CURRICULUM VITAE

Stephanie A. Lansing
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PERSONAL INFORMATION

Name: Stephanie Anne Lansing
Department: Environmental Science and Technology
Rank: Assistant Professor
Appointment: 9 month, 60% Teaching, 40% Research
Appointment Date: October 20, 2008
Academic Affiliations: University of Maryland Energy Research Center
Marine Estuarine Environmental Sciences Graduate Program

EDUCATIONAL BACKGROUND

Ph.D. The Ohio State University, Columbus, OH (2008)
Department: Food, Agricultural, and Biological Engineering
Advisor: Jay F. Martin
Dissertation: "Utilization and optimization of low-cost digesters for energy production and treatment of livestock wastewater"

M.S. The Ohio State University, Columbus, OH (2005)
Department: Food, Agricultural, and Biological Engineering
Advisor: Jay F. Martin
Thesis: "Nutrient removal and indicators of self-organization in an ecological treatment system (ETS) for dairy wastewater"

B.S. University of Oklahoma, Norman, OK (2000)
Major: Environmental Science, Minor: Zoology
Advisor: Robert Nairn
Honors Thesis: "Substrate characteristics in mine drainage wetlands"

EMPLOYMENT BACKGROUND

Assistant Professor (2008-present), College Park, MD
Department of Environmental Science and Technology
Ohio State University Ph.D. Dissertation Fellow (2008), Columbus, OH
Department of Food, Agricultural, and Biological Engineering
Anaerobic Digestion in Haiti Consultant Leader (2008), Haiti and Costa Rica
Upper South Carolina Episcopal Diocese
Ohio State Univ. Graduate Research Assistant (2005-2008), Columbus, OH
Department of Food, Agricultural, and Biological Engineering
Ohio Ag. International Research & Development Fellow (2004-2005), Columbus, OH
Department of Food, Agricultural, and Biological Engineering
Ohio State University Graduate Fellow (2003-2004), Columbus, OH
Department of Food, Agricultural, and Biological Engineering
Elementary and Middle School Substitute Teacher (2003), Cheyenne, WY
Laramie County Public Schools
Peace Corps Volunteer: Environmental Education (2000-2002), Belize, Central America
United States Peace Corps
Univ. of Oklahoma Biogeochemical Lab Research Assistant (1999-2000), Norman, OK
Department of Civil and Environmental Engineering and Environmental Science
Child Development Intern (1998), Tulsa, OK
Children's Medical Center
Environmental Science and Engineering Intern (1997), Tulsa OK
CRC & Associates Environmental Consulting
First Grade Teaching Assistant (1995), Tulsa OK
St. Aiden's Summer Enrichment Program for At-Risk Youth

RESEARCH, SCHOLARLY AND CREATIVE ACTIVITIES

Journal	No. of Articles (Total Citations)	Impact Factor (IF)*
Bioresource Technology	3 (148)	5.330
Biomass and Bioenergy	3 (38)	4.273
Journal of Cleaner Production	1 (13)	4.167
Waste Management	3 (8)	3.522
Ecological Engineering	5 (143)	3.231
Research in Microbiology	1	2.672
Transactions of the ASABE	1 (1)	1.173
Tierra Tropical: Sostenibilidad, Ambiente y Sociedad	2	-
Biocycle	4 (10)	-
UMD Extension Fact Sheet	2	-
eXtension.org	1	-
TOTAL	**26 (361)**	

* 5 year Impact Factor (2014) from ISI Thomson. **S. Lansing h-index = 8 and i10-index = 8**

A. ARTICLES IN REFEREED JOURNALS (Student advisees are underlined).
I have authored 19 articles in referred journals (361 total citations), 18 articles were published from 2008-present, and 16 were published with my student advisees or me as the first author.

1. **Lansing, S.,** Martin, J., 2006. Use of an ecological treatment system (ETS) for removal of nutrients from dairy wastewater. Ecological Engineering 28: 235-245. (Citations: 56).
2. **Lansing, S**., Botero, R., Martin, J., 2008. Waste treatment and biogas quality in small-scale agricultural digesters. Bioresource Technology 99: 5881-5890. (Citations: 80).
3. **Lansing, S**., Viquez, J., Martínez, H., Botero, R., Martin, J., 2008. Quantifying electricity generation and waste transformations in a low-cost, plug-flow anaerobic digestion system. Ecological Engineering 34: 332-348. (Citations: 47).
4. **Lansing, S**., Martin, J.F., Botero, R.B., Nogueira da Silva, T., Dias da Silva, E., 2010. Methane production in low-cost, co-digestion systems treating manure and used cooking grease. Bioresource Technology 101: 4362-4370. (Citations: 67).
5. **Lansing, S**., Martin, J., Botero, R., Nogueira da Silva, T., Dias da Silva, E., 2010. Wastewater transformations and fertilizer value when co-digesting differing ratios of swine manure and used cooking grease in low-cost digesters. Biomass and Bioenergy 34: 1711-1720. (Citations: 27).
6. Aldana, L.Y., **Lansing, S.,** Botero, R., 2010. Supplementing biodigesters with vinasse and its effect on the production and quality of biogas and the effluents. Tierra Tropical: Sostenibilidad, Ambiente y Sociedad 6 (2): 233-240. (Article in Spanish with title and abstract in English).
7. Viquez, J., Martínez, H. Botero, R., **Lansing, S.,** 2010. Evaluation of the sustainability of biogeneration of electricity in an anaerobic fermentation system in a combination of two Taiwanese-model biodigesters supplemented with swine and cattle manure. Tierra Tropical: Sostenibilidad, Ambiente y Sociedad 6 (2): 223-231. (Article in Spanish with title and abstract in English).
8. Ciotola, R., **Lansing, S.,** Martin, J., 2011. Emergy analysis of biogas production and electricity generation from small-scale agricultural digesters. Ecological Engineering 37: 1681-1691. (Citations: 38).
9. Saer, A., **Lansing, S.,** Davitt, N., Graves, R., 2013. Life cycle assessment of a food waste composting system: Environmental impact hotspot. Journal of Cleaner Production 52(1): 234-244. (Citations: 13).
10. Klavon, K., **Lansing, S.,** Moss, A., Mulbry, W., Felton, G., 2013. Economic analysis of small-scale agricultural digesters in the United States. Biomass and Bioenergy 54: 36-45. (Citations: 10).
11. Lisboa, M.S., **Lansing, S**., 2013. Characterizing food waste substrates for co-digestion through biochemical methane potential (BMP) experiments. Waste Management 33(12): 2664-2669. (Citations: 8).
12. Ceccarelli, D., Spagnoletti, M., Hasan, N.A., **Lansing, S**., Huq, A., Colwell, R.R., 2013. A new integrative conjugative element detected in Haitian isolates of *Vibrio cholerae* non-O1/non-O139. Research in Microbiology 164(9): 891-893.

13. Lisboa, M.S., **Lansing, S.**, 2014. Evaluating the toxicity of food processing wastes as co-digestion substrates with dairy manure. Waste Management 34(7): 1299-1305.

14. Moss, A., **Lansing, S**., Tilley, D., Strass, K., 2014. Assessing the sustainability of small-scale anaerobic digestion with the introduction of the emergy efficiency index (EEI) and adjusted yield ratio (AYR). Ecological Engineering 64: 391-407

15. Belle, A., **Lansing, S**., Mulbry. W., Weil, R.R., 2015. Methane and hydrogen sulfide dynamics co-digesting forage radish and dairy manure. Biomass and Bioenergy 80: 44-51. (Citations: 1).

16. Witarsa, F., **Lansing, S.**, 2015. Quantifying methane production from psychrophilic anaerobic digestion of separated and unseparated dairy manure. Ecological Engineering 78: 95-100. (Citations: 1).

17. **Lansing, S.,** Klavon, K., Mulbry, W., Moss, A., 2015. Design and validation of field-scale anaerobic digesters treating dairy manure for small farms. Transactions of the ASABE 58(2): 441-449. (Citations: 1).

18. Belle, A, **Lansing, S**., Mulbry, W., Weil, R.R., 2015. Anaerobic co-digestion of forage radish and dairy manure in complete mix digesters. Bioresource Technology 178: 230-237. (Citations: 1).

19. Arikan, O., Mulbry, W., **Lansing, S**., 2015. Effect of temperature on the methane production from field scale anaerobic digesters treating dairy manure. Waste Management. In Press. doi: 10.1016/j.wasman.2015.06.005. Available online: 19 June 2015.

B. MONOGRAPHS, REPORTS and EXTENSION PUBLICATIONS

REPORTS (Student advisees are underlined). *I have written or co-authored 10 reports, with 8 reports written as the lead author and one report with my undergraduate Capstone students as the lead authors.*

1. **Lansing, S.,** Gonzalez, P., Martinez, E.J., Viquez, J., 2008. Human waste treatment for Partners in Health (Zanmi Lazante) complex, Central Plateau, Haiti. Submitted to the Lower South Carolina Episcopal Diocese. 26 pages.

2. **Lansing, S**., 2009. Overview of poultry litter digestion in the U.S. Submitted to Ross Tyler, Director of Clean Energy at the Maryland Energy Administration and Maryland Congressman Ruppersberger. 6 pages.

3. **Lansing, S**., 2011. Assessing the impact of internal refugees on hospital water and wastewater infrastructure and its implications for future sustainable treatment designs. Final Report to National Science Foundation (NSF). 26 pages. Award #1034836.

4. **Lansing, S**., Moss, A., Strass, K., Witarsa, F., 2011. Low-cost anaerobic digesters for dairy manure treatment and renewable energy production. Final Report to US Geological Survey/Maryland Water Resources Research Center. 26 pages.

5. Henry, P., Iwata, K., Lee, H., Maley, S., Mayer, T., Wertz, C., **Lansing, S.**, 2011. Anaerobic digestion and treatment wetland design for source-separated latrine, black water, and grey water from a medical complex in Haiti. Submitted to Zamni Lasante: Partners in Health, Cange, Haiti.

6. **Lansing, S**., Weil, R., Felton, G., Belle, A., 2013. Creating renewable energy through sustainable nutrient management practices – Digestion of manure and cover crops to reduce fossil fuel use in the Northeast. Final Report to Northeast Sun Grant Initiative – US Department of Transportation. 32 pages. Award #NE10-040.
7. Tender, L., **Lansing, S**. Gregoire, K., 2013. Hybrid anaerobic digester-microbial fuel cell for energy & nutrient capture. Final Report to Gates Foundation Grand Challenges Explorations, Phase I. 6 pages. Award # OPP1034758.
8. **Lansing, S**., Witarsa, F., 2013. Developing inoculum to increase anaerobic digestion efficiency in winter months. Graduate Student Project. Final Report to Northeast Sustainable Agriculture Research and Education (SARE) program/U.S. Department of Agriculture-National Institute of Food and Agriculture (USDA-NIFA). 19 pages. Award #GNE11-030
9. **Lansing, S**., Yarwood, S. Torrents, A., Yarberry, A., 2014. Optimizing energy-positive wastewater treatment systems by integrating fundamental aquatic chemistry and microbiology knowledge. Final Report to UMD ADVANCE Program for Inclusive Excellence Interdisciplinary and Engaged Research Seed Grants – National Science Foundation. 9 pages.
10. **Lansing, S**., Eaton, A., 2015. Incentivizing sanitation with biogas in Haiti—Stage 1 pilot digester evaluation. Final Report to USAID. 25 pages. Award #AID-521-A-13-00008.

EXTENSION FACT SHEETS (Student advisees are underlined)
I have co-authored two extension Fact Sheets and one article available at eXtension.org.

