

ELIZABETH GUERTAL

**Project Director, Center of Excellence on Mitigation, Adaptation, and Resilience to Climate Change
Feed the Future Sustainable Intensification Innovation Lab (SIIL) – Kansas State University**

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EDUCATION

B.S. Agriculture. 1984. The Ohio State University.

M.S. Soil Science. 1988. The Ohio State University.

Ph.D. Soil Science. 1993. Oklahoma State University.

EMPLOYMENT

1981 to 1984. Student Employee, The Ohio State University, Department of Agronomy.

1984 to 1988. Graduate Student Teaching Assistant, The Ohio State University, Dept. of Agronomy. Served as Teaching Assistant for laboratory sections of Crop Management, Forage Crop Management, Weed Science and Introductory Soil Science.

1988 to 1993. Graduate Research Fellow. Oklahoma State University. Conducted research in the area of spatial variability of soil test values throughout cropped landscapes.

1990 to 1992. Lecturer, Soil Conservation. Oklahoma State University. Taught two semesters of lecture and laboratories for Soil & Water Conservation.

1993 to 1998. Assistant Professor, Soil Fertility - Vegetables, Auburn University. (50/50 teaching/research)

1998 to 2000. Associate Professor, Soil Fertility – Turfgrass and Vegetables, Auburn University.

2000 to 2003. Alumni Associate Professor, Soil Fertility, Auburn University.

2003 to 2006. Alumni Professor, Soil Fertility, Auburn University.

2006 to 2018: Professor, Soil Fertility, Auburn University.

2018 to 2022: Rowe Endowed Professor of Soil Fertility, Auburn University.

2021 to 2022: Jefferson Science Fellow assigned to USAID (ITR), Washington, DC. Was on Sabbatical Leave from Auburn University.

2022 to present: Project Director, Center for Mitigation, Adaptation, Resilience and Climate (CEMARCH), part of the USAID Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification (SIIL), Kansas State University.

HONORS AND AWARDS

1. Outstanding Instructor in the Dept. of Agronomy and Soils, Auburn University, 1995, 2001, 2004.
2. Novartis Award in Agronomy for outstanding achievement in teaching and research, American Society of Agronomy, 1997.
3. Outstanding Alumni Award (Young Careerist) - Department Horticulture and Crop Science, The Ohio State University, 1996.
4. Outstanding Reviewer for the Journal of Environmental Quality, 1997.
5. Young Professional Achievement Award, College of Food, Agricultural and Environmental Sciences Alumni Society, The Ohio State University, 1998.
6. Auburn Alumni Association Undergraduate Teaching Excellence Award, 1998.
7. Faculty Honoree (one of 8 from the University), Auburn University Camp War Eagle, 1999.
8. Omicron Delta Kappa 'Favorite Faculty', 1999.
9. Awarded 'Alumni Associate Professor' status, 2000, Auburn University.
10. Outstanding Undergraduate Advisor in the College of Agriculture, 2001.
11. Fellow, American Society of Agronomy, 2009.
12. Fulbright Fellowship, University of Mauritius, 2009-2010.
13. Outstanding Instructor, Auburn University College of Agriculture, 2009.
14. Auburn University Leischuck Endowed Presidential Award for Excellence in Teaching, 2010.
15. Fellow, Crop Science Society of America, 2011.
16. Selected as Master of Ceremonies, Auburn University Spring Commencement, May 6th, 2012.
17. Outstanding Undergraduate Advisor, Auburn University College of Agriculture, 2012.
18. Fellow, Soil Science Society of America, 2013.
19. Selected as the 2013 winner of the Sports Turf Managers Association's (STMA) William H. Daniels Award, given annually to the outstanding educator in Sports Turf.
20. Outstanding Reviewer, Journal of Natural Resources Education, 2014.
21. Turf and Ornamental Communicators Association (TOCA), 2015. Award of Merit for my regular monthly column in Golf Course management magazine.
22. Awarded Outstanding Graduate Advisor, Auburn University Graduate School, 2016.
23. Elected incoming President (2019), Crop Science Society of America.
24. Fulbright Fellowship, Uruguay, 2018 (awarded but did not complete due to illness in my family).
25. President, Crop Science Society of America, 2019
26. Outstanding Alumni, The Ohio State University, College of Food, Agricultural, and Environmental Sciences, 2020.
27. Jefferson Science Fellow, Washington DC, 2021
28. Crop Science Society of America Grau Turfgrass Science Award, 2022
28. Crop Science Society of America Presidential Award, 2022

(purposely empty space – Table of teaching responsibilities at AU starts on following page)

**SCHOLARLY CONTRIBUTIONS
TEACHING**

Courses taught each year for the most recent five years (ending Summer, 2022):

Internship courses are credit for overseeing student work experiences outside of the University, taught in every semester. Years shown are from the Summer academic semester of one year through the Spring of the next year.

Course with a '5xxx' or '6xxx' number are graduate or advanced junior/seniors classes. Courses with the last number of a '6' or '3' indicate distance versions of those classes. Students enrolled in the distance versions are off campus, and take the class concurrently with the 'live attendance' students. Numbers are totals for that academic year as I often taught classes two times in the year (an academic semester and in the summer as well)

| Course Semester/Year | Course Number(s) | Course Name | Lecture Hours (+ Lab – Y/N) | Student Nos |
|----------------------|--------------------------|---------------------------|-----------------------------|-------------|
| 2015-2016 | CSES 3150 | Turfgrass Management | 4 (Y) | 49 |
| | CSES 3920 | Internship | 3 (N) | 8 |
| | CSES 4950 | Senior Seminar | 2 (N) | 3 |
| | CSES 5020/6020/6026 | Nutrient Management | 3 (N) | 43 |
| | CSES 2040 | Introductory Soil Science | 4 (Y) | 8 |
| | WILD 1000 | Wildlife Food Plots | 2 (N) | 23 |
| 2016-2017 | CSES 3920 | Internship | 3 (N) | 5 |
| | CSES 4950 | Senior Seminar | 2 (N) | 19 |
| | CSES 5020/5023/6020/6026 | Nutrient Management | 3 (N) | 46 |
| | CSES 2040 | Introductory Soil Science | 4 (Y) | 57 |
| | CSES 5160/6160 | Advanced Turfgrass | 3 (N) | 6 |
| 2017-2018 | CSES 3920 | Internship | 3 (N) | 8 |
| | CSES 4950 | Senior Seminar | 2 (N) | 14 |
| | CSES 5020/5023/6020/6026 | Nutrient Management | 3 (N) | 37 |
| | CSES 1010 | Soils and Life | 4 (Y) | 20 |
| | CSES 5160/6160 | Advanced Turfgrass | 3 (N) | 5 |
| | CSES 3920 | Internship | 3 (N) | 13 |
| 2018-2019 | CSES 4950 | Senior Seminar | 2 (N) | 24 |
| | CSES 5020/5023/6020/6026 | Nutrient Management | 3 (N) | 68 |
| | CSES 1010 | Soils and Life | 4 (Y) | 26 |
| | CSES 5160/6160/5163/6166 | Advanced Turfgrass | 3 (N) | 13 |
| | CSES 3920 | Internship | 3 (N) | 8 |
| 2019-2020 | CSES 5020/5023/6020/6026 | Nutrient Management | 3 (N) | 62 |
| | CSES 1010 | Soils and Life | 4 (Y) | 22 |
| | CSES 5160/6160/5163/6166 | Advanced Turfgrass | 3 (N) | 9 |
| | CSES 3920 | Internship | 3 (N) | 10 |
| 2020 -2021 | CSES 5020/5023/6020/6026 | Nutrient Management | 3 (N) | 74 |
| | CSES 1010 | Soils and Life | 4 (Y) | 71 |
| | CSES 5160/6160/5163/6166 | Advanced Turfgrass | 3 (N) | 11 |
| | CSES 1020 | Crops and Life | 4 (Y) | 5 |
| | CSES 5020/5023/6020/6026 | Nutrient Management | 3 (N) | 65 |
| 2021-2022 | CSES 1010 | Soils and Life | 4 (Y) | 62 |
| | CSES 1020 | Crops and Life | 4 (Y) | 22 |

Courses and curricula developed (AGRN was the old designation, as of 2015 all 'AGRN' courses became 'CSES' to reflect the departmental name change):

Introductory Turfgrass Management (AGRN 3153/3154) - This course is the distance learning version of AGRN 3150. Taught 1998 to 2016.

