JULIE M. GROSSMAN, Ph.D.
Department of Soil Science
4235 Williams Hall
North Carolina State University
Raleigh, NC 27695
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North Carolina State University Webpage:
http://www.soil.ncsu.edu/lockers/Grossman_J/index.html

APPOINTMENT: Assistant Professor, Soil Fertility/Management of Organic Cropping Systems (40% Teaching / 60% Research)

RESEARCH: My work broadly explores the ways in which we can better manage plant-soil-microbe relationships in order to enhance soil fertility with the ultimate goal of developing sustainable food production systems. The overarching goal of my research program is to enhance the efficient management of soil nutrients in low-input and organic farming systems. I do this by conducting basic and applied research that will increase our understanding of how agricultural management affects the cycling of nutrients via soil microbial processes. Since nitrogen is an essential nutrient for crop plants, I put particular emphasis on understanding the ecology of the legume-rhizobia symbiosis.

EDUCATION

2003	Ph.D., Agronomy and Plant Genetics; University of Minnesota
1998	M.Sc. Soil Science, Minor: Sustainable Agriculture; University of Minnesota
1994	B.S. in Biology with Departmental Recognition; Simmons College, Boston MA

PROFESSIONAL EXPERIENCE

2006-2008	Research Associate; Department of Horticulture**;** Cornell University
2007-2008	Program Coordinator, Undergraduate Agricultural Sciences Major; Cornell University, Department of Crop and Soil Sciences
2004-2006	NSF Postdoctoral Fellow in Microbial Biology; Department of Crop and Soil Sciences; Cornell University
1999-2000	Fulbright Scholar, Department of Alternative Agriculture Production Systems; El Colegio de La Frontera Sur (ECOSUR), San Cristóbal de Las Casas, Chiapas, Mexico
1997-1999	Program Coordinator, Graduate Minor in Sustainable Agriculture Systems; University of Minnesota
1994 - 1995	Senior Program Intern; Center for Sustainable Development Studies, Atenas, Costa Rica; School for Field Studies, Beverly, MA

RECENT RESEARCH FUNDING AND PROFESSIONAL ACTIVITIES:

Grossman, J.M.

Grossman, J.M. Hu, Shuijin, Shi, W., Reddy, G. ($699,000) 2010. "Evaluating the potential of winter cover crops for carbon sequestration in degraded soils transitioning to organic production". United States Department of Agriculture, NIFA, Integrated Organics Program.

Grossman, J.M. Schroeder-Moreno, M.; Shi, W.; Bowen, S. ($192,000), Southeast Sustainable Agriculture Research and Education (SARE) “Lighting up the black box: Improving legume performance on organic farms by optimizing microbially-mediated plant and soil nitrogen cycling processes” 2010-2013.

Parr, M. and **Grossman, J.** ($122,500). National Science Foundation Graduate Research Fellowship “Population size and diversity of native Bradyrhizobia on smallholder farms in Malawi as influenced by phosphorous, inoculation use, and land use history” 2010-2013. Graduate student NSF Fellowship under advisement of Dr. Grossman.

Osmond, D., **Grossman, J.M,** Jennings, G., Hoyt, G., Line, D. USDA-CSREES Integrated Organic and Water Quality program ($658,769) “Water Quality Evaluation of Long-Term Organic and Conventional Vegetable Production Under Conservation and Conventional Tillage” 2009-2012.

Grossman, J. Clayton, P., Goodell, L.S., Moody, E. University Extension, Engagement and Economic Development Grant ($7,500) "Community Gardening: Building Community Capacity, Connecting with Curriculum, and Establishing New Community and Campus Networks" **Lead PI**, 2009-2010.

Grossman, J. , Crozier, C., Reberg-Horton, C**. ,** Benson, G. North Carolina Corn Growers Association ($9,044); "Innovative methods of legume cover crop management for improved soil nitrogen availability", 2009-2010.