1. Felton, G.K., Moss A., **Lansing, S.A.**, 2014. Anaerobic digestion: Basic processes for biogas production. University of Maryland Extension, Fact Sheet 994.
2. Arikan, O., Mulbry, W., **Lansing, S**., 2015. Effect of temperature on the methane production from field scale anaerobic digesters treating dairy manure. eXtension: America's research-based learning network. Available at: http://www.extension.org/pages/72729/effect-of-temperature-on-methane-production-from-field-scale-anaerobic-digesters-treating-dairy-manu#.VZLTlEtDL85. Available online: April 30, 2015.
3. Moss, A., **Lansing, S.A.**, Felton, G.K., 2015. Anaerobic digestion: Products. University of Maryland Extension, Fact Sheet 998.

C. BOOK REVIEWS, OTHER ARTICLES, NOTES (Student advisees are underlined)
I have authored or co-authored four publications in Biocycle, a technical journal for composting and anaerobic digestion, and I have co-authored a Commentary in Ecological Engineering.

1. Martin, J.F., **Lansing S.L.,** Mitsch, W.J., 2006. The growth of ecological engineering: The fifth annual conference of the American Ecological Engineering Society. Ecological Engineering 28: 183-186. (Citations: 1)
2. **Lansing, S**., Botero, R., Martin, J., 2007. Small-scale digesters in Costa Rica. BioCycle 48 (2): 48-51. (Citations: 3).

3. Viquez, J., **Lansing, S.**, Martínez, H., 2008. Evaluating digester design for electricity generation. BioCycle 49 (2): 51-54. (Cited: 7).
4. **Lansing, S.**, Mulbry, W., 2014. Testing low cost AD systems. BioCycle 55 (9): 44.
5. **Lansing, S.**, Goldstein, N., 2014. Dairy digester opens doors on Maryland farms. BioCycle 55 (8): 66.

D. TALKS, ABSTRACT and OTHER PROFESSIONAL PAPERS PRESENTED

i. INVITED TALKS (Student advisees are underlined)
I have been invited for research presentations on 29 occasions since 2008, including at the AAAS Annual Meeting, Hohenheim University in Germany, China Agricultural University, and Penn State University. I have also been an invited speaker for extension training webinars, International Delegations at UMD, and a visit by the USDA Under-Secretary for Research.

1. **Lansing, S**., 2009. Utilization and optimization of low-cost digesters for energy production and treatment of livestock wastewater. Department of Civil and Environmental Engineering Graduate Seminar Series. University of Maryland Baltimore County. Baltimore, MD. February 4, 2009.
2. **Lansing, S.**, Moss, A., 2010. Small-scale digester options. AgSTAR-Penn State Cooperative Extension Anaerobic Digester Workshop. Lancaster, PA. December 2, 2010.
3. **Lansing, S**., Felix, F., 2010. The current and near-term Haitian, US, and international organizations helping and poised to help rebuild and advance Haiti's science and education capacity. AAAS: Advancing Capacity for Haitian Science and Science Education. San Juan, Puerto Rico. July 10-13, 2010.
4. **Lansing**, **S.**, 2011. Turning waste into energy through anaerobic digestion. Chongqing Academy of Science and Technology (CAST). Chongqing, China. December 8, 2011.
5. **Lansing**, **S.**, 2011. Turning waste into energy through anaerobic digestion. China Agricultural University. Beijing, China. December 13, 2011.
6. **Lansing**, **S.**, 2011. Turning waste into energy through anaerobic digestion. Northwest Forestry and Agricultural University. Yangling, China. December 15, 2011.
7. **Lansing**, **S**., 2011. Turning waste into energy through anaerobic digestion. Maryland-China Initiative. Chinese Solid Waste Technology and Management Delegation. USDA-Beltsville Agricultural Research Center. Beltsville, MD. November 9, 2011.
8. **Lansing**, **S.**, 2011. Experiences with graduate and undergraduate international research. Penn State University Agricultural and Biological Engineering Graduate Seminar Series. State College, PA. October 4, 2011.
9. **Lansing, S.,** Strass, K., Moss, A., 2011. Small and medium-scale anaerobic digesters for temperate regions. Penn State Extension: Manure du jour: Nutrient Management & Treatment Technologies. Live presentation and archived webinar. State College, PA. October 4, 2011.

10. **Lansing, S**., 2011. How to succeed in pursuing international research/experiences in developing countries. Penn State's Engineers for a Sustainable World chapter. State College, PA. October 3, 2011.
11. **Lansing**, **S**., 2011. Turning waste into energy. China Agricultural Univ's Vice President Wang Tao's visit to University of Maryland. College Park, MD. September 26, 2011.
12. **Lansing, S**., 2011. Using ecological engineering to turn waste into energy. University of Maryland's Agriculture and Natural Resources Spring Convocation. College Park, MD. May 5, 2011.
13. **Lansing, S.**, Hutcheson, S., Gomma, I., 2011. UM bioenergy research: Anaerobic decomposition to biogas & ultra high temperature steam gasification of wastes. Lockheed Martin Visit to University of Maryland. College Park, MD. September 19, 2011.
14. **Lansing, S.**, 2012. Anaerobic digestion and graduate education opportunities with China Agriculture University. Presentation to the administration delegation from China Agriculture University. College Park, MD. December 14, 2012.
15. **Lansing, S.**, 2012. Biofuel research in AGNR. Presentation to the Under Secretary for Research, Education and Economics, United States Department of Agriculture (USDA), Dr. Cathy Woteki. UMD Division of Research Seminar Series. College Park, MD. December 5, 2012.
16. **Lansing, S.**, 2012. Natural resource utilization & environmental impact. University of Maryland Energy Research Center Advisory Board. College Park, MD. November 19, 2012.
17. **Lansing, S**., Klavon, K., 2012. Small-scale anaerobic digestion in the US: Design options and financial viability. Got Manure? Enhancing Environmental and Economic Sustainability. AgSTAR, Cornell PRO-DAIRY, NY State Energy Research and Development Authority conference. Syracuse, NY. March 29, 2012. (Citations: 2)
18. **Lansing**, **S.**, 2012. China-USAID opportunities. Environmental Science and Technology Graduate Seminar Series. College Park, MD. February 1, 2012.
19. **Lansing, S**., 2013. Low-cost anaerobic digestion and microbial fuel cells in the US and Developing World. Hohenheim University. Stuttgart, Germany. December 11, 2013.
20. **Lansing, S**., 2013. Anaerobic digestion challenges and opportunities: From the small-scale developing world systems to large-scale industrial systems. Jiangsu Province, China Government Delegation Training Tour. College Park, MD. December 6, 2013.
21. **Lansing, S**., 2013. Co-digestion on Maryland Farms: The Kilby Farm experience. State of Maryland Environmental Matters Committee Tour. Rising Sun, MD. October 2, 2013.
22. **Lansing, S**., 2013. Anaerobic digestion: Biogas from microorganisms. Bioenergy and Bioproducts Institute at the University of Maryland Eastern Shore. Princess Anne, MD. July 16, 2013.
23. **Lansing, S.**, 2013. Methane production from source-separated human wastewater in Haiti. 5th Annual Engineering Sustainability Workshop. College Park, MD. April 22, 2013.

24. **Lansing, S.**, 2013. Waste to energy: Anaerobic digestion and implications for the Chesapeake Bay. University of Maryland Center for Environmental Science Invited Lecture Series. Chesapeake Biological Laboratory. Solomons, MD. February 13, 2013.
25. **Lansing, S**., 2015. Turning our waste into energy: Anaerobic digestion and microbial fuel cells. Center for Urban Environmental Research and Education (CUERE) Seminar Series. University of Maryland Baltimore County. Baltimore, MD. April 17, 2015.
26. **Lansing, S**., 2015. Advancing sanitation and energy capacity in Haiti through waste to energy technologies. 7th Annual Social Enterprise Symposium. College Park, MD. February 27, 2015.
27. **Lansing, S**., 2015. Advancing sanitation and energy capacity in Haiti through waste to energy technologies. The American Association for the Advancement of Science (AAAS) Annual Meeting. San Jose, CA. February 15, 2015.
28. **Lansing, S**., 2015. Turning our waste into energy: Anaerobic digestion and microbial fuel cells. Council on the Environmental Junior Faculty Award lecture and reception. College Park, MD. June 10, 2015.
29. **Lansing, S**., 2015. Turning waste into energy: Anaerobic digestion in US and developing world. USDA Cochran Fellows Program for Agricultural Waste for Energy Production from Senegal and Cote D'Ivoire. College Park, MD. June 16, 2015.

ii. CONFERENCE PRESENTATIONS (Abstracts Accepted; Student advisees are underlined)
I have given or co-authored with students or colleagues 68 presentations at professional conferences, with 16 presentations including published proceedings and 52 presentations with only the abstracts published. Fifty-three presentations were given as oral presentations and 18 were given as poster presentations.

1. Keppler, A., Martin, J., **Lipe (Lansing), S.**, 2004. Using living machines for the treatment and utilization of dairy washwater. American Society of Agricultural Engineers International Conference. Ottawa, Canada. August 1-4, 2004.
2. **Lansing, S.,** Martin, J.F., 2005. Assessing nutrient utilization and self-organization in an ecological treatment system (ETS) for dairy wastewater. American Ecological Engineering Society Conference. Columbus, OH. May 18-20, 2005.
3. **Lansing, S.,** Morgan, J., Martin, J.F., 2005. Self-organization of an ecological treatment system treating dairy washwater. American Society of Agricultural and Biological Engineers Conference. Tampa, FL. July 19, 2005.
4. **Lansing, S**., 2006. Gas production and water quality analysis of agricultural biodigesters in Costa Rica. Ohio Agricultural Research and Development Center Annual Meeting. Wooster, OH. April 20, 2006.
5. **Lansing, S**., Martin, J.F., Botero, R.B., 2006. Gas production and water quality analysis of agricultural biodigesters in Costa Rica. American Ecological Engineering Society Conference. Berkeley, CA. April 12-14, 2006.

6. **Lansing, S.,** Botero, R.B., Martin, J.F., Dias da Silva, E., Kreling, J.C., 2007. Effects of feedstock composition on methane production and wastewater treatment in low-tech anaerobic digesters. American Ecological Engineering Society Conference. Manhattan, KS. May 23-25, 2007.
7. **Lansing, S.,** Botero, R.B., Martin, J.F., Dias da Silva, E., Kreling, J.C., 2007. Optimizing CH4 production and wastewater treatment in anaerobic digesters. American Society of Agricultural and Biological Engineers Conference. Minneapolis, MN. June 17-20, 2007
8. **Lansing, S**., Martin, J., Botero, R., Viquez, J., Martínez, H., Nogueira, T., Dias, E., Servían, P., Martínez, E., 2008. Anaerobic digesters: Wastewater decontamination systems that produce energy and create fertilizer. American Ecological Engineering Society Conference. Blacksburg, VA. June 9-13, 2008.
9. **Lansing, S**., Martin, J.F., Botero, R.B., 2009. Anaerobic digestion, ecological engineering, Costa Rica, and the US. American Society of Agricultural and Biological Engineers Conference. Reno, NV. June 22-24, 2009.
10. **Lansing**, **S**., 2010. Assessing the impact of internal refugees on hospital water and wastewater infrastructure and its implications for future sustainable treatment designs (poster). EERI-NSF Haiti Research Needs Workshop. Washington, DC, September 30-October 1, 2010.
11. Moss, A., **Lansing, S.**, 2010. Small-scale digestion technology and applications. Biocycle 10th Annual Conference on Renewable Energy from Organics Recycling. Des Moines, IA. October 18-20, 2010.
12. **Lansing, S.**, 2010. Creating renewable energy using ecological engineering principles. American Ecological Engineering Society Conference. Quebec, Canada. June 13-17, 2010.
13. **Lansing, S.**, Ciotola, R., Martin, J., 2010. Emergy Analysis of Biogas Production and Utilization in Costa Rica. American Society of Agricultural and Biological Engineers Conference. Pittsburgh, PA. June 20-23, 2010.
14. **Lansing, S**., Gregorie, K., Moss, A., Strass, K., 2011. Anaerobic digestion design for treatment source-separated wastewater from a hospital complex in Haiti. University of Oklahoma International WaTER Conference. Norman, OK. October 22-25, 2011.
15. Belle, A.J., **Lansing, S.,** Weil, R., 2011. Enhancing methane production in dairy manure-based anaerobic digesters through co-digestion with forage radish cover crops (poster). University of Maryland Bioscience Research and Technology Review Day. College Park, MD. November 10, 2011. (1st place graduate student poster: Environmental division).
16. **Lansing, S.,** Moss, A., Gregoire, K., Strass, K., 2011. Anaerobic digestion and treatment wetland design for treating source-separated latrine, black water and grey water from a hospital complex in Haiti. American Society of Agricultural and Biological Engineers Conference. Lexington, KY. August 7-10, 2011.
17. Lai, Y. **Lansing, S**., 2011. Dynamic mathematical simulation of the effect of sulfate and iron reducing bacteria on methane production in anaerobic digestion (poster). American Ecological Engineering Society Conference. Asheville, NC. May 23-25, 2011.