Soil Testing and Fertilizer Recommendations (AY 506) - All course material including notes, handouts and testing materials developed in 1994. Taught 1994 through 1996.

Soil Resources and Conservation (AY 508) - All course material including notes, handouts and testing materials developed in 1993. Taught 1993 through 1995.

Introductory Soil Science (AGRN 2040) - All course materials, including lab. Taught off and on 2016 to 2003.

Spatial Statistical Methods in Agronomy (AY 626 and originally cross-listed as DMS 626) - All course material including notes, handouts and testing materials developed in 1995. Taught 1995 and 1996.

WILD 1100 – Management of Food Plots for Wildlife. Co-teach with a WILD faculty member. Taught for four years. No longer taught as a course.

AGRN 4950 – Senior Seminar. 1999 to 2022.

AGRN 5020/6020 – Nutrient management. (with distance versions). 2014-2022.

CSES 1010 and 1020 – all lab and lecture materials for 'Soils and Life' and 'Crops and Life', course developed to provide core science credit to non-science majors at the university. 2018-2021.

CSES 5160/5162.6160/6166 – Advanced Turfgrass. 2016-2020.

Graduate students for whom Guertal was major professor whose work has been completed:

William Talmadge Crow, M.S., Agronomy, 1996 Professor at University of Florida

Isabel Anahory, M.S., Agronomy, 1996 Agricultural Specialist in Cape Verde

Christopher Eugene Welsh, M.S., Agronomy, 1996 Self Employed

Rebecca Lynn Birdsong, M.S., Agronomy, 1997 Employed by Auburn City Schools

Detra Boutwell, M.S., Agronomy, 1997 (co-advisor) Employed by National Resource Conservation Service

Wes Hart, M.S., Agronomy, 2000 Employed by Simplot Fertilizer

Mica Franklin, M.S., Agronomy, 2000. Self Employed.

Eric Kleypas, M.S., Agronomy (Non-thesis option), 2001 Employed by AU Athletic Department

Brian Hollingsworth, M.S., Agronomy, 1999 (Co-advisor) Employed by Dataw Island Golf Club

Chris Derrick, M.S., Agronomy, 2001 Employed by Agrium Fertilizers, Inc.

Kristi Agnew Hicks, M.S., Agronomy, 2006 Employed by Yara Fertilizers.

Ellen Knight, M.S., Agronomy, 2007 (co-advisor) Employed by Episcopal Diocese of Alabama

William Dunnivant, M.S., Agronomy, 2008 Employed by Regal Chemical.

Bradford Young, M.S., Agronomy, 2009. Self employed crop consultant.

Garlon Rainey, M.S., Agronomy, 2009 Employed by Beard Equipment.

Ibrahim Baharanyi, M.S., Agronomy, 2010 (co-advisor) Employed by U.S. Military.

Laureanne Bond, M.S., Horticulture, 2010 (co-advisor) Employed in Landscape Management.

Brandon Green, M.S., Agronomy, 2011 Self employed in landscaping.

Caleb Bristow, M.S., Agronomy, 2012 (co-advisor). Employed by Alabama Peanut, Dothan, AL.
 Phil Bruner, M.S., Agronomy, 2013 Employed by Corteva AgriSciences
 Patrick Conard, M.S., Agronomy, 2013 Employed by Wayne's Environmental
 Lauren Alex James (nee Smith), 2014 Employed by Auburn University
 Said Hamido, PhD (co-advisor), 2014 Employed by University of Florida
 Baoxin Chang, MS, Post Doc at Texas A&M
 Zack Ogles, PhD, 2016 Research Director, Tessengerlo Kennerly
 Qian Chen, MS, 2017, now PhD student University of Kentucky
 Noah Hull, M.S., 2018, works for North AL fertilizer company
 William Wendland, MS 2019, agronomist, Agri-AFC
 Adam Boyd, PhD, 2020, employed by a private consulting firm
 Sara (Smelser) Williams, MS, 2021, employed by Nutrien as marketing director
 Annabelle MacEachin, MS, 2022, PhD student at the University of Georgia
 Raymond Maestras, non-thesis MAg (distance), 2022. employer by Tessengerlo Kennerly

Graduate students whose work has been completed for whom Guertal was a committee member:
 (Career immediately after graduation listed after degree)

2021. Evan Rose, MS. Crop, Soil and Environmental Sciences. AL Coop Ext.
 2020. Dalton Barber, MS. Crop, Soil and Environmental Sciences. AL Agri AFC.
 2019. William Groover, PhD, Entomology and Plant Pathology. Syngenta.
 2018. Trevor Cofer, MS. Crop, Soil and Environmental Sciences. Self-employed.
 2018. Rajiveer Singh, MS, Crop, Soil and Environmental Sciences. PhD, AU.
 2018. Murphy Coy, PhD, Entomology and Plant Pathology, Assistant Professor at Kentucky.
 2017. Jacob Williams, MS, Crop, Soil and Environmental Sciences. Atlanta golf course.
 2017. Rui Yang, PhD, Crop, Soil and Environmental Sciences – Post Doc – Univ. Idaho.
 2015. Philippe Aldehair, PhD, Agronomy & Soils – Research Scientist – Shaw Industries.
 2015. Ramandeep Singh, MS, Biosystems Engineering – PhD student, Univ. Illinois.
 2014. Richard Pelham, Master Education – Agriscience teacher, Sylacauga schools
 2014. Anna Stallings, MS, Crop, Soil and Environmental Sciences – Biology teacher, Kentucky
 2014. Murphy Coy, MS, Entomology – PhD student – Entomology, Auburn University.
 2014. Kelsy Hogenauer, MS, Crop, Soil and Environmental Science – PhD student, Univ. Arkansas.
 2014. Audrey Gamble, MS, Crop, Soil and Environmental Sciences, PhD student, Delaware.
 2014. Zach Ogles, MS, Horticulture – graduate student, PhD in Crop, Soil and Environmental Science
 2013. Jay McCurdy, PhD, Crop, Soil and Environmental Science – Assistant Professor, MSU
 2013. Audrey Gamble, MS, Crop, Soil and Environmental Science – PhD student, Univ. Delaware
 2012. Jing Yi, MS, Agricultural Economics – PhD student, Michigan State
 2012. Jarrod Hoyle, PhD, Agronomy & Soils –Assistant Professor, Kansas State.
 2011. Clay Messer, MS, Civil Engineering – Alabama Department of Environmental Management
 2010. Xiao Li, MS, Agronomy & Soils – PhD student, University of Georgia
 2010. Mark Dorough, MS, Agronomy & Soils – Research Tech, Pasteuria, Inc.
 2009. Sheryl Wells, PhD, Agronomy & Soil – Bayer CropScience.
 2008. Lee Simmons, PhD, Plant Pathology - Auburn University
 2008. Jason Belcher, PhD, Agronomy & Soils – DuPont.
 2007. George Huckabey, MS, Agronomy & Soils - Alabama Farmers Coop
 2005. Mike Cooper, MS, Agronomy, Assistant Superintendent, Grand National Golf Course
 2004. Maria Rivas, Plant Pathology, PhD, faculty member, Mexico
 2004. Sam Phillips, Agronomy & Soils, MS, high school science teacher, Chambers Co., AL
 2003. Mike Raciborski, MS, Agronomy – Agronomist, John Deere.
 2003. Tom Allen, PhD, Plant Pathology – Texas A & M

