. 32(5): 1039-1054.
- Matlock M. D.**, D. E. Storm, G.J. Sabbagh, S. L. Burks, M. D. Smolen and C. T. Haan. 1994. An ecological risk assessment paradigm using the Spatially Integrated Model for Phosphorus Loading and Erosion (SIMPLE). *Journal of Aquatic Ecosystem Health*. 3:1-8.

Foster S. C., S. L. Burks, D. J. Fort, E. L. Stover and **M. D. Matlock**. 1994. Development and evaluation of a non-destructive measure of fish growth for sublethal toxicity assessment. *Bulletin of Environmental Contamination and Toxicology*, 53:85-90.

Books

Popp, J., M. Jahn, N. Kemper, and **M. Matlock**, Eds. 2012. *The Role of Biotechnology in Feeding 9.25 Billion People*. Cambridge University Press, Cambridge, MA. ISBN: 978-0-521-19234-7.

Matlock, M. and R. Morgan, 2011. *Ecological Engineering Design: Restoring and Conserving Ecosystem Services*. John Wiley and Sons, NY, NY. 410 pgs. March 2011. ISBN-10: 0470345144, ISBN-13: 978-0470345146

Luoni, S., J. Huber, K. **M. Matlock**. 2010. **Low Impact Development: a design manual for urban areas**. UA Press. UA Community Design Center, Fayetteville, AR. ISBN: 978-0-9799706-1-0.

Sabatier, P., W. Focht, M. Lubell, Z. Trachtenberg, A. Vedletz, and **M. Matlock**, Eds. 2005. *Swimming Upstream: Collaborative Approaches to Watershed Management*. Publisher: MIT Press, Boston, MA. ISBN: 0-262-19520-8; March 2005.

Book Chapters

Sharpely, A., **M. Matlock**, L. Heathwaite, and T. Simpson, 2009. Managing agricultural catchments to sustain production and water quality. *Handbook of Catchment Management*, Blackwell Publishing, NY, NY.

Matlock, M., R. Morgan, K. White, and R. Avery. 2005. An environmental risk assessment using CalTOX. In: Environmental Exposure and Health (EEH 2005). Edited by: M.M. ARAL, Georgia Institute of Technology, USA, C.A. BREBBIA, Wessex Institute of Technology, UK, M.L. MASLIA, ATSDR/CDC, USA and T. SINKS, NCEH, USA. Series: The Sustainable World, Vol 14. ISBN: 1-84564-029-2

Matlock, M., B. Haggard, and I. Chaubey. 2005. (*Invited and peer reviewed book chapter*). Managing aquatic systems at watershed scale. *Encyclopedia of Agricultural, Food, and Biological Engineering* D. Heldman (Editor).

Edited Journals/Peer Reviewed Proceedings

Matlock, M. 2011. Investing in a Better Future. Resource, p. 28, September, 2011. Research magazine for the American Society of Agricultural and Biological Engineers.

Thoma, G., Popp, J., Nutter, D., Shonnard, D., Ulrich, R., **Matlock, M.**, Kim, D., Neiderman, Z., Kemper, N., East, C., Kemper, N., and Adom, F., 2010. "Regional Analysis of Greenhouse Gas Emissions from Milk Production Practices in the United States", *Seventh International Conference on Life Cycle Assessment in the Agri-Food Sector*, September 22-24, Bari, Italy.

Chaubey, I., D. Sahoo, B. Haggard, K. White, and **M. Matlock**. 2003. Assessment of nutrient retention in an agriculturally dominated stream. *Proceedings of the Arkansas Water Resources Center Annual Conference*, April 2002. AWRC, University of Arkansas, Fayetteville, AR.

Haggard, B. E, K. L White, I Chaubey, **M. D Matlock**, P. B DeLaune, and P. A Moore. 2003, Phosphorus sources in an Ozark catchment, USA: have we forgotten phosphorus from discrete sources?: Pages 54–59 in Proceedings Report, Theme 14, International Water Association Annual Meeting, Dublin, Ireland. International Water Association Publishing, London, UK. (CDrom available from: International Water Alliance, Alliance House, 12 Caxton St., London SW1H 0QS UK.).