Grossman, J. North Carolina Agriculture Foundation ($19,978); "Pasture Raised Pork operations in North Carolina – What are the soil health costs and benefits of raising hogs outdoors?" **Lead PI**, 2008-2010

Reberg-Horton, C., **Grossman, J.,** Meijer, A., US Department of Agriculture-NRCS; Conservation Innovation Grant ($249,289), "Reducing Tillage in Organic Grain Production with an Innovative Cover Crop Management System", 2008-2010

Steering Committee and Founding Member, Sustainable Agriculture Education Association (SAEA), 501C3 Organization, 2006-present

Drinkwater, L, **Grossman J.** Sustainable Agriculture Research and Education ($100,000); "Learning from Farmer Innovation in Nitrogen Fixation for Improved Nutrient Management on Organic Farms," 2007-2009

Drinkwater, L. Buckley, D. **Grossman, J.** USDA Integrated Organics Program ($400,000); "Optimizing biological nitrogen fixation in organic cropping systems for sustainable nutrient management;" 2007- 2009

AWARDS AND HONORS

2011	Opal Mann Green Engagement and Scholarship Award, North Carolina State University
2007	Harry A. MacDonald Award for Excellence ($1,500) Highest award bestowed by the Crop and Soil Science department at Cornell University, based on exceptional performance in professional contributions and/or service to the discipline.
2005	Co-PI; American Society for Microbiology International Professorship ($4000); Janice Thies and Julie Grossman
2004	National Science Foundation Postdoctoral Microbial Biology Fellowship ($100,000)
2002	Civic Engagement Task Force Grant, Awarded for Introductory Environmental Science Service Learning course design, University of Minnesota
2001	Departmental Recognition for outstanding research abilities and academic performance, Department of Agronomy and Plant Genetics
2000	Fulbright Scholar, Fulbright-Garcia Robles and US-Mexico Commission for Educational and Cultural Exchange
2000	Applied Plant Sciences Fellowship, Department of Agronomy and Plant Genetics
1999	Carolyn M. Crosby Fellowship, University of Minnesota Graduate School
1999	Alexander & Lydia Anderson Fellowship, University of Minnesota Graduate School
1999	Andrews Hunt Fellowship, University of Minnesota Graduate School
1998	MacArthur Pre-Dissertation Field Research Grant, MacArthur Interdisciplinary Program on Global Change, Sustainability and Justice
1998	Sustainable Agriculture Systems Fellowship
1997	Publication Grant, Institute for Social, Economic and Ecological Sustainability
1997	MacArthur Doctoral Research Grant
1997	Special Project Grant, Institute for Social, Economic and Ecological Sustainability
1994	Catherine Jones Witten Award, Department of Biology, Simmons College
1993 - 1994	President of Biology Liaison, Department of Biology, Simmons College (Led departmental organization initiating scholarly projects. Presented with the Outstanding Liaison award over all other departmental liaisons for demonstrating greatest accomplishments throughout the school year.)

PUBLICATIONS

Manuscripts in Preparation

1. **Grossman, J.M.** , Sooksanguan, J., Parr, M., Seehaver, S. Cover crop Rhizobia leguminosarum diversity varies among field inoculated plants and naturalized populations. To be submitted to Plant and Soil, 2011.
2. Parr, M., Reberg-Horton, C., Crozier, C., **Grossman, J.M.** Decomposition and nitrogen release from roll-killed legume cover crops in an organic corn system. To be submitted to Soil Tillage Research, 2011.
3. Bordeaux, C., White, J., Pietrosemoli-Castagni, S., Osmond, D., Poore, M., **Grossman, J.M.** Optimizing nutrient management within integrated outdoor swine production systems. To be submitted to Journal of Soil and Water Conservation, 2011.
4. Mothapo, N., Maul, J., **Grossman, J.M.** Nodulation and Rhizobia diversity associated with genetically distinct Hairy Vetch (Vicia villosa) accessions. To be submitted to Plant and Soil, 2011.