2003. Dana Sullivan, PhD, Soil Science – TurfScout
 2002. Jennifer Cain, MS, Ag. Econ - Landscape designer for Birmingham Company
 2001. Michner Bender, PhD, Soil Science - Faculty member at Univ. of St. Cloud, MN
 2001. Jason L. Belcher, MS, Agronomy - DuPont.
 2001. Amy Thompson, MS, Agronomy - Georgia County Extension Agent
 2001. Antonio Motta, PhD, Soil Science - Research Scientist - Brazil
 2000. J.L. Brandhorst-Hubbard, MS, Entomology - PhD Candidate - Univ. Kentucky
 1999. Sam Marshall, PhD, Soil Science - Scientist, Tennessee Environmental Protection
 1999. Don Stoeckel, PhD, Soil Science - USDA Soil Microbiologist, Columbus, Ohio
 1999. Manuel Sandoval-Villa, PhD - Faculty, Universidad Collegio Postgrado, Mexico City
 1998. Steven Noffsinger, PhD, Soil Science - Research Scientist, Virginia Tech
 1998. Jeffrey Michel, MS, Plant Pathology – Bayer CropScience.
 1997. Michael Starling, MS, Agronomy - Cattle Farmer
 1997. Weiguo Liu, MS, Agronomy - Research Scientist - China

Graduate students for whom Guertal currently is major advisor:

Lane Galloway, MS (duties being reassigned to A. Gamble due to Guertal’s retirement).

Graduate students on whose committees Guertal is currently serving as a member:

None currently due to retirement from AU.

Graduate/undergraduate student awards for students whom Guertal advised:

2021. Annabelle MacEachin – 2nd Place, oral presentation – Alabama Water Conference
 2019. Will Howard Wendland – Outstanding Oral presentation – Beltwide Cotton Conference
 2019. Will Howard Wendland – 2nd place, oral presentation, Division S4, ASA/SSSA/CSSA meetings
 Cofer, Trevor, 2017. Second Place in the AU Undergraduate Research Contest for his work on ‘K Sources for Tomato’
 Ogles, Zack., 2016. Selected as the Graduate Marshall for spring graduation, 2016.
 Ogles, Zack., 2016. Best oral presentation, American Society of Agronomy Graduate Student Competition, Soybean papers.
 Ogles, Zack., 2015. Best oral presentation, American Society of Agronomy Graduate Student Competition, Soybean papers.
 Ogles, Zack. 2015. A.L. Smith Award for Outstanding PhD Graduate Student in Crop, Soil and Environmental Sciences.
 Bruner, Phil. 2013. United States Golf Association Green Section Intern.
 Bristow, Caleb. 2009. United States Golf Association Green Section Intern.
 Smith, William B. 2009. 2nd Place, William J. Gwin Jr. Outstanding Research Presentation Award, University Honors College.
 Young, Bradford. 2007. 2nd place, Graduate Student poster contest, Crop Science Society of America meetings, New Orleans, LA.
 Knight, Ellen. 2007. Honorable Mention for oral paper presentation. S. Branch American Society of Agronomy, Mobile, AL.
 Knight, Ellen. 2006. A.L. Smith Award for Outstanding M.S. Graduate Student in the Department of Agronomy & Soils.
 Dunnivant, William. 2006. Marc Jalbert Award for the best scientific seminar in the Department of Agronomy & Soils.
 Dunnivant, William. 2006. United States Golf Association Greens Section Intern Award.

Knight, Ellen. 2005. Award winner (2nd place) in the AU Graduate Student Organization (GSO) spring research competition, poster division.

Rainey, Garlon. 2003. Second place, poster division. Graduate student competition, Southern Branch American Society of Agronomy, Orlando, FL.

Grants received related to teaching:

Smith, B. and E. Guertal. 2008. \$5,400.00. Auburn University Undergraduate Research Fellowship. This award funded an undergraduate student (B. Smith) who conducted a research project in my laboratory during the 2008 academic year. Brandon's project examined irrigation methods for early ryegrass establishment.

Shumate, S., S. Hubbard, E. Guertal and C. Zizza. 2006. \$116,250. Student and Faculty Development: The Community Partnership Service Learning Program at Auburn University. USDA-ARS National Needs Challenge Grant.

Guertal, E.A., K.L. Bowen and J.A. Hattey. 1995. AgWeb: A world wide web site for enhanced undergraduate learning. USDA Higher Education Challenge Grant. \$72,000.

Publications pertaining to teaching:

Assessment of Writing in the Curriculum. 2013. David B. Weaver, Auburn University; Elizabeth A. Guertal, Auburn University. ASA/CSSA/SSSA Abstracts.

Sports and Science: Pringles, Marbles and 5th Graders. 2013. Elizabeth A. Guertal, Phillip Bruner, Philippe C. F. Aldahir, James D. McCurdy and Lauren Alexandra Smith. ASA/CSSA/SSSA Abstracts.

Howe, J.A., D. Shannon, E.A. Guertal and D.B. Weaver. 2011. Teaching a laboratory-intensive course using distance education. ASA/CSSA/SSSA Abstracts.

Shannon, D., J.A. Howe, D. Weaver, E.A. Guertal and L. Keeler. 2011. Challenges in developing a new distance education program: Lessons learned. ASA/CSSA/SSSA Abstracts.

Weaver, D., E.A. Guertal, J.A. Howe, D.A. Shannon, Y. Feng, and L. Keeler. 2011. Issues and problems with undergraduate crop science distance education courses. ASA/CSSA/SSSA Abstracts.

Smith, B., E. van Santen, E.A. Guertal, D.M. Ball and R.B. Muntifering. 2010. Quality components of annual ryegrass as influenced by date of planting and cultivar. National Undergraduate Research Conference Abstract. Missoula, MT.

Bigelow, C., E.A. Guertal and G. Munshaw. 2009. Podcast utilization by turfgrass science students. ASA/CSSA/SSSA Abstracts.

Guertal, E.A. and J.A. Hattey. 1997. Incorporating the internet into K-12 programs. J. Nat. Resour. Life Sci. Educ. 26:7.

Guertal, E.A. 1996. Results of a survey of college of agriculture graduate students. National Academy of Sciences, National Convocation on Science Doctoral Education, June 15, 1996, Washington, D.C.