Matlock, M. and T. Gholkar. 2002. An analysis of wastewater reuse for low flow augmentation to improve dissolved-oxygen concentrations in streams in San Antonio, Texas.

- Proceedings of the Arkansas Water Resources Center Annual Conference*, April 2002. AWRC, Fayetteville, AR
- Haggard, B.E., **M. Matlock**, I. Chaubey, P.B. DeLaune, and P.A. Moore, Jr. 2002. Stream phosphorus retention in the Illinois River, Northwest Arkansas: ecological services and water quality criteria. *Proceedings of the Arkansas Water Resources Center Annual Conference*, April 2002. AWRC, Fayetteville, AR
- Matlock, M.**, I. Chaubey, B. Haggard, and K. White. 2002. The fairness principle and point-nonpoint source water quality trading, *Water Resources Impact: Policy Journal of the American Water Resources Association*. 4(6): 17-21.
- Foster, C. and **M. Matlock**. 2001. History and application of the Clean Water Act. *Water Resources Impact: Policy Journal of the American Water Resources Association*. 3(5): 26-30. Middleburg, VA.
- Matlock, M.** and M. Murawski. 2001. Identifying and understanding potential sources of conflict in Total Maximum Daily Load processes through role-playing. *Proceedings of the Arkansas Water Resources Center Annual Conference*, April 4, 2001, Kenneth Steele, Editor. AWRC, Fayetteville, AR. Publication No. MSC-284.2001, pp 86-92.
- Matlock, M. D.**, K. R. Kasprzak, and G. S. Osborn. 2001. Sediment oxygen demand impacts on dissolved oxygen TMDL's in the Arroyo Colorado River. In Darrell J. Bosch (ed.) *Proceedings of the Integrated Decision-Making for Watershed Management Symposium: Processes and Tools*. Proceedings on CD-ROM, VWRRC P7 2001, pp 483--493. Virginia Tech, Blacksburg, Virginia.
- Matlock, M.**, S. Osborn, W. Lepori, and C. Engler. 2001. Development and Implementation of a Common Investigative Methods Course for Undergraduate Engineering Students. In *Proceedings of the American Society of Engineering Education 2001 Annual Conference*, Number 2326, ASEE, Washington, DC
- McFarland, A., R. Kiesling, L. Hauck, and **M. Matlock**. 2000. Linking chemical and biological monitoring components in the TMDL process. In *Proceedings of the National Water Quality Monitoring Council National Conference – Monitoring for the Millennium*. pp. 425-434. NWQMC, USGS, Washington, DC
- Matlock M. D.**, G. S. Osborn, W. C. Hession, D. E. Storm, A. L. Kenimer. 1998. A Rationale for Standardized Curriculum and Professional Certification in Ecological Engineering. In *Proceedings of the American Society of Engineering Education 1998 Annual Conference "Engineering Education Contributing to U. S. Competitiveness."* ASEE, Washington, DC