18. Moss, A., Strass, K., **Lansing, S**., 2011. A comparative emergy analysis of two small-scale anaerobic digestion systems treating waste in the US and Haiti (poster). American Ecological Engineering Society Conference. Asheville, NC. May 23-25, 2011.

19. Strass, K., Moss, A., **Lansing, S**., 2011. Design, construction and validation of plug-flow, small-scale anaerobic digesters modified for temperate climates. American Ecological Engineering Society Conference. Asheville, NC. May 23-25, 2011.

20. Belle, A., **Lansing, S**., 2011. Enhancing methane production in dairy manure-based anaerobic digestions through co-digestion with forage radish cover crops (poster). American Ecological Engineering Society Conference. Asheville, NC. May 23-25, 2011.

21. Lee, H., Iwata, K., Mayer, T., Wertz, C., Maley, S., Henry, P., **Lansing, S**., 2011. Anaerobic digestion and treatment wetland design for treating source-separated latrine, black water, and grey water from a hospital complex in Haiti (poster). American Ecological Engineering Society Conference. Asheville, NC. May 23-25, 2011.

22. Nkrumah, A., **Lansing, S**., 2011. Anaerobic digestion of West African palm oil mill effluent (poster). American Ecological Engineering Society Conference. Asheville, NC. May 23-25, 2011.

23. Belle, A.J., **Lansing, S**., Weil, R., Felton, G., 2012. Creating renewable energy through sustainable nutrient management practices (poster). University of Maryland Bioscience Research and Technology Review Day. College Park, MD. November 27, 2012. (1st place graduate student poster: Environmental division)

24. Belle, A., **Lansing, S**., 2012. Enhancing methane production in dairy manure-based anaerobic digestions through co-digestion with forage radish cover crops (poster). National Sun Grant Conference. New Orleans, LA. October 3-5, 2012.

25. Witarsa, F., **Lansing, S.,** 2012. Quantifying methane production from lab-scale anaerobic digestion of dairy manure at low temperatures (poster). American Ecological Engineering Society Conference. Syracuse, NY. June 7-9, 2012.

26. Zhiteneva, V., Bowen, H., Gregoire, K., **Lansing, S**., 2012. Combined anaerobic digestion-microbial fuel cell technology for wastewater treatment (poster). University of Maryland Annual Undergraduate Research Day. College Park, MD. April 25, 2012.

27. **Lansing, S**., Bowen, H., Gregoire, K., Klavon, K., Moss, A., Lai, Y.J., Iwata, K., 2013. Methane production potential from source separated human wastewater in Haiti. American Ecological Engineering Society Conference. East Lansing, MI. June 10-12, 2013.

28. Witarsa, F., **Lansing, S**., Zhiteneva, V., Bowen, H., Kenny, C., 2013. Alternative sources of inoculum to increase CH_4 production in psychrophilic anaerobic digesters treating dairy manure. American Ecological Engineering Society. East Lansing, MI. June 10-12, 2013.

29. Zhiteneva, V., Bowen, H., Gregoire, K., **Lansing, S**., 2013. Waste to energy: Anaerobic digestion of latrine sludge (poster). American Ecological Engineering Society Conference. East Lansing, MI. June 10-12, 2013.

30. Belle, A.J., **Lansing, S**., Weil, R., 2013. A case study: Harvesting of forage radish cover crops for co-digesting in dairy manure anaerobic digesters. Northeast Sun Grant Anaerobic Digestion Workshop. Beltsville, MD. June 6, 2013.

31. Gregoire, K., Tatinclaux, M., Biffinger, J., Tender, T., **Lansing, S**., 2013. Anaerobic digestion-microbial fuel cell for wastewater treatment. The Electrochemical Society Annual Meeting. Toronto, Canada. May 12-16, 2013.

32. Belle, A.J., **Lansing, S**., Weil, R., 2013. Forage radish cover crops increases methane production in dairy digesters. The Clark School Engineering Sustainability Workshop. College Park, MD. April 22, 2013. (1st prize for graduate student presentations)

33. Wachsman, E. and **S. Lansing**, 2014. Tri-generation of heat, power, and potable water from waste. The 226th Meeting of the Electrochemical Society (ECS). Cancun, Mexico. October 5-10, 2014.

34. **Lansing, S**., Gregoire, K., Tender, L., 2014. Microbial fuel cell deployment for secondary treatment from anaerobic digestion effluent in Costa Rica. Progress in Biogas III. Stuttgart, Germany. September 10-11, 2014.

35. **Lansing, S**., 2014. Anaerobic digestion as a sewage treatment alternative for Haiti. American Society of Agricultural and Biological Engineers Conference. Montreal, Canada. July 14 - 16, 2014.

36. Belle, A, **Lansing, S**., Mulbry, W., Weil, R.R., 2014. Evaluation of forage radish cover crops as a co-digestion feedstock to optimize methane production in dairy anaerobic digesters. American Society of Agricultural and Biological Engineers Conference. Montreal, Canada. July 14 - 16, 2014.

37. Witarsa, F., **Lansing, S**., Yarwood, S., Mateu, M., Zhiteneva, V., 2014. Incubation of innovative methanogenic communities to seed anaerobic digesters. American Ecological Engineering Society Conference. Charleston, South Carolina. June 9-11, 2014.

38. Breese, A.P., Shriver, G., **Lansing, S**., 2014. Varying pre-treatments and retention times in a food waste anaerobic digester. American Ecological Engineering Society Conference. Charleston, South Carolina. June 9-11, 2014.

39. Arikan, O., Mulbry, W., **Lansing, S.**, 2014. Cow power at BARC: An evaluation of the BARC dairy's anaerobic digester (poster). USDA/ARS Beltsville Agricultural Research Center Poster Day, Beltsville, MD. April 23, 2014.

40. Belle, A.J., **Lansing, S.,** Weil, R., 2014. Feasibility of small-scale anaerobic digestion improves for dairy farmers through forage radish cover crops co-digestion. University of Maryland Graduate Research Interaction Day. College Park, MD. April 9, 2014.

41. Belle, A.J**.**, **Lansing, S**., Weil, R., 2014. Feasibility of small-scale anaerobic digestion improves for dairy farmers through forage radish cover crops co-digestion**.** University System of Maryland PROMISE AGEP Research Symposium and Professional Development Conference. College Park, MD. February 28, 2014.

42. Arikan, O., Mulbry, W., **Lansing, S.,** 2015. Effect of temperature on methane production from field-scale anaerobic digesters treating dairy manure. Waste to Worth Conference. Seattle, WA. March 30 – April 3, 2015.

43. **Lansing, S**., Eaton, A., Maile-Moskowitz, A., Galligan, T., 2015. Anaerobic digestion for sustainable sanitation linked to agricultural production in Haiti. American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

44. Yarberry, A., Walsky, T., **Lansing, S**., Yarwood, S., 2015. Effects of iron addition on biogas quality and methanogenic communities during anaerobic digestion of dairy manure. American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

45. Hassanein, A.A.M., Witarsa, F., Ling, Q., **Lansing, S**., 2015. Using digestion combined with microbial electrolysis cell to increase energy production. American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

46. Belle, A., **Lansing, S**., Mulbry. W., Weil, R., 2015. Forage radish: A renewable source of energy production for dairy farmers. American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

47. Maile-Moskowitz, A., **Lansing, S**., Eaton, A., Galligan, T., 2015. Haiti survey results: Sanitation practices, limitations and willingness to pay for sanitation facilities (poster). American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

48. Perantoni, A., Yarberry, A., **Lansing, S**., Yarwood, S., Torrents, S., 2015. Enhancing biogas quality in anaerobic digestion systems with iron (III) additivies (poster). American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015. (1st place in student poster competition).

49. Kulow, A., **Lansing, S**., Moss, A., 2015. Anaerobic digestion of poultry litter and post-digestion nutrient recovery (poster). American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

50. Witarsa, F., **Lansing, S**., Hassanein, A.A.M., Yihong, G., Ling, Q., 2015. Comparative life cycle assessment (LCA) of unheated Chinese dome digesters with heated and insulated plug-flow digesters in the US (poster). American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

51. Bryant, T., Gaimaro, J., Shingleton, C., Wallach, M., Zester, J., **Lansing, S**., Kangas, P. 2015. Experimental anaerobic digestion of algae for biogas production (poster). American Ecological Engineering Society Conference. Stillwater, OK. June 2-5, 2015.

52. Arikan, O., Mulbry, W., Rice, C.P., **Lansing, S**., 2015. The fate and effect of monensin during anaerobic digestion of diary manure. American Chemical Society National Meeting. August 16-20, 2015. Boston, MA.

iii. UNREFEREED CONFERENCE PROCEEDINGS with PRESENTATIONS

1. Nairn, R.W., Mercer, M.N., **Lipe (Lansing), S.A.**, 2000. Alkalinity generation and metals retention in vertical flow treatment wetlands. American Society for Surface Mining and Reclamation 17th National Meeting. Tampa Bay, Florida. June 11-15, 2000.

2. Nairn, R.W., Mercer, M.N., **Lipe (Lansing), S.A**., 2000. Metal sequestration processes in mine drainage treatment wetlands. 7th International Conference on Wetland Systems for Water Pollution Control. Lake Buena Vista, Florida. November 11-16, 2000.

3. **Lansing, S.,** 2006. Gas production and water quality analysis of agricultural biodigesters in the Parismina Watershed of Costa Rica. The Ohio State University Hayes Graduate Research Forum Proceedings. Columbus, OH. April 22, 2006.

4. **Lansing, S**., Martin, J.F., Botero, R.B., 2006. Methane production and water quality improvements in agricultural biodigesters in Costa Rica. American Society of Agricultural and Biological Engineers Conference Proceedings. Portland, OR. July 9-12, 2006.

5. **Lansing, S**., Martin, J.F., Viquez, J., Botero, R.B., 2009. Electricity production in small-scale swine and dairy digesters in Costa Rica. American Society of Agricultural and Biological Engineers Conference Proceedings. Reno, NV. June 22-24, 2009.

6. **Lansing, S**., Martin, J.F., Botero, R.B., 2009. Optimizing small-scale anaerobic digestion in Costa Rica through co-digestion. American Society of Agricultural and Biological Engineers Conference Proceedings. Reno, NV. June 22-24, 2009.