Guertal, E.A. and J.A. Hattey. 1996. A Scale Model of Cation Exchange for Classroom Demonstration. J. Nat. Resour. Life Sci. Educ. 25:125-137.

Guertal, E.A., J.A. Hattey, K.J. Donnelly and K.L. Bowen. 1996. Incorporating the Internet into undergraduate education. Agronomy Abstracts. ASA/CSSA/SSSA. p. 5.

Hattey, J.A. and E.A. Guertal. 1995. Classroom model of cation exchange capacity. Agronomy Abstracts. ASA/SSSA/CSSA.p. 3.

G.L. Miller, R.P. Flynn and E.A. Guertal. 1995. Graduate research forums: Opportunity for cross-disciplinary exposure to research across a university campus. Agronomy Abstracts. ASA/SSSA/CSSA. p. 5

Other contributions to undergraduate teaching:

Talks and presentations directly focused on undergraduates and undergraduate recruiting at Auburn University.

Reoccurring activities related to undergraduates:

- Chair, Curriculum Revision Committee, 2021 – 2022.
- Departmental program coordinator for undergraduate CSES – in charge of providing transfer credit and approving transfer courses. Evaluate and edit documents related to student recruiting and other undergraduate communications. 2017 – 2022.
- Advisor (now renamed as ‘mentor’ due to advising changes in the College) for approximately 15 undergraduates enrolled in the Turfgrass Management track in Agronomy and Soils. Assist with course selection, internship selection, and career advice. 1996-2022.
- Co-advisor of the Auburn student chapter of the Golf Course Superintendents Association of America, 1999- 2018. As co-advisor (with Dave Han) we take 8- 12 students to the annual meeting of the Golf Course Superintendents Association meeting each year, where they participate in the annual Turf Bowl. Since 2018 Dave has taken over all coaching, whilst I provide financial support (through 2023).
- Regularly provided tours of the Auburn University football stadium, with additional tours to the baseball facility. Given as a part of school visits, these tours were done to educate students about careers in turfgrass management. I typical did at least one tour every semester.
- Presented recruiting talks about the College of Agriculture at Ag. Career Day at the Chilton Area Horticulture Substation, 1995, 1996 and 1999, 2003. Presented College of Agriculture recruiting talks at Lineville, AL, in 2002 and at Ag. Career Day at the Headland Substation, 2004. Presented recruiting talks about the College at Wadley, AL, 2005 and in Auburn, AL., 2006 and 2007. Recruiting talks at Wallace State, Dothan, 2013.
- Regularly provided ‘mock’ lectures or other presentations at recruiting days such as ‘Talons’, ‘Merit Monday’, SOS, ‘Discover Your World – Dirty Jobs’ or other high school/community college recruiting events. Also provided tours of the Turfgrass Research Unit to student groups, as

requested. Typically did this twice per semester.

- Established history with the AU Honors College, including advising three different undergraduate research Fellows, teaching the Honors College Book Reading Class, Fall semester, 2013, and serving as a guest lecturer on the topic 'Turfgrass Research Techniques' for the AU Honors College Lyceum, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2013.

Specific (not reoccurring) activities directly related to AU undergraduate education:

Advisor of the College of Agriculture's Ag Council, 2008-2010. This is the student group that consists of the President and one representative from every agriculturally-based club on campus.

Junior Advisor to Ag. Ambassadors, the College of Agriculture's student representatives, 1997, Senior Advisor, 1998 -1999.

Chair, Auburn University Undergraduate Grievance Committee, 2015-2016.

Member, Auburn University Student Retention Committee, 2009-2011. Chair of that committee in 2012.

Member, Auburn University Interdisciplinary Degree Program Committee, 2009-2011.

Taught the section on 'Alabama Soils' to Alabama Educators (K-12) for the summer workshop series hosted by the AL Forestry commission, June, 2008.

Member of the interview committee to select student finalists for applications to the Fulbright grants program, Oct 15th., 2007.

Helped organize and cook dinner (fund raising effort of the Agronomy Club and Student GCSAA chapter) for the 60th Southern Pasture and Forage Crop Improvement Conference, Auburn, AL. April 12th, 2006. We also do this each year (since 2004) for the annual meeting of the Alabama Turfgrass Association.

Led tour and discussed opportunities in turfgrass management at the July, 2005, First Tee Golf Camp, a free camp hosted by the AU Athletic Dept and the Women's Golf Team for low-income Birmingham, AL youth.

Interviewed candidates for Auburn University's Freshman Forum (top 30 freshman on campus), 1999

Presented talk on Turfgrass Track Internship Program, 1-18-99, Alabama Golf Course Managers Society, Mountain Brook C.C., Bham.

Gave presentation at 4-H State Congress, Auburn University, July 18, 1995.

Other contributions to teaching:

State, regional or national organizations not directly related to undergraduate teaching at AU

Developed the 2+2 enrollment programs for the 'Path to the Plains' program for Crop Science. This allows students to take courses at community colleges while in high school, and directly transfer them to AU for credit in crop science. 2022.

Member, Ag program advisory committee, Auburn High School, 2017-2021.

Member, American Society of Agronomy, Golden Opportunity Scholars Institute, 2011-2013. Also hosted an undergraduate Scholar at the 2011 ASA meetings. Served on the organizing committee, 2018-2020.

Member, J. Fielding Reed Scholarship Committee American Society of Agronomy, 2010, Chair of the Committee, 2011.

Member, American Society of Agronomy, K-12 Committee, 2012-2013.

Chair of the Outstanding Undergraduate Educator Career Award Committee, American Society of Horticultural Science, 1998 (member of same committee 1996 and 1997).

Member, American Society of Agronomy Undergraduate Educator Awards Committee, 2002-2005.

Chair of the American Society of Agronomy Southern Branch Student Paper Competitions, 1995 (poster presentations) and 1996 and 1999 (oral presentations).

Chair of the American Society of Agronomy Division C-5 student poster and oral competition, 2007.

Involvement in International Activities with Specific Participation by AU Students:

Spent a week in Myerscough, England in June 2009 with 12 students as a participating faculty member for the undergraduate summer-long study abroad program in Turfgrass and Horticulture.

Participated (faculty leader) on a 10 day study abroad in Cuba with 6 students from the College of Ag, 2013.

Participated (faculty leader) on a 14 day study abroad in Cuba with 16 students from CoAg and College of Human Sciences, 2015.

Departmental Review Committees on which Guertal served as a Committee Member:

Member, Academic Program Review Team, Texas A and M University, April, 2023.

Member, Academic Program Review Team, 2012 for the Auburn University Department of Geology.

Member, Academic Program Review Team, 2008 for the Auburn University Department of Philosophy (and Religious Studies).

Member, external departmental Review Team, University of Minnesota Horticulture department, 2017.

Member of the external review team for the Crop Science department, North Carolina State University, August, 2011.

Member of the external review team for the Crop, Soil and Environmental Sciences department, University of Arkansas, February, 2010. Specifically, I was the member of the team who evaluated undergraduate curricula.

On-line evaluator for the external review of the Texas A&M Undergraduate Curriculum in Turfgrass management, August, 2009.

Member, Academic Program Review Team, University of Kentucky Turfgrass Program, Lexington, KY, Jan 8-10th, 2008.