Patents

- Osborn, G. S., **M. D. Matlock**, S. S. Teltschik. 2012. Japanese Patent 5127702. UA Disclosure Ref. No. 04-24. System and Method for Dissolving Gases in Fluids and for Delivery of Dissolved Gases. Issued 11/9/12. Patentee– The Board of Trustees of the University of Arkansas.
- Osborn, G. S., **M. D. Matlock**, S. S. Teltschik. 2012. U.S. Patent 8,276,888. UA Disclosure Ref. No. 04-24. System and Method for Dissolving Gases in Fluids and for Delivering of Dissolved Gases. U.S., Issued – 10/2/12. Patentee– The Board of Trustees of the University of Arkansas.
- Osborn, G. S., **M. D. Matlock**, S. S. Teltschik, 2011. New Zealand Patent 563542. System and Method for Dissolving Gases in Fluids and for Delivery of Dissolved Gases. Issued 11/7/11. Patentee– The Board of Trustees of the University of Arkansas.
- Osborn, G. S., **M. D. Matlock**, S. S. Teltschik, 2011. Mexican Patent 289353. System and Method for Dissolving Gases in Fluids and for Delivery of Dissolved Gases. Issued 8/16/11. Patentee– The Board of Trustees of the University of Arkansas.
- Osborn, G.S., **Matlock, M.D.**, S.S. Teltschik. 2011. System and Method for Dissolving Gases in Fluids and for Delivery of Dissolved Gases. Australia – 2006249808. Issue Date 27 October 2011. Patentee – The Board of Trustees of the University of Arkansas.

Osborn, G. S., **M. D. Matlock**, S. S. Teltschik. 2007. U.S. Patent 7,255,332, "System and Method for Dissolving Gases in Liquids" issued 8/15/07. Patentee – The Board of Trustees of the University of Arkansas.

Technical Publications

- McGlade, J., Werner, B., Young, M., **Matlock, M.**, Jefferies, D., Sonnemann, G., Aldaya, M., Pfister, S., Berger, M., Farrell, C., Hyde, K., Wackernagel, M., Hoekstra, A., Mathews, R., Liu, J., Ercin, E., Weber, J.L., Alfieri, A., Martinez-Lagunes, R., Edens, B., Schulte, P., von Wirén-Lehr, S., Gee, D., 2012. Measuring water use in a green economy, A Report of the Working Group on Water Efficiency to the International Resource Panel. United Nations Environmental Program, Geneva, Switzerland
- FAO, 2012. Sustainability Assessment of Food and Agricultural Systems (SAFA). Natural Resources Management and Environment Department, Food and Agriculture Organization of the United Nations, Rome, Italy, January, 2012.
- World Economic Forum, 2012. Putting the New Vision for Agriculture into Action: A Transformation Is Happening. Sarita Nayar and Lisa Dreier, Editors. **Marty D. Matlock**, Expert Reviewer. World Economic Forum, Geneva, Switzerland.
- McCarty, J., H. Sandefur, **M. Matlock**, G. Thoma, and D. Kim, 2012. National Scan-level LCA for Production of US Peanut Butter. Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Johnson, R., P. Bandekar, **M. Matlock**. 2012. US Corn Yield Under Climate Change Scenarios. Prepared for the National Corn Growers Association and The Sustainability Consortium. Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Brown, A., C. Powell, **M. Matlock**, 2012. A US Food Processing Facility Water Risk Framework. Prepared for The Sustainability Consortium. Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Brown, A., C. Powell, **M. Matlock**, 2012. A Water Risk Assessment for Tyson Foods, Inc. Prepared for Tyson Foods, Inc. and The Sustainability Consortium. Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Brown, A., C. Powell, **M. Matlock**, 2012. A Water Risk Assessment for MARS Corp. Prepared for MARS Corp. and The Sustainability Consortium. Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Brown, A., C. Powell, **M. Matlock**, 2012. A Water Risk Assessment for Miller Brewing Company. Prepared for Miller Brewing Company and The Sustainability Consortium. Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Powell, C., P. Bandekar, E. Cummings, A. Brown, and **M. Matlock**, 2012. A Water Risk Assessment Framework and Tool for US Dairy Producers. Prepared for Dairy Management Inc., Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Leh, M., E. Cummings, **M. Matlock**, and L. Nalley. 2012. Analysis of Ecosystem Services Change in West Africa. Prepared for the World Cocoa Foundation, Center for Agricultural and Rural Sustainability, UA Division of Agriculture, Fayetteville, AR.
- Johnson, R. and **M. Matlock**, 2011. Geospatial Climate Data. The Sustainability Consortium Sustainability Series, February 2011. TSC, Fayetteville AR and Tempe, AZ
- Brown, A. and **M. Matlock**, 2011. A Review of Water Scarcity Indices and Methodologies. The Sustainability Consortium Sustainability Series, April, 2011. TSC, Fayetteville AR and Tempe, AZ
- Johnson, R. and **M. Matlock**, 2011. Regional Corn Modeling at High Resolution. The Sustainability Consortium Sustainability Series, February 2011. TSC, Fayetteville AR and Tempe, AZ
- FAO, 2011. Developing a Partnership on Benchmarking and Monitoring the Environmental Performance of Livestock Food Chains. Natural Resources Management and Environment