Refereed Journal Publications and Book Chapters:

1. **Grossman, J.M.**; Schipanski, M.E.; Sooksanguan, T.; Drinkwater, L.E., 2011. Diversity of rhizobia nodulating soybean [*Glycine max* (Vinton)] varies under organic and conventional management *In Press*. Applied Soil Ecology.
2. Parr, M.; **Grossman,J.M.;** Reberg-Horton, S.C.; Brinton, C. and Crozier, C. 2011. Nitrogen fixation of legume cover crops in no-till organic corn production, *In Press*. Agronomy Journal.
3. **Grossman, J.M.;** O'Neill, B.E.; Tsai, S.M.; Thies, J.E., 2010 Amazonian anthrosols support similar microbial communities that differ distinctly from those extant in adjacent, unmodified soils of the same mineralogy. Microbial Ecology, 60(1):192-205.
4. ***Grossman, J.M.;** Patel, M.; Drinkwater, L. 2010. The Sustainable Agriculture Scholars Program: Enhancing students' summer agro-ecological laboratory employment through structured experiential learning and reflection. Journal of Natural Resources and Life Sciences Education, 39:31-39.

   * Selected as a 'research highlight' by ASA-CSSA-SSSA Societies. A lay-persons summary of the article and photos appeared on the Societies website entitled "Hands-On: From Classroom to Employment: How to energize and enrich the next generation of sustainable agriculturalists." Press release about article was published in at least 40 online and print news sources around the U.S.
5. Liang, B., Lehmann, J., Sohi, S.P., Thies, J.E., O'Neill, B., Trujillo, L., Gaunt, J., Solomon, D. **Grossman, J.** Neves, E.G., Luizão, F.J. 2009. Black carbon affects the cycling of non-black carbon without priming of aged black carbon in soil. Organic Geochemistry. 41:206–213.
6. O'Neill, B.; **Grossman, J.M.;** Tsai, M.T; Gomes, J.E.; Lehmann, J.; Peterson, J.; Neves, E.; Thies, J.E. 2009. Bacterial Community Composition in Brazilian Anthrosols and Adjacent Soils Characterized Using Culturing and Molecular Identification. Microbial Ecology 58:23–35.
7. Tsai, S.M., Neill, B., Cannavan, F.S., Saito, D., Falcão, N.P.S., Kern, D. **Grossman, J.,** Thies, J. 2009. The Microbial World of /Terra Preta/. /In/ Amazonian Dark Earth: Wim Sombroek's Vision, edited by Woods, W.I.,Teixeira, W.G., Lehmann, J., Steiner, C., WinklerPrins, A., Rebellato, L. Springer, Berlin.
8. **Grossman, J.M.** 2008. Adventures of an Adjunct: Service Learning in the Applied Sciences. In: Extending our Reach: Voices of Service Learning at Cornell. Editor: Paula Horrigan, p 40-43.
9. Vadas, T.M.; Fahey, T.J.; Sherman R.E.; Demers, J.D.; **Grossman, J.M.;** Maul, J.E.; Melvin, A.M.; O'Neill, B.; Raciti, S.M.; Rochon, E.T.; Sugar, D.J.; Tonitto, C.; Turner, C.B.; Walsh, M.J.; Zue, K. 2008. Approaches for analyzing local carbon mitigation strategies: Tompkins County, New York, USA, International Journal of Greenhouse Gas Control, 1(3): 281-386.
10. **Grossman, J.M.** Farmers' understanding of soil processes. 2008. Low External Input and Sustainable Agriculture (LEISA). Issue title: Ecological Processes at Work. 22(4): 24.
11. B. Liang, J. Lehmann, D. Solomon, J. Kingyangi, **J.M. Grossman,** B. O'Neill, J.O. Skjemstad, J. Thies, F.J. Luizão, J. Petersen, E.G. Neves, 2006. Black Carbon Increases Cation Exchange Capacity in Soils. Soil Science Society of America Journal 70(5): 1719-

1730.