Activities through University Outreach and Extension (*Guertal does not have a budgeted state Extension appointment*):

Presentations given at Auburn University, or presentations given *within* the state of Alabama

Zoysiagrass production systems talk at the Deep South Turfgrass Show, 2021.

Helped with stadium tours and field tours for the annual ALFA (Alabama farmer Federation Tour), August, 2020.

Alabama Certified Crop Advisors Training, Dec, 2020. Gave talk on nitrogen inhibitors. Distance lecture.

Alabama Turfgrass Association, Turfgrass Road Show (six presentations throughout the state, each winter), 2019.

Deep South Turfgrass show, two presentations, October, 2019.

Program leader, book group discussion, Elmore prison, Sparks and Science, March 2018.

Gave two presentations (drought adaptation and establishment of bermudagrass) at the Deep South Turfgrass Exp, Biloxi, Nov 7-9. 2017

Gave talks at the Alabama Turfgrass Association's Road Shows - Jan 4th – Auburn, AL, Jan 11th, 2017. Loxley, AL, Feb 1st, Birmingham, AL.

Master Gardeners talk, Dadeville, AL July 18th, 2017.

Invited speaker for the 'AU Talks' research series, Sept 16th, 2016.

Lecture on GMOs and plant breeding, Sparks in Science prison outreach program., February 2016.

Lecture, Sparks in Science prison outreach program, Plants and How They Grow. April 16th., 2015.

Taught 'Turfgrasses for AL' to Osher Lifelong Learning Institute, Jan 28th, Auburn, AL., 2015.

Auburn Rotary Club presentation – 'Fertilize Your Lawn Correctly for protected Water Quality' March, 2014.

Regular speaker throughout the state of Alabama as a part of the Alabama Turfgrass Association's 'Road Show' series, January through March, 2014. (around 5 locations throughout the state).

Florida/Alabama GCSAA presentation 'Managing your nutrients for protected water quality' Pensacola, FL, March 26th, 2014.

Participated in a 'Sparks in Science' short course on Organic Food, Elmore County Correctional Facility, Elmore County, AL, April 16th., 2013.

Developed and participated in the ‘Science of Sports’ clinic for 6th graders, AU Athletic Department, April 8th., 2013 and 2014.

Participated in the annual Auburn University Turfgrass Research Field Day, April 2nd., 2013 - 2019 (we do this every other year since 2009).

Gave talk at an ‘Alabama Smart Yards’ meeting, Alexander City, April 25th., 2013.

Did two recordings for ‘In Your backyard’ extension recordings (for radio broadcasts on Saturday), August 5th., 2013.

Gave talk on hydromulch research, Clear Water Alabama, Bessemer, Oct 9th., 2013.

Speaker at the annual meeting of the Alabama Turfgrass Association, Oct 31st., 2013.

Two presentations on ‘Turfgrass Fertilizers and Water Quality’ at various spring dates to Lake Martin homeowners, 2012. March 24th and April 26th, 2012.

Taught 2 hour short course on ‘Turfgrass Management to the Auburn University Landscape Facilities staff, August 9th, 2012.

Alabama Turfgrass Association. ‘Environmental and Agronomic Consequences of Phosphorus’ October, 2012.

Alabama Parks and Recreation Association. ‘Soil Testing and Management for Parks and Recreation’. Jan 23rd, 2012.

Alabama Turfgrass Association. ‘Nematode Control in Alabama’. Mole Cricket Classic, March 12, 2012.

Gave presentation at Elmore Correction Institute as part of the ‘Sparks in Science’ in-prison training series. March 28, 2012.

Presentations to the Alabama Turfgrass Association: ‘Phosphorus and Water Quality’, ‘Managing Centipedegrass and Zoysiagrass’, ‘Research Update’ and ‘Using UAN for Sod Production’. Oct 11-12th, Auburn, AL. 2011.

Cotton-based hydromulches for erosion control. Tensar Corporation. Sept 9th, 2011.

Best Management for Erosion Control. Clear Water Alabama, Birmingham. August 23rd, 2011.

Opelika Rotary Club Presentation – Artificial Turf – Negatives and positives – Aug 16, 2011.

Auburn Rotary Club Presentation – ‘History of Jordan Hare Stadium’, January 25th, 2010.

Gave presentations on ‘Fertilizing for the Future’ – Alabama Turfgrass Association Roadshows, Loxley, AL, January 20th, 2010, Birmingham, AL, January 27th, 2010, and Huntsville, AL, February 24th, 2010.

'Golf Course Best Management Practices' – presentation for the Lee County Business Partners Clean Water Turf Managers Workshop, Auburn, AL, July 21, 2009.

Presentations on 'AU Research Update' and 'Saving Money on Your Fertilizer Bill' at the Alabama Turfgrass Association conference, Oct 20-21, Auburn, AL. 2009.

'Establishing Vegetation' – presentation at the Clear Water AL 2009 meeting, Bessemer, AL, Oct 28, 2009.

'Athletic Field Management' February 20th, 2009. Participated in day-long short course for high school field managers, Prattville, AL.

Participated in the Chilton Home and Grounds Expo by giving short presentations on 'Alabama Lawns', Chilton, AL, July 2nd, 2008.

Alabama Turfgrass Association 'Turfgrass Road Show Seminar Series' - two presentations, one in Montgomery (Feb 6th) and one in Birmingham (Feb 13th) on the topic 'Pimp Your Soils - Soil Preparation and Fertility', 2008.

Gave 2 presentations: 'Centipedegrass - the Slacker Grass for Your Lawn' and 'The Poop on Organic Fertilizers' at the Alabama Turfgrass Association Annual Meeting, Auburn, Oct 28-30th, 2008.

Presentation on 'Establishing Vegetation for Temporary and Permanent Covers' at the Clear Water Alabama Field Day, Sept 17th, 2008, Bessemer, AL.

Gave talk on 'Vegetation Establishment' at the Annual Meeting of the Alabama Vegetation Management Society, Tuscaloosa, AL., Feb 26th, 2008.

Gave presentation on the 'The Grasses of Golf' to AU Elderhostel Group, Auburn, May 27th, 2008.

Panel Member (one of four), 2008 Auburn University Outreach Scholarship Symposium, May 1st, 2008, Auburn, AL.

Gave presentation on 'Fine-Tuning Your Soils' as a part of the 'Integrated Pest Management for Sports Turf' meeting. April 30th, 2008, Auburn, AL.

Co-instructor for a 2007 and 2008 spring semester AU Outreach course titled: 'Good to Grow - Managing Your Home Lawn', a semester long weekly course for interested homeowners.

Taught Elderhostel group on 'The Agronomy of Golf', April 3rd, 2007.

Gave presentation on Agronomy to Wrights Mill Road 4th graders at Career Days, April 19th, 2007.

Participated in tour and demonstrations for visiting high school students in Agriculture and Forestry, July 19th., 2007.

Gave talk on 'Fertility and Soil Testing' to the Alabama School IPM Coalition Meeting, July 18th, 2006, Auburn, AL.

Provided tour of the AU Athletic Dept. turf facilities for the Ag & Forestry Leaders Institute, June 21st, 2006, Auburn, AL.

Helped with tours of the Turf Unit and the AU Athletic Dept. facilities for the Oregon Seed group visit, Weds, April 19th, 2006.

Gave talk on 'Auburn Research Update' at the *Poa annua* classic meeting and golf tournament, FarmLinks Golf Club, April 24th, 2006.