- Department, Food and Agriculture Organization of the United Nations, Rome, Italy, March 2011. http://www.fao.org/ag/againfo/home/documents/2011_Global_Agenda_of_action.pdf
- Thoma, Greg, **Marty D. Matlock**, David Shonnard, Eric Cummins, Zara Neiderman, Jack Cothren, and John Wilson. 2010. National Scan-level Beyond Carbon Life Cycle Study for Production of US Dairy. Fayetteville, Arkansas: University of Arkansas.
- Thoma, Greg, Jennie Popp, David Shonnard, Darin Nutter, Richard Ulrich, **Marty D. Matlock**, Dae Soo Kim, et al. 2010. Greenhouse Gas Emissions from Production of Fluid Milk in the US. University of Arkansas & Michigan Technological University.
- M. Matlock**, E. Cummings. 2010. A National Assessment of Impacts of Agriculture on Water Quality and Aquatic Ecosystem Health. CARS Report 10-10A. Keystone Alliance for Sustainable Agriculture, Washington, DC.
- Environmental Engineering Body of Knowledge Task Force, 2009. The Environmental Engineering Body of Knowledge. AAEE, Anapolis, MD.
http://www.cece.ucf.edu/bok/pdf/EnvE_Body_of_Knowledge_Final.pdf
- Field to Market, 2009. Environmental Resource Indicators for Measuring Outcomes of On-Farm Agricultural Production in the United States. Field to Market Initiative for Sustainable Agriculture, Washington, DC. http://keystone.org/files/file/SPP/environment/field-to-market/Field-to-Market_Environmental-Indicator_First_Report_With_Appendices_01122009.pdf
- M. Matlock**, A. Brown, B. Haggard and E. Cummings. 2009. An Ecological Assessment of Osage and Spring Creeks, Northwest Arkansas, 2007-2009. CARS Report 09-12A.
- M. Matlock**, E. Cummings, K. Kruger, and S. Foster. 2008. An Ecological and Geomorphic Assessment of Urban Streams in Fayetteville, Arkansas, 2004-2007. CARS Report 08-06A.
- E. Cummings, **Matlock, M.**, S. Manning, M. Vargas. 2007. Water Quality and Biological Assessment of Selected Segments in Mossy Lake/Coffee Creek, Southeast Arkansas. USEPA Region VI Technical Report. Dallas, TX.
- Technical Notes Volume 2, Issue 1 (2005). **Matlock, M., Editor**. Semi-annual peer-reviewed newsletter of the American Ecological Engineering Society.
- Matlock, M.**, R. Morgan, and K. Thornton. 2004. Breakfast from Arkansas: Ecological and Economic Sustainability. The Oklahoma Academy 2004 Proceedings of the Town Hall Workshop 1.21 – 1.26.
- Matlock, M.**, R. Morgan, C. Burdorf, M. Vargas, E. Cummings, A. Ludwig, B. Schafer, A. Brown, A. Radwell, and R. Reese. 2004. Water Quality and Biological Assessment of Selected Segments in the Illinois River Basin and Kings River Basin, Arkansas. USEPA Region VI Technical Report. Dallas, TX.
- Chaubey, I. **M. Matlock**, and B. Haggard. 2003. Managing aquatic ecosystem processes at the watershed level: an ecological engineering approach. *Resource* (5)15-18.