12. Thies J.E. and **Grossman J.M.,** 2006. Chapter 5: The Soil Habitat and Soil Ecology, In: Biological Strategies for Sustainable Soil Systems; Publisher: Marcel Dekker/CRC Press.
13. **Grossman J.M.,** Sheaffer C., Wyse D., Bucciarelli B., Vance C., Graham P.H., 2006. An assessment of nodulation and nitrogen fixation in inoculated Inga oerstediana, a nitrogen-fixing tree shading organic coffee in Chiapas, Mexico. Soil Biology and Biochemistry, 38(4): 769-784.
14. **Grossman J.M.,** Sheaffer C., Wyse D., Graham P.H., 2005. Identification and characterization of slow growing root nodule bacteria from Inga oerstediana shading organic coffee agroecosystems in Chiapas, Mexico. Applied Soil Ecology 29(3):236-251.
15. **Grossman, J.M.** and Cooper, T.C. 2004. Linking Environmental Science students to external community partners: A critical assessment of a service-learning course. Journal of College Science Teaching, 33(5):2-5.
16. Tlusty, B., Grossman, J.M. and Graham, P.H., 2004. Selection of rhizobia for prairie legumes used in restoration and reconstruction programs in Minnesota. Canadian Journal of Microbiology 50(11): 977-983.
17. **Grossman, J.M**., 2003. The hidden world of soil processes: Exploring local soil knowledge of organic coffee producers in Chiapas, México. Geoderma 111(3/4): 267-287.

SCHOLARLY ACTIVITIES

*Grossman in last author position indicates lead investigator of graduate student project

Scholarly Oral Presentations:

2009. Parr, M.C., Reberg-Horton, S.C Crozier, C., Brinton, C. and **Grossman J**. Fixation and Release of Nitrogen From Novel Cover Crops for Use in Reduced Tillage Organic Corn Production in North Carolina. ASA/SSSA/CSA Annual Meetings, Pittsburgh, PA. Nov 1-5.

2009. Reberg-Horton, C., **Grossman, J.,** Brinton, C., Smith, A., Wells, M.S. Mechanisms of Weed Suppression in Rolled Cover Crop Systems. ASA/SSSA/CSA Annual Meetings, Pittsburgh, PA. Nov 1-5.

2009. Brinton, C. Reberg-Horton, S.C, Grossman, J.M, Parr, M.C., Weed Control in Organic Cropping Systems using a Roll-Kill/No-Till Technique with Cover Crops. ASA/SSSA/CSA Annual Meetings, Pittsburgh, PA. Nov 1-5.

2009. Crozier, C. Reberg-Horton, S.C., Meijer, A., **Grossman, J.** Hamilton, M., Elworth, L., Heiniger, R.W. and Weisz, R. Multifaceted Organic Grain Extension Programming in North Carolina. ASA/SSSA/CSA Annual Meetings, Pittsburgh, PA. Nov 1-5.

2009. **Grossman, J.M**., Niewonly, K.L., Parr, D. 2009. The new college educator in sustainable agriculture: Academic professional development in an increasingly interdisciplinary and experiential-learning oriented field, Oral presentation, Third National Conference on Facilitating Sustainable Agriculture Education, 15-17 July, 2009, Ames, IA.

2008 **Grossman, J.M.,** Patel, M., and Drinkwater L. Promoting Sustainable Agriculture Careers for Undergraduates through a Collaborative Experiential Learning and Research Program at Cornell University: The Sustainable Agriculture Scholars Program. Association for the Advancement of Sustainability in Higher Education Conference, Oral presentation, Nov 9-11, 2008, Raleigh N.C.