7. **Lansing, S**., Klavon, K., 2012. Small-scale anaerobic digestion in the United States: Design options and financial viability. Got Manure? Enhancing Environmental and Economic Sustainability. AgSTAR, Cornell's PRO-DAIRY, New York State Energy Research and Development Authority and USDA Conference. Syracuse, NY. March 27-29, 2012.

8. Lisboa, M.S., **Lansing, S.**, Jackson, C., 2012. On-farm co-digestion of food waste with dairy manure. Got Manure? Enhancing Environmental and Economic Sustainability. AgSTAR, Cornell's PRO-DAIRY, New York State Energy Research and Development Authority and USDA Conference. Syracuse, NY. March 27-29, 2012.

9. Gregoire, K., Tender, L.M., **Lansing, S.**, 2012. Hybrid anaerobic digester-microbial fuel cell for energy and nutrient capture from high-strength wastewater. American Chemical Society National Conference Proceedings. San Diego, CA. March 25-29, 2012.

10. Gregoire, K., Tender, L.M., **Lansing, S.**, 2012. Hybrid anaerobic digester-microbial fuel cell for energy and nutrient capture from high-strength wastewater. Water Environmental Federation: WEFTEC Conference. New Orleans, LA. September 29 – October 2, 2012.

11. **Lansing, S**., Lisboa, M.S., 2013. Characterizing food waste substrates for co-digestion through anaerobic toxicity assays (ATA) and biochemical methane potential (BMP). American Society of Agricultural and Biological Engineers Conference Proceedings. Kansas City, MO. July 21-24, 2013.

12. Gregoire, K., **Lansing, S**., 2013. Hybrid anaerobic digester-microbial fuel cell for energy and nutrient capture from high-strength wastewater. American Society of Agricultural and Biological Engineers Conference Proceedings. Kansas City, MO. July 21-24, 2013.

13. **Lansing, S**., 2013. Methane production potential from source separated human wastewater in Haiti. Northeast Agricultural and Biological Engineers Conference Proceedings. Altoona, PA. June 16-19, 2013.

14. Wang, Y., **Lansing, S.,** Witarsa, F., Lai, Y., 2013. The effect of temperature on methane production: A simulation model. Northeast Agricultural and Biological Engineers Conference Proceedings. Altoona, PA. June 16-19, 2013.

15. Belle, A**, Lansing, S**., 2013. Forage radish cover crops increases renewable energy production of dairy digesters. Northeast Agricultural and Biological Engineers Conference Proceedings. Altoona, PA. June 16-19, 2013. (1st prize for student presentations).

16. Saer, A., **Lansing, S**., Davitt, N., Graves, R., 2013. Lifecycle assessment of a food waste composting system: environmental impact hotspots. Northeast Agricultural and Biological Engineers Conference Proceedings. Altoona, PA. June 16-19, 2013.

E. CONTRACTS AND GRANTS

I have been awarded 29 grants valued at $1.91 million. I served as the PI for $1.80 million of the grant dollars awarded. Granting agencies have included federal government (National Science Foundation - 2 grants, USAID, USDA, US Air Force, US Dept. of Transportation, Sustainable Agricultural Research & Education (SARE), and USGS), private foundations (Gates Foundation - 2 grants), state agencies (Maryland Dept. of Agriculture, Maryland Industrial Partnerships), and UMD competitive programs (UMD Office of Sustainability, UMD-NSF ADVANCE program, UMD Council on the Environment, and Maryland Agricultural Experiment Station).

1. **Quantifying and demonstrating scrubbing H_2S from farm-based anaerobic digestion systems**
   Sponsor: USDA-NIFA through Northeast SARE
   Funding: $216,879 (8/2015 – 7/2017)
   Role: Principal Investigator (co-PIs: Gary Felton, UMD; Curt Gooch, Cornell Univ.)

2. **Novel anaerobic microbial preservation methods for a digestion starter kit**
   Sponsor: US Air Force through United Technology Corporation (UTC)
   Funding: $99,934 (5/2015 – 3/2016)
   Role: Principal Investigator (co-PI: Stephanie Yarwood, UMD)

3. **Monitoring poultry litter anaerobic digestion and nutrient capture in Maryland**
   Sponsor: Maryland Department of Agriculture
   Funding: $92,326 (6/2015 – 12/2016)
   Role: Principal Investigator

4. **The fate of emerging contaminants in poultry litter digestion**
   Sponsor: USGS through Maryland Water Resources Research Center
   Funding: $34,970 (3/2015 – 2/2016)
   Role: Principal Investigator (co-PIs: Lance Yonkos and Stephanie Yarwood, UMD)

5. **Tri-generation of heat, power, and potable water from waste**
   Sponsor: Bill & Melinda Gates Foundation
   Funding: $50,000 (3/2015 – 2/2016)
   Role: Co-PI (PI: Eric Wachsman, UMD)

6. **Council on the Environment Junior Faculty Award**
   Sponsor: Council on the Environment, University of Maryland
   Funding: $3,000 (6/2015 – 12/2015)
   Role: Principal Investigator

7. **Alternative Energy Internship Mentor Fund**
   Sponsor: National Cathedral School, Washington DC
   Funding: $1,000 (6/2015 – 8/2015)
   Role: Principal Investigator

8. **Ammonia removal from digested poultry litter**
   Sponsor: Maryland Industrial Partnerships (MIPS)
   Funding: $249,913 (7/2014 – 6/2016)
   Role: Principal Investigator (Industrial Partner: Planet Found Energy Development)

9. **Waste to energy: Gasification of poultry litter**
   Sponsor: Maryland Industrial Partnerships (MIPS)
   Funding: $249,995 (7/2014 – 6/2016)
   Role: Principal Investigator (Industrial Partner: The Crimson Group)

10. **High-rate anaerobic digestion pilot unit**
    Sponsor: Maryland Industrial Partnerships (MIPS)
    Funding: $99,992 (6/2014 – 6/2015)
    Role: Principal Investigator (Industrial Partner: FibeRight)

11. **Pilot anaerobic digester for campus food waste conversion**
    Sponsor: UMD Sustainability Fund
    Funding: $20,000 (2014 – 2015)
    Role: Co-PI (PI: Steven Hutcheson, UMD; co-PI: Rick Kohn, UMD)

12. **Incentivizing sanitation with biogas in Haiti: Stage 1 pilot digester evaluation**
    Sponsor: USAID
    Funding: $99,987 (3/2013 – 12/2014)
    Role: Principal Investigator (co-PI: Alex Eaton, Biobolsa in Mexico)

13. **Optimizing energy-positive wastewater treatment systems by integrating fundamental aquatic chemistry and microbiology knowledge**
    Sponsor: University of Maryland NSF ADVANCE Grant
    Funding: $20,000 (6/2013 – 12/2014)
    Role: Principal Investigator (co-PIs: Stephanie Yarwood and Alba Torrents, UMD)

14. **Understanding H_2S production in anaerobic digesters & its effect on solid oxide fuel cell**
    Sponsor: Maryland Agricultural Experimental Station
    Funding: $34,970 (2013 – 2014)
    Role: Principal Investigator (Co-PI: Eric Wachsman, UMD)

15. **Performance and optimization of small-scale digesters for energy production and treatment of manure**
    Sponsor: USDA Research Support Agreement with Beltsville Agriculture Research Center
    Funding: $146,591 (2012 – 2018)
    Role: Principal Investigator

16. **Hybrid anaerobic digesters-microbial fuel cell for energy & nutrient capture**
    Sponsor: University of Maryland Office of International Affairs
    Funding: $466 (2012)
    Role: UMD Faculty Travel Award

17. **Hybrid anaerobic digesters-microbial fuel cell for energy & nutrient capture**
    Sponsor: Bill & Melinda Gates Foundation
    Funding: $100,000, Co-PI portion: $33,333 (3/2011—3/2012)
    Role: Co-PI (PI: Leonard Tender, NRL)

18. **Developing inoculum to increase anaerobic digestion efficiency in winter months**
    Sponsor: Sustainable Agriculture Research & Education (SARE)
    Funding: $14,974 (2011 – 2013)
    Role: Principal Investigator (Graduate student grant given to my Ph.D. student)

19. **Creating renewable energy through sustainable nutrient management practices – Digestion of manure and cover crops to reduce fossil fuel use in the Northeast**
    Sponsor: US Dept. of Transportation through Northeast Sun Grant Institute of Excellence
    Funding: $149,966 (8/2010 – 8/2013)
    Role: Principal Investigator (Co-PIs: Ray Weil and Gary Felton, UMD)

20. **Assessing the impact of Haitian internal refugees on hospital water and wastewater infrastructure and its implications for future sustainable treatment designs**
    Sponsor: National Science Foundation
    Funding: $39,982 (1/2010 – 6/2011)
    Role: Principal Investigator

21. **Creating renewable energy through sustainable nutrient management practices – Co-digestion of manure and radish cover crops**
    Sponsor: Maryland Agricultural Experimental Station
    Funding: $30,000 (2010 – 2011)
    Role: Principal Investigator (Co-PI: Ray Weil, UMD)

22. **Graduate research assistantship in sustainable bioenergy**
    Sponsor: Sustainable Agriculture Research & Education (SARE)
    Funding: $90,000 (2009 – 2012)
    Role: Principal Investigator

23. **Low-cost anaerobic digesters for manure treatment and renewable energy production**
    Sponsor: US Geological Survey/Maryland Water Resources Research Center
    Funding: $36,433 (2009 – 2010)
    Role: Principal Investigator

24. **Small-scale digesters for improving livelihoods in Costa Rica**
    Sponsor: National Science Foundation
    Funding: $14,160 (2007 – 2008)
    Role: Doctoral Dissertation Enhancement Grant (PI: Jay Martin, Ohio State Univ)

25. **Optimizing energy production/waste treatment in smaller digesters**
    Sponsor: Ohio Agriculture Research and Development Center SEEDS Grant
    Funding: $4,992 (2007 – 2008)
    Role: Graduate student competition

26. **Human waste treatment for Partners in Health complex, Haiti**
    Sponsor: Lower South Carolina Episcopal Diocese
    Funding: $4,000 (2007-2008)
    Role: Principal Investigator

27. **Digestion of swine manure/used cooking grease in small digesters**
    Sponsor: Sigma Xi *Grants-in-Aid of Research*
    Funding: $1000 (2006)
    Role: Graduate student competition
28. **Gas production and water quality analysis of agricultural biodigesters in the Parismina Watershed of Costa Rica**
    Sponsor: Ohio State Center for Latin American Studies Tinker Grant
    Funding: $1,600 (2005)
    Role: Graduate student competition
29. **An ecological treatment system for the treatment and utilization of animal wastewater**
    Sponsor: Ohio State Sigma Xi Chapter
    Funding: $500 (2005)
    Role: Graduate student competition

F. FELLOWSHIPS, PRIZES and AWARDS

I have received Mentor of the Year (a national award), two Junior Faculty Awards (UMD Council on the Environment and AGNR Junior Faculty award), Outstanding Faculty Research (Environmental Science and Technology department) and UMD Distinguished Research Recognition (3 times).