Program and Report Reviews

- FAO, 2012. Sustainability Assessment of Food and Agricultural Systems (SAFA). Natural Resources Management and Environment Department, Food and Agriculture Organization of the United Nations, Rome, Italy, January, 2012.
- World Economic Forum, 2012. Putting the New Vision for Agriculture into Action: A Transformation is Happening. 2011. Nayyar, S. and L. Dreier, Editors. World Economic Forum. The New Vision for Agriculture Initiative. Geneva, Switzerland.
- Environmental Engineering Body of Knowledge Task Force, 2009. The Environmental Engineering Body of Knowledge. AAEE, Anapolis, MD.
http://www.cece.ucf.edu/bok/pdf/EnvE_Body_of_Knowledge_Final.pdf

Invited Book Reviews

- Matlock, M.** 2010. Book Review of *Witness To Extinction*. J Environ Qual 39:758 (2010)
- Matlock, M.** 2010. Book Review of *Doing Environmental Ethics*. J Environ Qual 39:757 (2010)
- Matlock, M.** 2004. Book Review of *Ecological Engineering Principles and Practice*, Authur: P. Kangas. Journal of the Ecological Engineering and Ecotechnology – Book Reviews.
- Matlock, M.** 2002. Book Review of *Conservation of Water and Related Land Resources (3rd Ed)*, Authors: P.E. Black and B. L. Fisher. Journal of the American Water Resources Association.
- Matlock, M.** 2002. Book Review of *Waste recycling and resource management in the developing world: ecological engineering approach*. Journal of the Ecological Engineering and Ecotechnology – Book Reviews. Ecological Engineering 19 (2002) 89-90.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- AAEES – American Academy of Environmental Engineers and Scientists – Board Certified Environmental Engineer, 2011-Present
- AEES– America Ecological Engineering Society – Past-President 2008-2009; President, 2007-2008; Vice President, 2005-6. Founding Member, Newsletter Editor
- ASABE – American Society of Agricultural and Biological Engineers
- ASCE - The American Society of Civil Engineering – Environmental Engineering Committee
- ASEE - The American Society of Engineering Education
- ESA – Ecological Society of America
- AWRA – American Water Resources Association

HONORS AND AWARDS

- 2011-2012 ACSA Collaborative Practice Award.** *Low Impact Development: a design manual for urban areas* by the American Collegiate Schools of Architecture.
- 2011 American Society of Landscape Architects Award of Excellence in Communications:** *Low Impact Development: a design manual for urban areas* was developed by UACDC and the UA Ecological Engineering Group under a grant from the U.S. EPA and the Arkansas Natural Resources Commission.
- 2011 American Institute of Architecture Honors Award in Regional and Urban Design:** *Low Impact Development: a design manual for urban areas*, developed by UACDC and the UA Ecological Engineering Group under a grant from the U.S. EPA and the Arkansas Natural Resources Commission.
- 2011 EDRA Great Places Book Award: Finalist.** Environmental Design Research Association (ERDA), for *Low Impact Development: a design manual for urban areas*
- 2010 American Institute of Architecture (AIA) Education Honors Award.** *Porchscapes: An Affordable LEED for Neighborhood Development*.
- 2010 Residential Architect Design Merit Award (AIA).** *Porchscapes: An Affordable LEED for Neighborhood Development*.
- 2009 American Architecture Awards** sponsored by The Chicago Athenaeum: Museum of Architecture and Design. The award for “*Porchscapes: A LEED Neighborhood Development*” “honors and celebrates the most outstanding new achievements and innovation for new architecture designed and built in the United States by leading American and international firms practicing in the USA. The awards identify new cutting-edge design direction, urban philosophy, design approach, style, and intellectual substance in American Architecture today.”
- 2009 AIA Honor Award for Regional and Urban Design from the American Institute of Architects (AIA).** *Porchscapes: An Affordable LEED-Neighborhood Development (LEED-ND)*, a 50-unit green neighborhood development, is sponsored by the US Environmental Protection Agency and the Arkansas Natural Resources Commission. Students from the Department of Architecture and the Department of Biological and Agricultural Engineering

have been participating in project planning and design with faculty and consultants since Spring 2007. UACDC received the award with its partners: The Ecological Engineering Group/Department of Biological and Agricultural Engineering, and McClelland Consulting Engineers, Inc.