2007 **Grossman, J.M**., O'Neill, B., McPhillips, S.M. Tsai; L., Lehmann, J, and Thies, J. Microbial Ecology of Anthrosols: Assessing Soil Community Diversity of Bacteria, Archaea and Fungi in Amazonian Dark Earths of Brazil. Ecological Society of America, San Jose, CA.

2004 **Grossman, J.M**., O'Neill, B. and Thies, J. Using culture independent methods to explore microbial community diversity in Anthropogenic Dark Earth Terra Preta soils, Soil Science Society of America International Annual Meeting, Seattle, Washington, October 31-November 4.

2004 O'Neill, B.; **Grossman, J.**; Thies, J. Unlocking microbial communities in Terra Preta: nucleic acid extraction and purification as keys to characterizing biology in black carbon soils. Energy and Agricultural Carbon Utilization Symposium, Athens, Georgia, June.

2003 **Grossman, J.M.** The Role of Leguminous Shade Trees in Organic Coffee Production: Local Knowledge and Nitrogen Fixation of Inga sp. Used to Shade Organic Coffee Agroecosystems in Chiapas, Mexico; Special symposium: The Role of Scientists in the Coffee

Crisis. Ecological Society of America Annual Meetings, Savanna, GA, August 4-8.
2003 **Grossman, J.M.** Farmer Knowledge of Trees in Organic Coffee Systems: Agroforestry in Chiapas, Mexico. Latin American Studies Association Dallas, Texas, March 27-29.
2000 **Grossman, J.M.** Conocimiento, Uso y Fijación de Nitrógeno por Leguminosas (*Inga* sp.) en Agroecosistemas de Café en los Altos de Chiapas, México. (Knowledge, Use and Nitrogen Fixation in Legumes (Inga. sp.) in Coffee Agroecosystems in the Highlands of Chiapas, México). 2nd Seminar on Coffee Research Related to the Biosphere Reserve El Triunfo, Tapachula, Mexico.

Published Abstracts and Poster Presentations
2008 Niewonly, K. **Grossman, J.M.,** Schroeder-Moreno, M., Parr, D. The Sustainable Agriculture Education Association: Facilitating the Teaching and Learning of Sustainable Food and Farming Systems in Higher Education. Poster. Association for the Advancement of Sustainability in Higher Education Conference, Nov 9-11, 2008, Raleigh N.C.
2008 **Grossman, J.M.**, Schipanski, M.E., Patel, M.R., and Drinkwater, L.E. The Sustainable Agriculture Scholars Program: Enhancing students' summer agroecological laboratory employment through structured experiential learning and reflection. Cornell University. Ecological Society of America Annual Meetings, Aug 3-8, 2008, Milwaukee, WI.
2007 O'Neill, B.; **Grossman, J.;** Lehmann, J.; Thies, J. Analysis of Bacterial Communities in Amazonian Dark Earths Through Community-level Molecular Analysis and Identifying Dominant Species in Soils from the Eastern and Central Amazon, International Agrichar Initiative, Terrigal, New South Wales, Australia.
2007 McPhillips, L; O'Neill, B.; Tsai, S.M.; **Grossman, J**.; Lehmann, J; Thies, J. Soil Fungal Communities in Three ADE Sites Characterized by Molecular Fingerprinting, Isolating Unique Species and Assessing Arbuscular Mycorrhizal Fungi, International Agrichar Initiative, Terrigal, New South Wales, Australia
2007 Biodiversity in Amazonian Dark Earth: A contribution for the sustainability of tropical soils from the microbial symbioses. SM Tsai; B. O´Neill, D Campos J.E. Gomes, **J. Grossman;** J. Thies. 15th Annual Conference on Nitrogen Fixation; Cape Town, South Africa.
2006 **Grossman, J.M.;** O'Neill, B.E.; Gomes J. E; Tsai, S.M.; Lehmann, J.; Liang, B. Thies, J.E. Soil microbial communities associated with Anthropogenic Dark Earths (Terra Preta) and black carbon particles. World Congress of Soil Science, Philidelphia, Pennsylvania.
2006 O'Neill, B.E. **Grossman, J.M.,** Tsai, S.M., Gomes, J.E., Garcia, C.E., Solomon, D., Liang, B., Lehmann, J., Thies, J.E. Isolating unique bacteria from Terra Preta systems: Using culturing and molecular techniques as tools for characterizing microbial life in Amazonian Dark Earths. World Congress of Soil Science, Philidelphia, Pennsylvania.
2004 O'Neill, B.; **Grossman, J**.; Thies, J. Exploring microbial community diversity in Brazilian Terra Preta soils: comparative analysis of high carbon anthropogenic soils and oxisols, International Society for Microbial Ecology, Cancun, Mexico, August 22-27.
2002 **J.M.Grossman**, K. Nelson, W.L. Anzueto-Anzueto. Voices of Those Behind the Hoe: Organic Coffee Production in Chiapas, Mexico. International Farming Systems Symposium. Lake Buena Vista, Florida.
1999 **J.M. Grossman** and H. Murray, Use of Leguminous Trees in Coffee Agroecosystems in Chiapas, México. American Society of Agronomy Annual Meetings, Salt Lake City, Utah
1997 **J.M. Grossman**, Legume / *Rhizobium* Interaction in Prairie Revegetation. Vegetation Management Association of Minnesota Annual Conference, St. Paul, Minnesota
1995 **J.M. Grossman** and Lisa Bradshaw, Use of an Extract of *Gliricidia sepium*, a Common Leguminous Tree in Central America, to Control White Flies in Green Beans. International Plant Protection Congress, The Netherlands.