Gave the 'Auburn Research Update' at the USGA Green Section Committee meeting, Birmingham CC., April 13th, 2006.

Gave three talks: one titled 'Extreme Tests for your Soil & Plant Tissue', one titled 'Research Update', and one titled 'Nitrogen Testing' to the Alabama Turfgrass Association's 45th Annual Turfgrass Conference, Auburn, AL., October 24th-26th, 2006.

Instructor for one-week Elderhostel courses or day-long short courses titled 'Swinging into the Evolving Golf Course in America: A Golfer's Delight'. 1997 - 2004.

Presentation on 'Managing Centipedegrass in the South'. Gulf States Horticultural Expo, Mobile, AL. January 20th, 2005.

Hosted and gave presentations at the Auburn University/AAES 2005 Turfgrass Field Day, Auburn, AL. April 6th, 2005.

Hosted a Saturday AU Stadium and Turf Tour in conjunction with the AU Alumni Association, June 25th, 2005.

Presentation on 'Lawn Nutrition' at the ACES 2005 Montgomery Area Home Lawn Care Workshop. June 18th, 2005.

Presentation on 'Turfgrasses' to the Auburn First Tee Golf Camp, AU Athletics, Weds., July 20th, 2005.

Gave talk on 'Southern Grass Management' as a part of the Alabama Turfgrass Association's 'Turfgrass Maintenance 101', Ozark. April 28th, 2004.

Gave talk on 'AU Turf Research' to the AU Ag. Advisory Board, Sept. 21st, 2004.

Gave talk on 'AU Turfgrass' to attendees at the national Grass Breeders Workshop, Auburn, AL, May 19th, 2004.

Hosted tour of Turfgrass Research Unit, AU Elderhostel class, May 25th, 2004.

Gave talk on 'AU Turfgrass Research' at the Alabama Turfgrass Association Winter Conference, Auburn, AL, Jan 6th, 2004.

Gave presentation on 'Lawn Grasses' at the Alabama Nurseryman's Short Course, Aug 3rd, 2004.

Gave two presentations: 'Microbial Products' and 'Tifeagle Grow-In' at the Alabama Turfgrass Association Annual Convention, Oct 26th – 27th, 2004.

Presentation of Pasture and Arena Footing Management for the 2003 Alabama Horse Fair, January 26th, 2003, Montgomery, AL.

Gave talk on Turfgrass Management at the Alabama Recreation and Parks Association Conference, Jan 29th, 2002, Florence, AL.

Taught class on soil testing and pasture management to meeting of Pony Club students at AU Horse Unit, July, 2001.

Taught Soil Fertility at the Lawn Care In-Service Training course, Montgomery, AL, October 30th, 2001. Gave presentations at the 2001 ATA Turfgrass Conference and Trade Show, Sept 9-11th, Mobile, AL.

Presentation on soil amendments at the United States Golf Association (USGA) Regional Meeting, Birmingham, AL, April 3, 2000.

Presentation on soil compaction of turfgrass, Alabama Turfgrass Association athletic field manager meeting, March 10, 2000.

Presentation on Current Research at Auburn University to the Alabama Golf Course Superintendents Association, Sept 25th, 2000, Decatur, AL.

Attended and gave presentation on Soil Testing & Fertilization, ATA Sports Turf Short Course, Mobile, AL, 3-30-99.

Organized speakers for and gave presentation (Hybrid Bermudagrass Selection) at the 1999 ATA Turfgrass Conference and Trade Show, Sept 12-14, 1999, Auburn, AL.

Invited speaker for AL GCSAA meeting on topic of Growth Regulators, Hidden Meadows Golf Course, 4- 26-99.

Taught turfgrass selection part of Alabama Nurserymens Certified Nursery Professional short course, 9-1-99

Turfgrass Selection. 1999. AAES Master Gardeners Workshop, Autauga Co., Alabama.

Talk on bentgrass variety research, USGA Regional Meeting, March, 1998. Birmingham Country Club.

Sports Turf Field Fertility Management talk presented at the March 16th ATA Sports Turf short course, 1998.

Zeolites talk presented at the 1998 Alabama Turfgrass Association annual meeting, September, 1998.

Turfgrass Management talk presented at the September Certified Nursery Professional Workshop held in Auburn, 1998.

Turfgrasses for Alabama talk presented at the 1998 mini-workshop held by the East Alabama Nurserymens Association.

'Turfgrass Selection' 1997. AAES Master Gardeners Workshop, Birmingham, AL.

Invited presentation on 'How soil moves' for a public information seminar on 'Development in Lee County', July 17, 1997.

Invited presentation for a Sediment Erosion Control Workshop on the topic 'Controlling Soil Erosion', April, 1997, Fairhope, AL.

Invited presentation on 'Turfgrass Selection' for the Alabama Nurserymen's Association annual trade show, January 24, 1997.

Invited presentation on Precision Farming and Geostatistics for the Alabama Section of the American Society of Agricultural Engineers, March, 1996.

'1996 Winterkill update - why did all my grass die?' 1996. Alabama Cooperative Extension System short course, Nov. 13, Birmingham, AL.

Invited presentation at the Alabama Turfgrass Association Conference 'Turfgrass Fertilization', September, 1996.

Invited presentation on 'Auburn University Turfgrass Update' for the Alabama Chapter of the Golf Course Superintendents Association, 1996.

Invited seminar on Geostatistics for the Auburn University Entomology Department, October, 1995.

'Fertilizers for Vegetable Production' 1995 AAES Spring Production Meeting, Mobile County, March 16, Mobile, AL.

'Fertilizers for Vegetable Production' 1995 AAES Spring Production Meeting, Autauga County, February 9, Autaugaville, AL.

Instructional Activities through University Outreach and Extension **Regional or National Presentations**

In general, I provide education teaching to various industry groups on the following topics. They organizers usually select a topic, and I adjust as needed for time, location, and degree of education/experience in my audience. Typical topics include:

1. Types of nitrogen fertilizers – slow release, organic, soluble etc.
2. Phosphorus fertilizer – uses, when are they needed, etc.
3. Thatch control and strategies for organic matter
4. Physical soil properties – compaction, aeration etc.
5. Chemical soil properties – soil pH, cation exchange capacity, base saturation
6. *Poa annua* – cultural management – this is NOT herbicides
7. Silica for turfgrass? This cover the issues of Si for disease suppression, improved golf ball roll or all the other supposed great things Si does
8. Phosphite versus phosphate – what is the difference?
9. Organic turfgrass management – is it possible?
10. The new biological products – seaweed extracts, biologicals, VAM etc.

11. Reading soil tests – I use local tests to discuss the information they provide
12. The ‘other’ essential elements – S, Ca, Mg and micros
13. Myths, facts and legend of soil fertility – cool season edition OR warm season edition or both
14. Soil health – what in the heck is that and how do we measure it?
15. The history of nitrogen fertilizer – from urine to urea
16. New methods for measuring N in soil

Completed talks:

Long Island Golf Course Superintendents, 2023

Minnesota Turfgrass Meeting, November, 2022.

Carolinas Turf Show, November, 2022.

Turning Point Bayer Golf meeting, New York, November, 2022.

Carolinas Turfgrass Conference – three presentations, November, 2021.

Deep South Turfgrass meeting, Biloxi, October, 2021. Two presentations.

Gave presentations as a part of the ‘Equine Turfed Track Safety’ certificate series for track, polo and steeplechasing. On-line instruction, weekly in June, 2021.