1. **Junior Faculty Award.** UMD Council on the Environment, 2015
2. **On-Campus Junior Faculty Award.** College of Agriculture and Natural Resources, 2015
3. **Faculty Mentor of the Year.** Institute on Teaching and Mentoring, The Compact for Faculty Diversity (national award), 2014
4. **University of Maryland Fearless Idea.** Research banner on Reagents Drive, 2014
5. **International Service Award.** Gamma Sigma Delta National Capital Area Chapter, 2014
6. **Outstanding Faculty Research Award.** UMD Env. Science and Technology, 2010.
7. **Distinguished Research Recognition.** University of Maryland: 2010, 2011 and 2015
8. **Mary S. Muellhaput Presidential Fellowship.** Ohio State University, 2008
9. **Travel Award.** American Society of Ecological Engineering, 2008
10. **Ohio Agricultural International Research & Development Fellow**. 2004-2005
11. **Graduate Fellow,** Ohio State University, 2003-2004
12. **Graduate Student of the Year.** Ohio State Univ, Food, Ag. & Bio Engineering, 2007
13. **First place.** Ohio State University's Hayes Graduate Research Forum, 2006
14. **Travel Award.** American Society of Ecological Engineering, 2006
15. **Ray Travel Award.** Ohio State University Council of Graduate Students, 2005
16. **Ray Travel Award.** Ohio State University Council of Graduate Students, 2004

17. **First place – Environmental Category.** Univ. of Oklahoma Undergraduate Research Opportunities, 2000
18. **Environmental Science Student of the Year.** University of Oklahoma, 2000
19. **Oklahoma Public Health Excellence Award, 2000**
    Role: Lead presenter for the OU Env. Science and Engineering class project

G. REVIEWING ACTIVITY for JOURNALS and OTHER LEARNED PUBLICATIONS

Peer-Review Journal Reviews:
I have completed 46 reviews for 18 different Peer-Reviewed Journals.

Journal	Manuscripts Reviewed	Review Dates
Ecological Engineering	15	2005, 2006, 2007, 2009, 2010, 2013, 2014
Biological Engineering Transactions	6	2010-2012
Journal of Cleaner Production	4	2012-2013
Waste Management	3	2013
Biotechnology and Bioengineering	2	2007, 2009
Bioresource Technology	2	2009, 2014
Journal of Env. Planning & Management	2	2014, 2015
Biomass and Bioenergy	3	2012, 2015
Environmental Science & Technology	1	2013
Transactions of the ASABE	1	2014
British Biotechnology Journal	1	2013
Applied Engineering	1	2011
Environmental Engineering Science	1	2010
Applied Energy	1	2008
Water Research	1	2008
Journal of Environmental Management	1	2007
Resources, Conservation and Recycling	1	2006
TOTAL	**46**	

TEACHING, MENTORING, and ADVISING

A. COURSES TAUGHT IN THE LAST FIVE YEARS

I developed and taught three undergraduate courses in Ecological Technology Design (ENST 481: Ecological Design, ENST 415: Renewable Energy, and ENST 499D: Anaerobic Digestion Design and Testing). I have taught two graduate-only classes (ENST 681: Ecological Design and ENST 689B: Sustainable Design in Haiti). I have also taught ENST 405: Energy and the Environment, Capstone sections (three times), field experience, special topics and M.S. and Ph.D. research courses.

Semester	Courses Taught	Credit Hours	Enrollment
Spring 2009	ENST 405: Energy and the Environment	3	37
	ENST 499: Special Topics in ENST	3	1
Fall 2009	ENST 305: Alternative Energy	3	41
	ENST 615: Advanced Alternative Energy	3	10
	ENST 499: Special Topics in ENST	3	1
Spring 2010	ENST 481: Ecological Design	3	13
	ENST 681: Advanced Ecological Design	3	5
Fall 2010	ENST 305: Alternative Energy	3	28
	ENST 615: Advanced Alternative Energy	3	10
	ENST 470: Nat. Resource Mgmt. Capstone	4	6
	ENST 689B: Sustainable Design in Haiti	1	8
	ENST 799: Masters Thesis Research	1-6	1
Spring 2011	ENST 481: Ecological Design	3	22
	ENST 681: Advanced Ecological Design	3	5
	ENST 689L: Comm. & Prof. Development	2	1
	ENST 898: Pre-candidacy Research	1-6	1
Fall 2011	ENST 305: Alternative Energy	3	39
	ENST 615: Advanced Alternative Energy	3	5
	ENST 499D/689D: AD Design & Testing	1	5
	CONS 789: Research Paper CONS	1	1
	ENST 799: Masters Thesis Research	1-6	2
	ENST 898: Pre-candidacy Research	1-6	2
Spring 2012	ENST 481: Ecological Design	3	22
	ENST 499D/689D: AD Design & Testing	1	6
	CONS 789: Research Paper CONS	1	1
	ENST 489: Field Experience	3	1
	ENST 799: Masters Thesis Research	1-6	1
	ENST 898: Pre-candidacy Research	1-6	2
Fall 2012	ENST 415: Renewable Energy	3	38
	ENST 499D/689D: AD Design & Testing	1	5
	ENST 799: Masters Thesis Research	1-6	1
	ENST 898: Pre-candidacy Research	1-6	2
Spring 2013	ENST 481: Ecological Design	3	26
	ENST 681/MEES 681: Ecological Design	3	11
	ENST 472: Capstone II	3	6
	ENST 898: Pre-candidacy Research	1-6	2
	ENST 489: Field Experience	3	1
Fall 2013	ENST 415: Renewable Energy	3	34
	ENST 898: Pre-candidacy Research	1-6	2
	ENST 899: Doctoral Dissertation Research	1-6	1
Spring 2014	ENST 481: Ecological Design	3	38
	ENST 898 and 899: Dissertation Research	1-6	4
Fall 2014	ENST 415: Renewable Energy	3	37
	ENST 899: Doctoral Dissertation Research	1-6	2
Spring 2015	ENST 481: Ecological Design	3	38
	ENST 681/MEES 681: Advanced Eco. Design	3	3
	ENST 472: Capstone II	3	5
	ENST 899: Doctoral Dissertation Research	1-6	2

B. COURSE OR CURRICULUM DEVELOPMENT

I have developed four new courses that were identified voids in the curriculum for the ENST Ecological Technology Design track and helped to develop the requirements for the Ecological Technology Design concentration.

1. B.S. in Ecology Design and Technology (2009-present)
   Worked with faculty colleagues to develop the undergraduate curriculum for ENST students concentrating in Ecological Technology Design
2. ENST 481: Ecological Design (2010)
   Developed a survey course in ecological design and engineering with a laboratory.
3. ENST 681: Advanced Ecological Design (2010 and 2013)
   Developed an advanced course in ecological design focusing on literature reviews and proposal writing for ecological design experimental testing.
4. ENST 415: Renewable Energy (2012)
   Developed a survey course in renewable energy focusing on bioenergy, solar and wind.
5. ENST 615: Advanced Alternative Energy (2009)
   Developed an advanced survey course in renewable energy focusing on bioenergy, solar and wind through literature reviews of new technologies and experimental testing.
6. ENST 305: Alternative Energy (2009)
   Developed a survey course in energy dynamics and alternative energies, such as wind, solar, and anaerobic digestion.
7. ENST 499D/ENST 689D: Anaerobic Digestion Design and Testing (2011)
   Developed a seminar course on anaerobic digestion design and experimental testing.
8. ENST 689B: Sustainable Design in Haiti (2010)
   Developed a graduate course incorporating sustainable technologies and proposal writing.

C. TEXTBOOKS, MANUALS, NOTES, SOFTWARE, WEB PAGES and OTHER CONTRIBUTIONS TO TEACHING

Guest Lectures

Sought after by colleagues across campus for guest lectures, with 16 guest lectures given.

1. PUAF 699Z: Climate Science and Policy Graduate Seminar. Lecture: “Renewable Energy: Is this our future?” (Fall 2011; Fall 2012; Fall 2013)
2. ENST 233: Introduction to Environmental Health. Lecture: “Renewable Energy: State of the Technology”. (Spring 2012)
3. ENST 602: Research Principles and Methods in Environmental Science & Technology. Lecture: “Laboratory Safety.” (Fall 2012)
4. ENST 602: Research Principles and Methods in Environmental Science & Technology. Lecture: “Waste to Energy.” (Fall 2011; Fall 2010; Fall 2009)
5. GEMS 202: Gemstone BE PURE: Biogas efficiency: Producing and utilizing renewable energies. Lecture: “Anaerobic Digestion Design and Technology.” (Spring 2011)

6. CPSP 218E: Environment, Technology, Economy Sophomore Colloquium for College Park Scholars. Lecture: "Renewable Energy: Is this our future?" (Fall 2011; Fall 2012)
7. HONR229V: Energy Sources for the Future: Separating Science from Pseudoscience. Lecture: "Anaerobic Digestion and other Waste to Energy Applications" (Fall 2010)
8. PUAF 289: Cross-Examining Climate Change. Lecture: "Renewable Energy" (Spring 2010)
9. ENST436: Emerging Environmental Threats. Lecture: "Renewable Energy" (Spring 2009; Spring 2010)
10. CPSP 118E: College Park Scholars Program Colloquium, Environment, Technology and Economy. Lecture "Renewable Energy" (Fall 2009)

D. ADVISING: RESEARCH DIRECTION

I have advised 22 undergraduate students, 2 high school students, 4 MS and 6 PhD students at UMD. I also co-advised 5 students at EARTH Univ. in Costa Rica for their licencia (equivalent to a honors thesis project). Advising and mentoring diverse students is a priority for my lab group, with two African American women Ph.D. advisees, two African-American undergraduate assistants, majority women and multiple nationalities represented in my research team.

i. Undergraduate Research Advisees

1. Trevor Young — Palm oil-anaerobic digestion: 2011-2012.
   - B.S. in ENSP: Environmental Economics, May 2012.
   - Current employment: CEO of Tseai Energy Unlimited: a start-up company developing palm oil anaerobic digestion and social development in Sierra Leone, Africa.
2. Akua Nkrumah — Palm oil co-digestion project: 2011-2012.
   - B.S. in ENST: Ecological Technology Design, December 2011.
   - Current employment: Innovations Manager, Jelora Ventures: Waste Management Professionals, Osu-Accra, Ghana.
3. Helen Lee — Haiti anaerobic digestion design: 2011-2012.
   - B.S. in ENST: Environmental Health, December 2011.
   - Current employment: Sustainability Office Program Manager American University, Washington D.C., USA.
4. Maria Sol Lisboa — Food waste co-digestion: 2011-2012.
   - B.S. in Engineering in Renewable Natural Resources at Universidad Nacional de Cuyo, Argentina, 2012.
   - Current employment: Fulbright Scholar at Cornell University in Env. Engineering.
5. Adam Isaacson: — Renewable energy accounting and auditing: 2010.
   - B.Acc., May 2010.
   - Current employment: Senior Accountant, Ernst & Young. Boston. MA, USA.
6. Kayoko Iwata. — Haiti AD design: 2011-2012.
   - B.S. in ENST: Environmental Health, December 2011.
   - Co-author on Haiti publication under review
   - Current employment: Researcher at Nat. Institute of Radiological Sciences. Chiba, Japan.