TEACHING EXPERIENCE

Courses Led or Co-Taught at NCSU

1. *Soil Agroecology/Sustainable Soil Management,* SSC 495.

2. *Community Food Security* (CFS) Scholars service-learning program, External Learning Experience SSC 492.
3. *Critical Issues in Sustainable Agriculture Systems,* SSC/CS 620/820.
4. In preparation: *Ecology of Soil Ecosystems*, SSC 590/PP 727, Co-taught with Dr. Shuijin Hu
5. In preparation: *Climate Change and Agriculture*, undergraduate level course.

Pedagogical Coursework and Training
2010, Participant, 40-hour Summer Institute on the Scholarship of Teaching and Learning, University-wide program "Making Your Teaching Your Research" designed to assist faculty in designing scholarly projects to improve teaching and learning at North Carolina State University, Office of Faculty Development.
2009-present, Selected as NCSU – EDGES (Education & Discovery Grounded in Engaged Scholarship) competitive faculty development program for advancement of faculty skills and knowledge to integrate community engagement and service-learning into research and teaching program.
1999-2001 Preparing Future Faculty (National professional development program)
2001 Practicum for Future Faculty (GRAD 8102, semester length course)
1999 Teaching in Higher Education (GRAD 8101, semester length course)

Classroom and Laboratory Teaching Experience prior to NCSU:
2007 Instructor, **Organic Food and Agriculture**, Agricultural Sciences interdisciplinary major, Cornell University, Ithaca, NY
2006, 2005 *Coordinator and Instructor,* **Ecologia Microbiana do Solo: Tecnicas de Uso nos Tropicos** (Soil Microbial Ecology: Techniques for use in the Tropics).
2006 *Instructor,* **Issues in Sustainable Agriculture Education,** Department of Horticulture, Cornell University, Ithaca, NY
2006 *Instructor,* **Environmental Science II,** Department of Biology, Ithaca College, Ithaca, NY
2004-2006 *Instructor,* **Contemporary Agriculture and Ecology in the New World**, Department of Crop and Soil Sciences, Cornell University, Ithaca, NY
2003 *Technical Teaching Assistant*, **Applied Plant Soil Interactions**, Department of Crop and Soil Sciences, Cornell University, Ithaca, NY
2003 *Adjunct Faculty,* **Microbiology**, Biology Department, Augsburg College, MN
2002-2004 *Adjunct Faculty*, College of Liberal Arts and Sciences, Student Project for Amity Among Nations (SPAN). Instructed 2-month Mexico-based research program. University of Minnesota, Minneapolis, MN
2002 *Adjunct Faculty,* **Soil Science**, Biology Department, University of Minnesota, Marshall.
2002 *Instructor,* **Environmental Science,** Department of Soil, Water and Climate, University of Minnesota, St. Paul, MN
2001 *Program Coordinator*, Life Sciences Summer Undergraduate Research Program, (LSSURP), University of Minnesota, St. Paul, MN.
2001 *Teaching Assistant,* **Soil Biology and Fertility**, University of Minnesota, St. Paul, MN
2001 *Laboratory Mentor,* Undergraduate Research Opportunities Program, University of Minnesota, St. Paul, MN.