- 2009 Progressive Architecture Award from *Architect* magazine.** The Progressive Architecture Awards (P/A), along with the American Institute of Architects Honor Awards, are the most venerated. The P/A Awards recognize the "the most progressive work on the boards" in North America. One of the program's goals is to raise awareness for innovative un-built work in support of the project's realization.
- 2008 American Society of Landscape Architects Honor Award in Planning and Analysis.** Porchscapes: An Affordable LEED-Neighborhood Development (LEED-ND), a 50-unit green neighborhood development, is sponsored by the US Environmental Protection Agency and the Arkansas Natural Resources Commission. Students from the Department of Architecture and the Department of Biological and Agricultural Engineering have been participating in project planning and design with faculty and consultants since Spring 2007.
- 2008 Institute Honor Awards for Regional and Urban Design from the American Institute of Architects (AIA).** "Habitat Trails: from infill house to green neighborhood design", a collaboration among UACDC, the University of Arkansas Ecological Engineering Group, Department of Biological and Agricultural Engineering, Department of Landscape Architecture, Morrison Shipley Architects, and JKJ Architects in Rogers, AR
- 2008 Arkansas Institute of Architecture Citation Award.** Porchscapes: An Affordable LEED-Neighborhood Development (LEED-ND), a 50-unit green neighborhood development, is sponsored by the US Environmental Protection Agency and the Arkansas Natural Resources Commission.
- 2008 Gunlogson National Design Competition in Biological Engineering – Third Place.** Project Title: "Hydrologic and Ecological Engineering Design for a Green Residential Development." This was a Senior Design project by students Jeff Burns, David Gershner and Russell Tate. Tom Costello and Marty Matlock, associate professors in biological and agricultural engineering, served as the team mentors.
- 2008 Arkansas Planning Association 2008 Achievement in Urban Development Award.** *Porchscapes: An Affordable LEED-Neighborhood Development (LEED-ND)*, a 43-unit green neighborhood development, is sponsored by the US Environmental Protection Agency and the Arkansas Natural Resources Commission.
- 2007 ACSA/AIA Housing Design Education Award for Excellence in a Housing Education Course.** The award was for the Habitat for Humanity/Rogers housing course involving UACDC, Marty Matlock in the Dept of Biological and Agricultural Engineering, and Mark Boyer in the Dept of Landscape Architecture.
- 2007 Charter Design Award, Congress for New Urbanism,** the leading organization promoting walkable, neighborhood-based development as an alternative to sprawl. The CNU Charter Awards were awarded internationally to twenty planning and architecture projects that manifest principles of exemplary urbanism as defined by the CNU.
- 2007 National Council of Architectural Registration Boards NCARB Prize,** awarded annually to six initiatives in architecture programs based on their "creative integration of practice and education in the academy".
- 2007 Outstanding Mentor, University of Arkansas,** Recognized as one of two outstanding mentor teams for mentoring undergraduate students.
- 2006 Design Honor Award, Arkansas Institute of Arkansas,** for the UA Community Design Center's Habitat Trails Project a 5-acre green neighborhood development consisting of 17 dwelling units for Habitat for Humanity of Benton County, Inc. in Rogers.
- 2006 Places Award for Sustainable Development from the Environmental Design Research Association,** for the UA Community Design Center's Habitat Trails Project. The

EDRA/*Places* Awards are unique among the programs that recognize professional and scholarly excellence in environmental design.