7. Grant Baldwin-Hughes: Labview programmer for small-scale AD: 2011-12.
   - B.S. in ENST: Ecological Technology Design, December 2011.
   - Current employment: Layout Foreman at Env. Quality Resources. Arbutus, Maryland.
8. Brent Murrell: Design of small-scale digesters: 2011-2012.
   - B.S. in ENST: Ecological Technology Design, May 2012.
   - Current employment: Priority Environmental Services, Owner.
9. Brent Levy: Food waste co-digestion: 2011-2012.
   - B.S. in ENST: Ecological Technology Design, December 2012.
   - Current employment: Estimator Asst. at Environmental Quality Resources, Arbutus, MD.
10. Holly Bowen: Anaerobic digestion-microbial fuel cell: 2011-2013.
    - B.S. in ENST: Ecological Technology Design
    - Co-author on a Haiti design publication under review
    - Current employment: PhD. Student in ENST: Soil and Watershed Science.
11. Veronika Zhitenova: Anaerobic digestion-microbial fuel cell: 2011-2013.
    - B.S. in ENST: Ecological Technology Design, May 2013.
    - Presented original research at the Undergraduate Research Day.
    - Current employment: M.S. Student at the Colorado School of Mines, Env. Engineering
12. Caiti Jackson: Food waste digestion project: 2011-2012.
    - B.S in ENST: Environmental Health, May 2013.
    - Co-author on a conference proceeding for AgSTAR annual conference.
13. Ceire Kenny: Small-scale digestion design: 2011-2013.
    - B.E in Civil and Env. Engineering, May 2014.
    - Currently a MS student at the University of New South Wales in photovoltaic and solar energies engineering.
14. Isabel Enerson: Constructing co-digestion digesters: 2012-2013.
    - B.S. in ENST: Ecological Technology Design, May 2013.
    - Currently a M.S. student at the KTH Royal Institute of Technology in Environmental Engineering and Sustainable Technology, Stockholm, Sweden
15. James Thomas: Small-scale digestion design: 2013
    - Major in Civil and Environmental Engineering, expected graduation: Spring 2015.
    - National Socio-Environmental Synthesis Center (SYSYNC) intern
16. Andra Naing: Low-cost biogas test kits for Haiti: 2013.
    - B.S. in ENST: Ecological Technology Design, December 2013.
    - Current employment: Environmental Consulting.
17. Jarret Poole: Small-scale digestion testing: 2013-2014.
    - B.S. in ENST: Ecological Technology Design, December 2014.
18. Angela Perantoni: Food waste digestion testing: 2014-2015.
    - B.S. in ENST: Ecological Technology Design, May 2015.
    - First place in the American Ecological Engineering Society student poster competition.

19. Ayella Maile-Moskowitz: Sulfur and iron dynamics in AD: 2013-2015.
    - Major in ENST: Ecological Technology Design, expected graduation: Spring 2016.
20. Jase Zester: Poultry litter digestion design: 2014-2015.
    - B.S. in ENST: Ecological Technology Design, May 2015.
    - Current employment: consultation on the poultry litter digester by our company partner.
21. Sofia D'Ambrosio: Poultry litter digestion design: 2014-2015.
    - Major in ENST: Ecological Technology Design, expected graduation Spring 2016.
22. Emily Goo: Small-scale anaerobic digestion design: 2014-2015.
    - Major in ENST: Ecological Design and Technology, expected graduation Spring 2017.

EARTH University in Costa Rica (Co-Advisor to the following students with Raul Botero)

1. Luisa Yomara Aldana Catalán, Licencia (B.E. with Honors) 2008.
    - Honors thesis: "Suplementación de biodigestores con Vinaza y su efecto sobre la producción y calidad del biogas y sus efluentes."
    - Translated: 'Supplementing biodigesters with biogases and the effect on the production and quality of biogas and effluent.'
2. Tatiana Nogueira da Silva, Licencia (B.E. with Honors) 2007.
    - Honors thesis: "Evaluación de la suplementación de biodigestores con grasa residuals en la Universidad EARTH."
    - Translated: 'Evaluation of supplementing digesters with residual grease at EARTH Univ.'
3. Ederson Dias da Silva, Licencia (B.E. with Honors) 2007.
    - Honors thesis: "Evaluación de la suplementación de biodigestores con grasa residuals en la Universidad EARTH."
    - Translated: 'Evaluation of supplementing biodigesters with residual grease at EARTH University.'
4. Helen Michelle Martínez Mayorga, Licencia (B.E. with Honors) 2007.
    - Honors thesis: "Evaluación de la sostenibilidad de la biogeneración de electricidad, por medio del sistema de fermentación anaeróbica, en uma combinación de 2 biodigestores tipo Taiwan, alimentados con excretas porcinas y bovinas."
    - Translated: 'Evaluating the sustainability of biogenerating electricity using an anaerobic fermentation system that combines 2 types of Taiwanese-type biodigesters fed with swine and dairy manure.'
5. Joaquín Alejandro Víquez Arias, Licencia (B.E. with Honors) 2007.
    - Honors thesis: "Evaluación de la sostenibilidad de la biogeneración de electricidad, por medio del sistema de fermentación anaeróbica, en uma combinación de 2 biodigestores tipo Taiwan, alimentados con excretas porcinas y bovinas."
    - Translated: 'Evaluating the sustainability of biogenerating electricity using an anaerobic fermentation system that combines 2 types of Taiwanese-type biodigesters fed with swine and dairy manure.'

ii. High School Student Researchers

1. Atem Forwang: Small-scale digestion and composting: 2013.
   - High school intern on joint project with USDA.
   - Currently majoring in Civil and Environmental Engineering at UNC.
2. Elizabeth Crowdus: Food waste digestion: 2015.
   - High school intern on UMD Sustainability food waste digester.

iii. Master's

I have graduated three MS students and have one current MS student.

1. Andrew Moss Advisor: 2009-2012.
   - M.S. in ENST: Ecological Technology Design, December 2012.
   - **Thesis:** "Environmental sustainability and waste treatment capabilities of small-scale anaerobic digestion systems."
   - **Current employment:** Technical Director, Planet Found Energy Development, Inc. Pocomoke City, MD and Owner of CoreEcology: AD consulting company.
2. Katherine Strass Klavon Advisor: 2009-2011.
   - M.S. in ENST: Ecological Technology Design, December 2011.
   - **Thesis:** "A quantification of biogas production and wastewater transformation of a modified low-cost plug-flow anaerobic digester for use in temperate climate."
   - **Current employment:** Professional Engineer, Parsons Brinckerhoff, Baltimore, MD.
3. Alex Saer Advisor: 2011-2012.
   - M.S. in CONS: Sustainable Development & Conservation Biology, May 2012.
   - **Scholarly Paper**: "Life cycle assessment of food waste composting."
   - **Current employment:** Regional Supply Chain Authority, Universidad de los Andes, Bogotá, Colombia.
4. Anna Kulow Advisor: 2014-present.
   - M.S. in ENST: Ecological Technology Design, expected in 2016
   - **Thesis:** "Nutrient removal and antibiotic transformations in poultry litter digestion."

iv. Doctoral:

I have graduated four Ph.D. students, including one with a successful defense in June 2015, and I have two current Ph.D. students expected to graduate in 2016.

1. Ashley Belle Advisor: 2011-2015
   - Ph.D. in ENST: Ecological Technology Design, May 2015
   - **Dissertation**: "Coupling anaerobic digestion technology and forage radish cover copping to optimize methane production of dairy manure-based digestion."
   - **Current employment**: Frederick Douglass Teaching Fellow at Bloomsburg Univ. in PA
2. Kyla Gregoire Co-Advisor: 2010-2013
   - Ph.D. in Civil and Environmental Engineering, Dec 2013
   - **Dissertation:** "Hybrid anaerobic digesters-microbial fuel cell for energy and nutrient capture." Co-advisor with Dr. Torrents and Dr. Tender.
   - **Current employment:** AAAS Fellow at USAID.

3. Yongjiang Wang Co-Advisor: 2012-2014
   - Ph.D in Civil and Environmental Engineering at China Agricultural Univ., July 2014.
   - **Dissertation**: "Estimating thermal balance during composting of swine manure and wheat straw: A simulation model." Co-advisor with Luijan Han of China Ag. Univ.
   - **Current employment**: Asst. Professor of Ag. Engineering at Huazhong Ag. Univ.
4. Freddy Witarsa Advisor: 2011-2015
   - Ph.D. in ENST: Ecological Technology Design, successful defense in June 2015 with graduation in August 2015.
   - **Dissertation**: "Effectiveness of microbial inocula for psychrophilic anaerobic digestion of dairy manure."
   - **Current employment**: Post-doc in my lab in Fall 2015 on poultry litter AD and nutrient recovery.
5. Andrea Yarberry Advisor: 2013-present
   - Ph.D. ENST: Ecological Design and Technology, expected in 2016
   - **Dissertation**: Anaerobic digestion design for municipal solids waste digestion and H_2S dynamics in dairy-manure based digestion.
6. Laetitia Mulamula Advisor: 2012-present
   - Ph.D. in ENST: Ecological Design and Technology, expected in 2016.
   - **Dissertation**: "Energy modeling of sustainable food and sanitation technologies."

v. Graduate and Undergraduate Student Advisees' Awards
My graduate and undergraduate students have received 28 research awards.

1. Kyla Gregoire – **American Association for the Advancement of Science (AAAS) Fellow**, stationed at USAID: 2014-2015. PhD co-advisee in Env. Engineering. Graduated Dec. 2013.
2. Ashley Belle **– Diversity Fellowship** – UMD College of Agricultural and Natural Resources, 2012-2015. PhD student advisee. Graduated May 2015.
3. Freddy Witarsa **–** University of Maryland Graduate School **Outstanding Graduate Assistant**, 2015. Graduating August 2015.
4. Amro Hassanein **– International Graduate Research Fellowship** – UMD Graduate School, 2015. PhD student from NW Ag and Forestry University in China received this UMD award to work in my laboratory for three moths (2015). Graduated May 2015.
5. Pan Junting **– International Graduate Research Fellowship** – UMD Graduate School, 2015. PhD student from NW Ag and Forestry University in China received this UMD award to work in my laboratory for three moths (2015). Current PhD student in China.
6. Angela Perantoni –**First place in American Ecological Engineering Society Meeting student poster competition,** 2015. June 2-5th, Stillwater, OK. Graduated May 2015.
7. Freddy Witarsa **– International Graduate Research Fellowship** – UMD Graduate School, 2014. . Graduating August 2015
8. Ashley Belle **– Dean's Fellowship** – UMD College of Agricultural and Natural Resources, 2013. Graduated May 2015.

9. Freddy Witarsa **– Dean's Fellowship** – UMD College of Agricultural and Natural Resources, 2013. Graduating August 2015.
10. Freddy Witarsa – ENST **Outstanding Graduate Student**, 2015. Graduating August 2015
11. Angela Perantoni – College of Agriculture and Natural Resources Alumni Chapter Award **Outstanding Student – 4-year award**, 2015. Graduated May 2015.
12. Sofia D'Ambrosio – Gamma Sigma Delta National Capital Area Chapter, **Outstanding Undergraduate Student**, 2015. Current Undergraduate Research advisee.
13. Jase Zester **– Gamma Sigma Delta Undergraduate Student Scholarship**, 2015. ENST Graduated May 2015.
14. Sofia D'Ambrosio **– ENST Outstanding Undergraduate Student**, 2015. ENST Current Undergraduate Research advisee.
15. Ashley Belle **– ENST Outstanding Graduate Student**, 2015 - Graduated May 2015.
16. Ashley Belle **– International Conference Student Support Award**, 2014. Graduated May 2015.
17. Ashley Belle **– Jacob K. Goldhaber Travel Award**, 2014 Graduated May 2015.
18. Ashley Belle **-** Southern Regional Education Board- State Doctoral Scholars Program: **Travel Award** for Annual Institute on Teaching and Mentoring, 2014. Graduated May 2015.
19. Ashley Belle **-** College of Agriculture and Natural Resources Alumni Chapter Award - Outstanding Graduate Student, 2014. Graduated May 2015.
20. Ashley Belle **- First Place at Northeast Agricultural and Biological Engineering Conference (NABEC)** - Graduate student presentations, 2013. Graduated May 2015.
21. Ashley Belle **- First Place at UMD Sustainability Conference** – Graduate student poster, 2013. Graduated May 2015.
22. Freddy Witarsa **– Student Travel Award** – American Ecological Engineering Society, 2013. Graduating August 2015.
23. Veronika Zhiteneva **– Student Travel Award** – American Ecological Engineering Society, 2013. ENST Graduated May 2014.
24. Ashley Belle **- First Place at UMD Bioscience Day – Environmental Category**, 2011. Graduated May 2015.
25. Ashley Belle **– Student Travel Award** – American Ecological Engineering Society, 2011. Graduated May 2015.
26. Katherine Klavon **– Student Travel Award** – American Ecological Engineering Society, 2011. Graduated December 2010.
27. Andrew Moss **– Student Travel Award** – American Ecological Engineering Society, 2011. Graduated December 2011.
28. Helen Lee– **Student Travel Award** – American Ecological Engineering Society, 2011. Graduated May 2013.