Curriculum Development
2007-2008 Program Coordinator, Agricultural Sciences major, Cornell University
Design curriculum for new major including a sustainable agriculture track, create and manage agricultural internship program, design and teach capstone course, design and teach *Organic Food and Agriculture* course, advise students.
2001 Soil Biology and Fertility (SOIL 5611) Teaching Assistant; Designed cooperative learning techniques for upper level core soils course, including think-pair-share lecture activities, base reading and quiz groups, and issue debate.
1997-1999 Program Coordinator, Graduate Minor in Sustainable Agriculture Systems, University of Minnesota. Oversaw internship program; organized Sustainable Agriculture Colloquium (SAgr8010).
1996- 1999 What's Up in Sustainable Agriculture Brown Bag Series (WUSA)

1997 Grossman, J., Solvell, L., Wainwright, J. 1997. Si, Se Puede: Designed and published teaching packet on sustainable agriculture in Cuba. Institute for Social, Economic and Ecological Sustainability, University of Minnesota.

SELECTED INVITED GUEST LECTURES

Guest Lectures (classroom)

2010, Invited workshop presenter, Carolina Farm Stewardship Association Conference, 1/5/2010
2010, CS 230, Introduction to Agroecology, 10/30/2010
2010, NC School of Science and Math, 12th grade summer research program, 7/26/10
2010, FS 495 Community Food Security, 7/20/10
2010, NC School of Science and Math, minority 9th grade research program 7/12/2010
2010, Invited workshop presenter, Organic Growers School, 2 workshops: 3/6/2010 and 3/7/2010
2010, Invited workshop presenter, Carolina Farm Stewardship Association Conference, 12/3/2010
2010, Invited speaker, North Carolina Society of Soil Science, 1/19/2010
2010, Seminar speaker, CEFS Brown Bag Lunch series, 6/17/10
2010, HS 590 601, Introduction to Permaculture, 2/9/2010
2010, CS 490 Senior Seminar in Crop Science and Soil Science, 2/01/2010
2010, Invited seminar, Biology Department Appalachian State University, 10/08/09
2009, CS 103, Introductory Topics in Crop, Soil and Turfgrass Sciences, 09/25/2009
2009, CS 321, Forage Systems, 9/9/2009
2009, Invited speaker, NCSU New Faculty Orientation, 8/13/09
2009, Invited guest lecture, CEFS Internship program soil biology Focus Friday, 6/23/09
2009, Center for Environmental Farming Systems (CEFS) Brown Bag Seminar Series, 6/18/09
2009 "Soil Fertility Management on Organic Farms" Invited class speaker, ENT
2007 "Integrated Pest Management in Organic Cropping Systems." Invited class speaker, CSS 4440; Integrated Pest Management, Cornell University
2006 "Coffee in Context: Organic coffee production in Chiapas, Mexico." Cornell International Institute for Food, Agriculture, and Development (CIIFAD)
2005 "Farmers as Teachers: How the past can transform the present in tropical sustainable agriculture." Invited speaker, Iowa State University program in Sustainable Agriculture Systems
2002 "Coffee and Social Justice in Chiapas, Mexico." Modern Latin American Culture. University of Minnesota
2002 Basic Soils (SOIL 2125) Teaching Assistant. Taught various lectures.
2002 World Issues and Global Perspectives Workshop Series; Institute for Global Studies, University of Minnesota collaboration and Education for Global Learning consortium