Ohio Turfgrass Show, virtual, Dec, 2020.

Carolinas Turfgrass Conference, virtual, November, 2020.

Presentations of coated fertilizer technologies, AU Extension agent tour, Pursell technologies, Jan 15th, 2019. Attended and gave three seminars/workshops at the 2019 international GCSAA meeting.

Gave presentation on N fertilizer technology, Everglades GCSAA, Naples, FL., April 25th. 2019.

Gave a talk of fertilizers and cotton, Tessengerlo fertilizers, Jacksonville, FL, Oct 14th. 2019.

Gave a seminar of fertilizers at the Carolinas Turf Show, Myrtle Beach, Nov 18th. 2019.

Gave a talk of fertilizers to the members of the Fertilizer Institute, Nov 21st. Savannah, GA. 2019.

Seminar for the New York Golf Course Superintendents Association (GCSAA) – Jan 9-11, 2018

Taught 3 seminars for the Golf Industry Show, international meeting of GCSAA, Feb 4 – 8th, 2018

Taught 2 seminars at the New England Regional Turf Show, Mar 5-6th. 2018.

Presentation on turfgrass research at the SEC football kickoff dinner, Aug 30th, Atlanta. 2018.

Taught 2 seminars for the Idaho GCSAA, Oct 10-11th. 2018.

Taught 3 seminars for the Peaks and Prairies GCSAA, MT, Oct 15-17th. 2018.

Taught 3 seminars for the NW Turfgrass Association, Walla Walla, WA, Oct 29-30th. 2018.

Taught a day long short course at the Carolinas Turf Conference, Nov 12-13th. 2018.

Taught Sports Field Construction at the Sports Field Builders meeting, Dec 3-4th. Arizona. 2018.

Taught on-line courses (due to snow storm) for the Virginia Turfgrass meeting, Dec 10-11th. 2018.

Gave a seminar at the Central PA GCSAA meeting, Feb 21st. 2018.

Attended and gave talk at the Sports Turf Management Association (STMA) annual show, Jan 23rd – 26th. 2017.

Gave three presentations (all 4 hour short courses) at the national Golf Industry Show (GCSAA), Feb 5th – 9th. 2017.

Gave presentation on foliar K research at the Fluid Fertilizer meetings, Feb 20th – 21st. 2017.

Gave presentation at the Everglades GCSAA meeting, Naples, FL, April 18th-19th. 2017.

Gave presentations and attended the International Turfgrass Meeting, Rutgers, NY, July 17th – 20th. 2017.

Gave three presentations on Turfgrass Management at the Michigan Turfgrass Show, East Lansing, MI Jan 5-7, 2016.

Taught 3 short courses and hosted one seminar panel at the Golf Course Superintendents Annual meeting (GCSAA), CA, Feb 8-11, 2016. Topics were nitrogen and soil management.

Gave two talks at the New England turf show, Providence, Feb 28-March 1, 2016.

Gave presentation at Griffin (GA) Turfgrass Field Day, August 4th, 2015.

Gave talk to TN GCSAA, Tennessee, July 19th, 2016.

Gave two presentations at the Deep South turfgrass conference, Oct 12-13th, 2016.

Gave three presentations at the Rocky Mtn GCSAA, Dec 6 to 8th, 2016.

Three seminars ('Advanced N', the 'Soil Under Your Turf' and 'Phosphorus') at the International Golf Course Superintendents Association, Long Beach, CA., Feb., 2016.

Taught seminar on 'Soil Compaction' Cleveland Browns, Ohio STMA, June 23rd-24th., 2015.

Gave two presentations ('Zoysiagrasses' and 'New N Sources' at the Florida Turfgrass meeting, Orlando. Sept 14-16th., 2015.

Texas Turfgrass Show, 2 talks, San Antonio, TX, Dec 15th -17th, 2015.

Gave a presentation at the Deep South Turf Show, Biloxi., Oct 14th, 2015.

Gave two talks on 'Nitrogen' and 'Phosphate' at the Maryland GCSAA, Nov 4th -5th. 2015.

Gave a day-long seminar on 'Advanced Nitrogen' at the Carolinas Golf Show, Myrtle Beach, Nov 16th-17th, 2015.

Talks on 'Poa management', 'Compaction Management' and 'Thatch Control', Minnesota GCSAA, Dec 2-3rd, 2015.

New Jersey Turfgrass Show, 3 talks, Atlantic City, NJ, Dec 8th -10th., 2015.

Three seminars ('Advanced N', 'P' and 'K') at the International Golf Course Superintendents Association meetings, San Diego. Feb 23rd - 25th., 2015.

Two presentations: 1) Managing Soil Compaction and 2) non-herbicidal strategies for Poa control at the Eastern PA turfgrass conference, Philadelphia, PA Jan 6 - 8th., 2015.

Gave a three hour seminar on 'Bermudagrass Selection'. National Sports Turf Managers Association annual conference, San Antonio, Jan 13-15th., 2015.

Speaker at the Mid-Texas GCSAA meeting, Dallas, TX. 'Best management practices for N, P and K on your golf course' October 7th, 2014.

USGA Mini-research meeting. 'Update on our funded nitrogen research' June 4th, 2014. Atlanta, GA.

Speaker at the Sports Turf Managers Association annual meeting, San Antonio. Talk on 'The Analogy Lecture – Understanding Soil Physical and Chemical Properties through Food' Jan 23rd – 24th, 2014.

Presentation on 'Soil test Phosphorus – the new regulations for protected water quality – what you need to know for your course' Mid-Atlantic GCSAA, Maryland, February 26th – 27th, 2014.

Gave three talks (N, P and K) at the national Golf Industry Show (GIS) of the Golf Course Superintendents Association (GCSAA), Feb 3th to 6th., 2014.

Gave two talks at the Tennessee Turfgrass Conference, Memphis, TN, Jan 7th to Jan 9th., 2013.

Gave three talks at the Indiana Green Expo, Jan 10th to Jan 12th., 2013.

Gave an invited presentation at the Sports Turf Managers Association national conference, Jan 16th to 18th., 2013.

Gave three talks (N, P and K) at the national Golf Industry Show (GIS) of the Golf Course Superintendents Association (GCSAA), Feb 4th to 6th., 2013.

Gave invited presentation at the Everglades GCSAA meeting, Naples, FL, April 18th., 2013.

Gave talk on fertilizer formulations at the International Formulations Meeting, Raleigh, NC, August 8th, 2013.

Two talks on 'Nitrogen' and 'Compaction Management' at the Oklahoma Turfgrass Show, Stillwater, OK. Nov 12-13th, 2012.

Taught ½ day short course on ‘Advanced Nitrogen Fertilizers’ at the Golf Course Superintendents Annual Show, Feb 27th, 2012. Also moderated the ‘Weed and Disease Control for Warm Season Grasses’ session.

Gave two talks at the Sports Turf Managers (STMA) show: ‘New Fertilizer Technology’ and ‘Research Roundtable’, Jan 12-14th, Orlando, FL. 2012.

Presentation of ‘Fluid Fertilizers for Sod Production’. Fluid Fertilizer Conference, Scottsdale, AZ, Feb 20th, 2012.

Gave two talks on ‘Nitrogen’ and ‘Bentgrass Stress Management’ at the New England Regional Turf Show. Feb 6th-9th, 2012.