E. EXTENSION ACTIVITIES

MEDIA ACTIVITIES: Radio, Television and Webcast Appearances.
I have been an invited guest on NPR (Baltimore) and Channel 8 (DC), participated in a video interactive exhibit at the Newark Museum and in a Maryland Clean Energy webcast in order to share my anaerobic digestion research activities with the public.

1. Maryland Clean Energy. 2009. Waste to energy: The biogas future with Stephanie Lansing. Airdate: July 20, 2009. Duration: 45 minutes. Available at: http://www.blogtalkradio.com/mdcetoday/2009/07/20/waste-to-energy-the-biogas-future-with-stephanie-lansing.
2. *Maryland Morning with* Sheilah Kast on Baltimore's NPR station, WYPR. 2010. Marylanders helping in Haiti, discussion of anaerobic digestion in Haiti. Airdate: March 25, 2010. Duration: 15 minutes. Available at: http://mdmorn.wordpress.com/2010/03/25/326101-marylanders-helping-in-haiti/
3. *NewsTalk with* Bruce DePuyt on Washington DC's Channel, 2010. Discussion of anaerobic digestion in Haiti. Airdate: March 9, 2010. Duration: 15 minutes.
4. *emPowered: Your Renewable Energy Future*, 2012. Featured **S. Lansing** as one of the five professors of Renewable Energy in an interactive exhibit at the Newark Museum to encourage middle school and high school students to pursue alternative energy careers, with opening reception on June 13, 2012.
5. *PBS:* Maryland Farm and Harvest, 2014. Episode 211. Featured **S. Lansing** as an expert on poultry litter digestion. Available at: http://www.mpt.org/programs/farm/ Duration: 26:48

MEDIA COVERAGE
My research or research conducted by my student advisees has been covered in local newspapers, including the Washington Post Magazine, and numerous University and regionals publications.

1. Corcoran, Kellie (ed.), 2009. Environmental studies overseas: Renewable energy in Caribbean rim. Maryland International: Connecting the University of Maryland & the World, Spring 2009 (1): pg. 13.
2. Davis, A.P. and Kearney, P. (eds.), 2009. 2009 Funded research: Low-cost anaerobic digesters for dairy manure treatment and renewable energy production. Maryland Water Resources Research Center, Spring 2009: pgs. 1-2.
3. Davis, A.P. and Kearney, P. (eds.), 2009. Featured scientist: Dr. Stephanie Lansing University of Maryland. Maryland Water Resources Research Center, Spring 2009: pg. 6.
4. Robbins, Lindsey, 2009. New lab hosts innovative start-ups: Award-winning methane-to-energy venture among first users at University of Maryland facility. Hyattsville Gazette. Thursday, May 28, 2009. pg. B-6.
5. Houppert, Karen, 2009. What are they thinking? A look at some of the people driving fascinating research at area universities: Cab-driving senior wins competition to light up homeland. Washington Post Magazine. November 1, 2009. pgs. 33-34.
6. Ventsias, Tom, 2010. Global Perspective: Waste becomes renewable energy. Between the Columns, University of Maryland. March 10, 2010.

7. Ventsias, Tom, 2010. Fueling a dream: Maryland student harnesses the power of entrepreneurial thinking. Terp Magazine. Winter 2010. Available at: http://www.terp.umd.edu/4.4/fueling/
   - Won the Gold Medal for Best Article" of 2010 among 700 institutions in the Council for Advancement and Support of Higher Education (CASE) District II competition).
8. Peterson, Kirsten, 2010. ENST Capstone students design anaerobic digestion system for Haitian hospital. UMD College of Agricultural and Natural Resources. November 11, 2010. Available at: http://www.agnr.umd.edu/news/article.cfm?id=3c524c340a5a5a8f0161091e4027102b
9. Eigmina, Kintija, 2010. Dr. Stephanie Lansing travels to Haiti to build a renewable energy system. Maryland International: Connecting the University of Maryland & the Word. Spring 2010 (II): 9.
10. Eigmina, Kintija, 2010. A greener future: Dr. Lansing is turning waste into renewable energy. Momentum: University of Maryland College of Agriculture and Natural Resources 8 (2): 8-10.
11. Eigmina, Kintija, 2010. Dr. Stephanie Lansing to travel to Haiti to build a renewable energy system that treats wastewater. University of Maryland Department of Environmental Science and Technology News. Available at: http://agnr.umd.edu/Academics/departments/ENST/News/Stephanie%20Lansing%20.cfm
12. Saravia, Claire, 2010. Working with waste: Students experiment with excrement to create fuel for Haiti hospital. Diamondback: University of Maryland's Independent Study Newspaper. December 3, 2010.
13. Communiqué, 2010. Alumni News: Featuring Dr. Stephanie Lansing. University of Oklahoma, Civil Engineering and Environmental Science Communiqué. Spring 2010.
14. Zimmermann, J., 2014. Maryland scientists turning poultry waste into energy. Diamondback: University of Maryland's Independent Study Newspaper. September 24, 2014. Available at: http://www.diamondbackonline.com/news/article_152c402e-4390-11e4-add8-001a4bcf6878.html
15. Shih, Karen. 2014. Waste not: Professor creates renewable energy from an unpleasant source. Terp Magazine, Innovation, Winter 2014 issue. Available at: http://terp.umd.edu/waste-not/#.UxNyqP3dK04.
16. Gavin, S., 2014. Must be comfortable working with waste: ENST professor helps farmers decrease pollutants, create energy from manure. MomentUM: University of Maryland College of Agriculture and Natural Resources 12 (1). Available at: http://agnr.umd.edu/sites/default/files/_docs/newsletters/WebSpring2014MomentUM.pdf
17. Kobell, R., 2012. Methane digester helps dairy farmer convert manure into moolah. Chesapeake Bay Journal 22 (1): Pages 1 and 19.
18. Wren, K., 2015. Efforts to building science and technology capacity gain foothold in Haiti. February 18, 2015. The American Association for the Advancement of Science (AAAS). Available at: http://www.aaas.org/news/efforts-build-science-and-technology-capacity-gain-foothold-haiti

19. Newman, Katelyn, 2015. Not just chicken poop. The STAR Democrat, Easton MD. April 28, 2015. Available at: http://www.stardem.com/news/state_news/article_99e8efc7-2d4b-5271-800e-96f19a8673a8.html

20. Newman, Katelyn, 2015. Not just poop: MD farmer converts chicken waste to energy. The Daily Record. May 11, 2015. Available at: http://thedailyrecord.com/2015/05/11/not-just-poop-md-farmer-converts-chicken-waste-to-energy/

SERVICE

A. PROFESSIONAL

i. Editorial Board

Editorial Board of the Elsevier journal *Ecological Engineering* (impact factor: 3.2). The leading journal in the field of Ecological Engineering (2015 – present).

ii. Offices and Committee Memberships Held in Professional Organizations

I have held offices in national and local chapters of professional organization, including Chair.

American Society of Agricultural and Biological Engineers (ASABE)

National Society Level:

1. Chair, ASABE Committee BE-22: Ecological Engineering (2012-2013).
2. Secretary, ASABE Committee: FPE-707: Food and Organic Waste Management and Utilization (2013-2014)
3. Vice-Chair, ASABE Committee BE-22: Ecological Engineering (2011-2012).
4. Secretary, ASABE Committee BE-22: Ecological Engineering (2010-2011).

Regional Area Chapter:

1. Treasurer, ASABE Capital Area Chapter (2012-present).
2. Secretary, ASABE Capital Area Chapter (2011-2012).

Gamma Sigma Delta (GSD): Honor Society of Agriculture

Regional Area Chapter:

1. Treasurer, GSD University of Maryland-National Capital Area Chapter (2010-2011).
2. Secretary, GSD University of Maryland-National Capital Area Chapter (2009-2010).

American Ecological Engineering Society (AEES)

University of Maryland Student Chapter

1. Faculty Mentor for this newest AEES student chapter, AEES Univ. of MD Chapter (2015)

Ohio State University Student Chapter

2. President, AEES Ohio State University Chapter (2006)
3. Treasurer, AEES Ohio State University Chapter (2005)

PROFESSIONAL ORGANIZATION MEMBERSHIP

1. American Ecological Engineers Society (2004-present)
2. American Society of Agricultural and Biological Engineers (2008-present)
3. Gamma Sigma Delta – The Honor Society of Agriculture (2009-present)
4. Chesapeake Biogas Innovation Organization (CBIO) – founding member (2010-present)
5. Phi Kappa Phi Honor Society (1999-present)
6. International Bioenergy Consortium (IBC) (2012-present)
7. Alpha Epsilon – The Honor Society of Agricultural and Biological Engineers (2006)
8. Tau Beta Pi – The Engineering Honor Society (2005)
9. Sigma Xi – The Scientific Research Society (2000)

iii. REVIEWING ACTIVITY FOR AGENCIES:

I have been a panelist on three NSF review panels, one USDA-AFRI panel, and one NSF-UMD Advance program panel, as well as serving as an ad hoc reviewer for nine review panels.

Program	**Panel Session**	**Date**
National Science Foundation - UMD Advance Program	Advance Seed Grant Program - STEM Panelist and *ad hoc*	2015 2014
National Science Foundation - Small Business Innovation Research (SBIR)	Water/Wastewater Treatment & Pollution Control (2 times)	2013 2012
National Science Foundation	Environmental Sustainability Program	2011
Agriculture and Food Research Initiative (USDA-NIFA)	Sustainable Bioenergy Research Carbon Sequestration	2010
Environmental Research & Education Foundation	Research in Sustainable Solid Waste Management (*ad hoc*)	2015
Western Sun Grant Center (USDA/DOT)	Biomass for Biofuels, Bioproducts and Bioprocesses (*ad hoc*)	2013
NE Sun Grant Center (USDA/DOT)	BioFuels, BioPower & BioProducts (*ad hoc*) (2 times)	2011, 2013
U.S. Geological Survey/National Institutes for Water Resource	NIWR-USGS National Competitive Grants Program (*ad hoc*)	2014
Univ. of Missouri Research Board	Board of Reagents Research Grants (*ad hoc*) (2 times)	2012, 2014
USAID	US-Egypt Joint Science & Tech. (*ad hoc*)	2012
Ohio Ag. Research & Development	Grad. Research Enhancement SEED Grants	2006

iv. OTHER UNPAID SERVICES TO LOCAL, STATE AND FEDERAL AGENCIES

INTERNATIONAL ACTIVITIES

I have collaborative research projects in Costa Rica, Haiti, China, and Kenya. I have organized digestion conferences in the US, Costa Rica and Haiti, presented invited talks in China and Germany, and received numerous delegations from China at UMD.