- 2006 Planning and Design Honor Award from the American Society of Landscape Architects (ASLA)** for Habitat Trails, a green community designed for Habitat for Humanity.
- 2006 Education Honor Award of the American Institute of Architects**, with the UA Community Design Center, for Habitat Trails Low Impact Development Design, 2006. <http://www.aia.org/>
- 2006 American Association for the Advancement of Science/NSF Competition for Science Visualization**, Finalist, for the UA Community Design Center's Habitat Trails Project, a 5-acre green neighborhood development consisting of 17 dwelling units for Habitat for Humanity of Benton County, Inc. in Rogers, AR.
- 2006 Outstanding Mentor, University of Arkansas**, Recognized as one of two outstanding mentor teams for mentoring undergraduate students.
- 2005 Acknowledgement Prize for Sustainable Development from the Holcim Foundation** – an international competition with over 5000 entries in 2005, with the UA Community Design Center, for Warren, AR Stream Restoration. <http://www.holcimfoundation.org/awards/nam/nam.html>
- 2005 Honor Award of the American Institute of Architects (AIA)**, Ecological Engineering Group and UA Community Design Center, for Warren, AR Stream Restoration, 2005. http://www.aia.org/aiarchitect/thisweek05/tw0107/0107ha_urban.htm
- 2005 Citation Design Award of the Arkansas Chapter of the American Institute of Architects**, with the UA Community Design Center, for Warren, AR Stream Restoration.- 2004.
- 2005 Award for Professional Excellence, American Agricultural Economics Association**. M. Matlock (UA), M. Selman (WRI), and T. Nguyen and R. Woodward (TAMU). First Place Poster Award for Nutrient Net: A nutrient trading market model.
- Outstanding Agricultural Engineer of the Year Award** – Arkansas State Chapter ASAE – 2004.
- Departmental Outstanding Teacher of the Year**, Biological Engineering, 2003.
- Senior Research Fellow**, Institute for Science, Technology, and Public Policy – George H. Bush School of Government and Public Service 1998 – Present
- Honorable Mention, Outstanding Publication of 2000** – ASAE Transactions, for Matlock M. D., D. E. Storm, M. D. Smolen, M. E. Matlock, A. McFarland and L. Hauck. 1999. Development and application of a lotic ecosystem trophic status index. *Transactions of ASAE*. 42(3): 651-656.

INVITED ACTIVITIES

- Board of Directors, BlueInGreen, LLC, 2004-Present, Fayetteville AR (Owner/Founder)
- Secretary of Agriculture's AC21 Committee for the Future of Agriculture in the US, 2011-Present
- Executive Committee, The Keystone Alliance for Sustainable Agriculture, 2010-Present
- Chair, Measures and Metrics Committee, UN Foundation Solutions From The Land Initiative, 2010-Present
- Senior Science Advisor, Stewardship Index for Specialty Crops, 2009-Present.
- Advisory Committee, Alliance for Water Stewardship, 2010-Present
- National Science Foundation Biological Sciences REU Leadership Council, 2009 - Present
- Water Resources Editor, 2007- Present. Encyclopedia of Earth, www.eoearth.org
- Invited Author and Reviewer, ASCE-AEEAP Body of Knowledge, 2008.
- Environmental Protection Commission, The Cherokee Nation, October 2005 - Present.
- Delegate, Mid-East Peace Process, Foreign Agriculture Service, USDA 2008-2009
- Invited Academic Program Reviewer, USDA, 2008.
- Sustainability Advisor, Dairy Management, Inc., 2009 – Present
- Science Advisor Committee, Mars Corporation, 2008 - Present
- Sustainability Advisor, Kellogg Corporation, 2009 – Present
- Sustainability Advisor, General Mills Corporation, 2009 – Present
- Sustainability Advisor, Kashi Corporation, 2009 – Present
- Sustainability Advisory Committee for Agriculture, Wal-Mart Corporation , 2009 – Present

Sustainability Advisor, Ben and Jerry's Ice Cream, 2011-Present