2001 Coffee in Context: Sustainable Agriculture, Fair Trade and Social Change in Chiapas, Mexico; Keynote speaker, Latino/Chicano Week, University of Minnesota, Duluth
2001 A Cup of Economic Justice: Sustainable Coffee in Chiapas. Resource Center of the Americas Coffee Hour, Minneapolis, Minnesota
2001 Agricultural Intensification and the Land Crisis in Chiapas, Mexico: Trends in Soil Fertility and Fallows. Scholarly seminar, Department of Agronomy and Plant Genetics, University of Minnesota
2001 Coffee in Context: Sustainable Agriculture, Fair Trade and Social Change in Chiapas, Mexico.What's Up in Sustainable Agriculture seminar, University of Minnesota
2001 "El Uso de Arboles Fijadóres de Nitrógeno en Sistemas de Agroforestería" (Nitrogen Fixing Tree Use in Agroforestry Systems), Guest lecture, Agroforestry Systems, El Colegio de La Frontera Sur, Chiapas, Mexico
1999 "Real World Problems, Real World Solutions: The case of coffee in Chiapas," Guest lecture, World Food Problems (AGRO 4103), University of Minnesota
1998 Sustainable Agriculture and Resource Utilization. Keynote speaker, EarthSave Twin Cities, Minneapolis, Minnesota
1998 Use of the Prairie Legume *Chamaecrista fasciculata* in Revegetation of Damaged Lands. Scholarly seminar; Department of Soil, Water, and Climate; University of Minnesota
1997 "Sustainable Agriculture," Guest lecture, Race to Save the Planet class (Environmental Studies), Minneapolis Community and Technical College

1997 “The Cuban Agricultural System,” Guest lecture, Integrated Weed Management course (AGRO 4505), University of Minnesota
1997 Si Se Puede: Sustainable Agriculture in Cuba. Brown Bag seminar, Department of Geography, University of Minnesota
1997 *Program Intern* International Cover Crop Clearinghouse (CIDICCO) Tegucigalpa, Honduras

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

ASA-CSSA-SSSA (Agronomy, Crop Science, and Soil Science Societies of America)
Ecological Society of America
Sustainable Agriculture Education Association (Founding Board Member)

RECENT ACADEMIC AND COMMUNITY SERVICE

2010 – 2011, Mentoring low-income minority male youth from the NC School of Science and Mathematics for 6 month research experience in our laboratory.
2009 and 2010, NCSU CALS 3-D Summer Research Experience. Provided 3-day research experience for and mentored 3 minority males from the N.C. School of Science and Math (July 2009)
2009 Golden Opportunity Scholars program, Tri-Societies. Mentored undergraduate student with a demonstrated interest in soil science and management (2009).
2007-present Sustainable Agriculture National Network of Academic Leaders; UC Davis Agricultural Sustainability Institute
2000-2008 Faculty Advisor, Cornell New World Agriculture and Ecology Group (NWAEG)
2001-2003 Cloudforest Initiatives NGO volunteer. Organized educational delegations to Chiapas, Mexico for students and farmers to learn about sustainable coffee production and farmer livelihoods
1996-1999 President, What's Up in Sustainable Agriculture (WUSA) Student organization dedicated to promotion of sustainable agriculture through scholarly activities
1994-1999 American Red Cross First Aid and CPR Volunteer Instructor
1996-1998 Board of Directors, Linden Hills Natural Foods Co-op
1996-1998 Member, Guatemala Solidarity Committee