1. International Scientific Committee for Progress in Biogas III. Reviewed abstract presentations for inclusion in workshop. Stuttgart, Germany. September 10-11, 2014.
2. Initiated the Memorandum of Understanding between Université Quisqueya in Haiti and the University of Maryland.
3. Organized a workshop entitled, "USAID Development Innovation Venture (DIV) Biogas Test Kit Workshop" to educate Haitians on testing on digester basics and digester maintenance. Coroporant, Haiti. April 1, 2014.
4. Organized a workshop entitled, "USAID Development Innovation Venture (DIV) Digester Workshop" to educate Haitians on digester basics with installation of sanitary digesters. Coroporant, Haiti. March 13-14, 2014.
5. Organized a workshop entitled, "USAID Development Innovation Venture (DIV) Digester Learning Community Workshop" as a first step in the development of a sanitation community to assist in training, sharing of information and creating a baseline database of digester projects throughout Haiti. Porte-au-Prince, Haiti. August 23rd, 2013.
6. Researcher for a Gates Foundation grant through Naval Research Lab to develop hybrids anaerobic digesters and microbial fuels cells to treat latrine wastes while harnessing renewable energy. The system prototype was field tested in Costa Rica (2011-2012).
7. Invited speaker and tour guide for anaerobic digestion experts from CATIE University (Centro Agronómico Tropical de Investigatión y Enseñanza) in Turrialba, Costa Rica. Beltsville, MD. June 20. 2014.
8. Presented research and participated in discussions with Chinese Universities and Chinese Research Institutes in Chongqing, Yangling and Beijing, China as part of an UMD-AGNR delegation to that included the AGNR Dean, the ENST Department Chair, and the Director of AGNR International Programs (December 2011).
9. Invited presenter and participant at the American Association for the Advancement of Science (AAAS) workshop: Advancing Capacity for Haitian Science and Science Education held in Puerto Rica with 10 leading Haitian scholars and 10 leading US scholars on Haiti science and education in order to propel the nation forward after the 2010 earthquake.
10. Visiting Scholar, EARTH University. Limon, Costa Rica. July – August 2012.
11. Led a team of three ENST graduate students in developing and constructing a digestion system for human wastewater treatment and renewable energy production in Haiti. The project was funded by NSF and conducted in collaboration with students at Clemson University, professional engineers, and Partners-in-Health in Haiti (2009-2013).

12. Lead Research advisor to Tseai Energy Unlimited (TEU), a start-up company producing palm oil in Western Africa with the waste being digested to produce electricity to run the palm oil plant and provide electricity to rural villages. TEU won 1st prize ($25,000) from the Maryland Enterprise Institute for sustainability and innovation (2009-2011).
13. Led a team of researchers from Costa Rica, Venezuela and the United States to Haiti to conduct a feasibility study for installing low-cost anaerobic digesters to treat human waste at a hospital complex (2008).
14. Co-organized a conference for 90 participants from North and Central America to discuss progress in low-cost anaerobic digestion research and applications (2007).

UNIVERSITY SERVICE

I have 19 campus-level service activities, including serving on Committees for Sustainable Buildings and Energy Sources, Faculty Technology Learning and ENST Diversity.

1. AGNR representative to the Social Entrepreneurship @ UMD committee in order to build Social Entrepreneurship within UMD students, staff and faculty (2014-current).
2. AGNR Committee for USDA NIFA Civil Rights' review of the College policies, diversity and work place environment (2014).
3. Sustainable Buildings and Energy Sources Work Group: Our charge was to determine how to make the campus carbon neutral by 2050, with 50% reductions by 2025, 25% by 2015 and 15% reductions by 2012. Task group met monthly and sent a mandated final report to President Loh in 2013 (2012-2013)
4. ADVANCE STEM Women's Council: participant in the NSF-funded program to increase networking opportunities among women faculty and national women leaders in STEM (2013-current).
5. ENST Faculty Review and Salary Committee (2010-2011, and 2015), and Chair in 2016.
6. ADVANCE Keeping our Faculties: participant in the NSF-funded program to increase tenure, promotion and mentoring of women faculty at UMD (2012-2013).
7. Selected to mentor and support an intern from the National Socio-Environmental Synthesis Center (SESYNC) on a project entitled, "Design of Anaerobic Digester Systems for Renewable Biogas Generation" (2013).
8. Faculty member of the Sustainable Animal Waste Management Working Group, a consortium of UMD faculty and State of Maryland Dept. of Agriculture directors (2013).
9. Faculty member of Student Honor Council for Honor Code Review Hearings (2010-2012).
10. Environmental Science and Technology Faculty Advisory Committee (2012-current).
11. Committee member for "Evaluating the Sustainability of the Clarksville Research and Education Center" (2009-2012).
12. Discussant for two Gemstone undergraduate thesis projects: "BioFUELS: Furthering the utilization of energy from land and soil" (2012) and Biogas efficiency: Producing and utilizing renewable energies" (2014).

13. Office of Technology Faculty ELMS (Enterprise Learning Management System) Evaluation Committee, in which the faculty prototype tested several potential teaching IT platforms in a semester-long study with group feedback on platforms and user satisfaction (2011).
14. Search committee member for two ENST Sustainability in the Built Environment assistant/associate professor positions (2014).
15. Search committee member for ENST Department Chair (2010).
16. Search committee member for ENST Soil Microbiologist Faculty (2010-2011).
17. ENST Ecological Technology Design Undergraduate Curriculum Committee (2009-current)
18. Elected as Ohio State University's Department of Food, Agricultural, and Biological Engineering Graduate student liaison between Graduate students and Faculty (2005-2007)
19. Ohio State University's Department of Food, Agricultural & Biological Engineering *Graduate Student Organization President* (2006)

GRADUATE COMMITTEES

I have served on 11 graduate committees in ENST (8), Civil and Environmental Engineering (2) and Animal Science (1), highlighting my cross-disciplinary, collaborative research approach.

1. Rhea Thompson: Ph.D. in ENST: Ecological Design and Technology, expected 2016.
   - **Dissertation:** "Watershed: urban sustainable design."
   - Advisor: Dr. David Tilley, ENST
2. Marie Iwaniuk: Ph.D. in Animal Science, expected 2017.
   - **Dissertation**: "Ruminant nutrient"
   - Advisor: Dr. Richard Erdman, Animal Science
3. Kyle Derby: M.S. in ENST: Soil and Watershed Management, expected 2016.
   - **Thesis**: "Methane emissions from wetlands."
   - Advisor: Dr. Brian Needleman, ENST
4. Scott Tjaden: M.S. in in ENST: Ecological Design and Technology, 2014.
   - **Thesis:** "Quantification of the environmental benefits of WaterShed."
   - Advisor: Dr. David Tilley, ENST
5. Tim Williamson: M.S. in ENST: Ecological Design and Technology, 2014.
   - **Thesis:** "The effect of sphagnum moss, an algal turf scrubber and UV-C irradiation on water quality in a re-circulating aquaculture system for Oysters."
   - Advisor: Dr. David Tilley, ENST
6. Chalida U-tapao: Ph.D. in Civil and Environmental Engineering, 2013.
   - **Dissertation**: "Optimization and equilibrium modeling for renewable energy: focus on wastewater-to-energy applications."
   - Advisor: Dr. Steven Gabriel, Civil and Environmental Engineering
7. Brandon Winfrey: Ph.D. in ENST: Ecological Design and Technology, 2012.
   - **Dissertation**: "Material/emergy cycling in natural & human-dominated systems."
   - Advisor: Dr. David Tilley, ENST

8. Suvish Melanta: M.S. in Civil and Environmental Engineering, 2010.
    - **Thesis:** "Carbon footprint calculation & mathematical modeling in transportation."
    - Advisor: Dr. Elise Miller-Hooks, Civil and Environmental Engineering
9. YenJung Lai: Ph.D. in ENST: Ecological Design and Technology, 2010.
    - **Dissertation**: "Kinetics of tetrachloroethene-respiring dehalobacter and dehalococcoides strains and their effects on competition for growth substrates."
    - Advisor: Dr. Jennifer Becker, ENST
10. Kyla Gregoire: M.S. in Environmental Engineering, 2010.
    - **Thesis**: "Bioenergy production From a novel microbial fuel cell."
    - Advisor: Dr. Jennifer Becker, ENST
11. Emily Mitchell Ayers: Ph.D. in Bioresource Engineering, 2009.
    - **Dissertation**: "Pedogenesis in rain gardens: The role of earthworms and other organisms in long-term soil development."
    - Advisor: Dr. Patrick Kangas, ENST

LOCAL, STATE AND NATIONAL SERVICE

I have served as a moderator at conferences, and given presentations to government officials, community interest groups, such as the Rotary Club, and numerous classes on renewable energy topics in local K-12 schools.

1. Collaborated through a series of meetings with an instructor from the Anne Arundel Community College to help the instructor develop a course in Renewable Energies at Anne Arundel Community College (2009).
2. Guest presentation, "Energy from biomass," at Earth Day Symposium at St. Paul's School for Girls, Brooklandville, MD. April 22, 2009.
3. Biomass and Digestion Advisor for Ross Tyler, Director of Clean Energy at the Maryland Energy Administration (2009-2010).
4. Organized the Mid-Atlantic Anaerobic Digestion conference, resulting in the creation of a regional organization: Chesapeake Biogas Innovation Organization (CBIO), which I lead. The organization consists of over 20 researchers and extension agents from Penn State University, Cornell University, University of District of Columbia, USDA Beltsville Agricultural Research Center, and University of Maryland. June 8, 2010.
5. Moderator and Session Organizer for American Society of Agricultural and Biological Engineering Annual Meetings: Water, energy and environmental opportunities and challenges in Africa (2014); Ecological engineering for developing countries (2013); Modeling and monitoring of pathogens and pathogen indicators (2013)
6. Co-organized two regional conferences for over 70 farmers, researchers, extension agents from Maryland, Pennsylvania and Washington DC, USDA Beltsville Agricultural Research Center, and Univ. of Maryland. November 1, 2011 and June 6, 2013.
7. Mentor for Clemson University Engineering for Developing Countries projects focused on the sanitation for Partners in Health hospital in Cange, Haiti (2011-2014)

8. Presentation on "Environmental protection and migration of Monarch butterflies" to a local chapter of Jane Goodall Foundation's Roots and Shoots environmental club in Hyattsville, MD at Brookside Botanical Gardens in Wheaton, MD. October 16, 2011.
9. Vice-President (2011-2012) and Secretary (2013-2014), Robert Goddard Montessori School (RGMS) Parent-Teacher-Student Organization. RGMS is a Prince George's County Public Elementary and Middle School with a majority African American population.
10. Volunteer at the Discover Engineering Family Day at the National Building Museum Popcorn Science station by the American Society of Agricultural and Biological Engineering. February 16, 2013.
11. Steering Committee for Biocycle East Coast Conference for anaerobic digestion and composting experts from industry, academia, government, and NGOs. Oct. 28 – 30, 2014.
12. Green Team member at Robert Goddard Montessori School (RGMS). Helped to organize and presented at two Regional Earth Day events. RGMS is a Prince George's County Public Elementary School with a majority African American (2011 and 2014)
13. Moderator, presenter and scientific advisory committee member for Progress in Biogas III. Stuttgart, Germany. September 10-11, 2014.
14. Research presentation given to the College Park Rotary Club: "Turning waste into renewable energy in Haiti" College Park, MD. April 30, 2014.
15. Waste management conference with Andrew Fellow, Mayor of College Park, MD. Washington DC, July 29, 2014.
16. Collaborating with a start-up company on the Eastern Shore, MD, Plant Found, Ltd. to build small-scale digester for poultry litter in Maryland. (2010-present).

SERVICE AWARDS

I received the International Service Award from the National Capital of Gamma Sigma Delta, the Honor Society of Agriculture.

1. **International Service Award.** Gamma Sigma Delta National Capital Area Chapter, 2014.
2. **Outstanding Graduate Leadership & Service Award.** Ohio State University, Food, Ag. & Biological Engineering, 2006.
3. **Ohio State University Diversity Award,** given to the Food, Agricultural and Biological Graduate Student Organization for our work done while I was President, 2007.