Gave talk on results with Stoller products in bentgrass greens management. Houston, TX, Jan 16th, 2012.

Gave two talks on ‘P Management’ and ‘Soil Testing’ at the Sports Turf Management Association annual meeting, Jan 10-13th, 2012.

Gave talk on ‘Cotton Hydromulch Product Update’ at the Beltwide Cotton Conference, Jan 4th-6th, 2012.

Gave two talks at the Arkansas Turfgrass Show: “New Fertilizer technology” and ‘Going Organic’, Hot Springs, AR, Jan 19th-20th, 2011.

Taught ½ day short course on ‘Advanced Nitrogen Fertilizers’ at the Golf Course Superintendents Annual Show, Feb 8th, 2011.

Gave presentation on ‘Fluid Fertilizers for Sod Production’ at the annual Fluid Fertilizer meetings, Scottsdale, Feb 21st-22nd, 2011.

Gave ½ day seminar on ‘Agronomy and Erosion Control’ at the International Erosion Control Meetings, Orlando, FL., Feb 23rd-24th, 2011.

Gave ½ day seminar on ‘Nitrogen, phosphorus and potassium for golf courses’ at the Georgia Golf Course Superintendents seminar, Macon, GA, Nov 14th, 2011.

Gave four talks at the Ohio Turfgrass Conference: ‘Fixing Compaction’, ‘Best Methods for Soil Testing’, ‘Fans and Syringing for Cooling Greens’ and ‘Phosphorus Management for Water Quality’, Dec 5th – 8th, Columbus, OH, 2011.

Gave two presentations of ‘Deep Tine Aerification – Going Deep’ at the Sports Turf Managers Association National Show, Jan 14-16th, 2011, Long Beach, CA.

Gave day-long seminar on ‘Advanced Nitrogen Fertilization’ at the National Golf Course Superintendents Show, Feb 8th-Feb 10th, 2011.

Taught day-long seminar on ‘Best Management Practices for Establishment of Vegetation of Roadsides’ at the National Erosion Control Meetings, Dallas, TX, February 15th-17th, 2011.

Gave presentation on 'Advanced Nitrogen' at the 'International Nitrogen' meetings, Miami, March 23rd and 24th, 2011.

Gave presentation on 'Carbon Sequestration in Home Lawns' at the Carbon Sequestration meetings, Columbus, OH, April 13th and 14th, 2010.

Gave three talks: 'Saving Money of Your Fertilizer Bill', 'Ins and Outs of N Fertilization' and 'P and K in Turfgrass – Macronutrients with an Identity Crisis' at the Texas Turfgrass Show, Austin, TX, Dec 14-16, 2009.

Gave two talks 'Organic Fertility Programs' and 'Best Management Programs for Lawn Care' at the Georgia Turfgrass Association Show, Duluth, GA, 2009.

Gave a talk on 'Organics for Golf Courses' at the 63rd Annual Southeastern Turfgrass Conference, Tifton, GA, May 5th, 2009.

Gave two presentations at the 20th Annual Sports Turf Managers Association Conference, 'Nitrogen Fertilizers in Sports Turf - Best Management Practices' and 'Warm Season Grass Production - Q&A', January 15th-16th, 2009.

Talk on 'Maximizing Fertilizer Efficiency' at the Landscape and Equipment Expo, Louisville, KY, Oct 23rd, 2008.

Gave talk on 'Fluids in the Turf Industry' at the Fluid Forum, Scottsdale, AZ, Feb 17-19th, 2008.

Gave presentation on nitrogen fertilizers to the Georgia Golf Course Superintendents Association, Green Island CC, March 17th, 2008.

Gave presentation on 'Deep-tining Sand or Inorganic Amendments for Greens' at the Golf Course Superintendents Association Annual Conference, Orlando, FL., Jan 31st, 2008.

Assisted with grading of exams for the 2006 Sports Turf Challenge student competition, Jan 20th, Orlando, FL. This student competition is a part of the annual Sports Turf Management Conference and Show.

Participated in the 'Nitrogen Summit', an invited gathering of 8 scientists to discuss N fertilization of turfgrasses, Marysville, OH, March, 2007.

Gave half day seminar on 'Nitrogen Management' to the GA and AL Golf Course Superintendents Association, Grand National Golf Course, June 10th., 2007.

Presentation on 'Nitrogen Management' to the Alabama Crop Management Association, Auburn, AL, January 31st., 2007.

Presentation on 'Managing your Soils and Soil Fertility for Attractive and Safe Landscapes' to the Alabama Parks and Recreation Association Annual Conference, Huntsville, AL, Jan 29th., 2007.

Managing Microbials in your Athletic Field - Can they Work for You? Seminar presented at the Sports Turf Managers Association, 17th annual conference and show, Orlando, FL, Jan. 18-22nd, 2006.

Gave a talk on 'TifSport and TifEagle Establishment' at the 60th annual SE Turfgrass Conference, Tifton, GA., May 2nd, 2006.

Gave presentation on 'Soil sampling and fertilizer recommendations' to the Gulf Cost Golf Course Superintendent Association, Panama City, FL., December 4th, 2006.

Attended and gave 'Exam Update' at the International Certified Crop Advisors meeting, Washington, D.C., Feb 27th-28th, 2006.

Presided over the annual Certified Crop Advisor Exam meeting, Chicago, July 31st-Aug 2nd, 2006.

Attended and gave Exam Report at the Certified Crop Advisor meeting, Coeur d Alene, ID, Sept 25th-26th., 2006.

Presentation on 'Overview of Auburn University Turfgrass Research'. Alabama Crop Improvement Association/Southern Seed Certification Association joint meeting, Gainesville, FL. March 7th, 2005.

Gave two presentations 'Turfgrass Stress' and 'Fans and Syringing to Cool Bentgrass' at the Virginia Turfgrass 45th Annual Conference, Richmond. Jan 12-13th, 2005.

Presentation titled: 'It's not Dead, it's Dormant: Turfgrass Management in the South'. Cornell University graduate students and faculty, April 11th, 2005.

Gave talk on 'Footing in Event Courses' at the United States Eventing Association national meetings, San Francisco, Dec 3rd – 5th, 2004.

Gave talk on 'AU Turfgrass' to the Southern and Northeastern Experiment Station Directors, Perdido Beach, March 30th, 2004.

Presentations on 'Bioproducts', 'Fans & Syringing' and 'Organic Fertilizers', Eastern Pennsylvania Turf Conference, Jan 13 – 15th, 2004.

Presentations on 'Soil Testing and Bioproducts at the New England Regional Turfgrass Conference and Show, March 17 - 20th, 2003.

Presentations on Bioproducts and Organic Fertilizers for Golf Courses and Basics of Soil Science to the Idaho Golf Course Superintendents Association, Sept 28th - 30th, 2003.

Co-Instructor for day-long seminar on Bioproducts and Organics at the Heart of America Golf Course Superintendents Assn. Golf & Turf Conference, January 8th, 2002, Kansas City, MO.

Gave talk on Soil Chemistry at the 16th annual Mid-Florida Turf Conference, Windermere, FL, Jan 10th, 2002.

Gave three talks (Bioproducts and Organics, Bentgrass Stress and Soil Test Recommendations) at the 72nd annual Michigan Turfgrass Conference, Jan 21-24, 2002, East Lansing, MI.

Gave two talks (Centipedegrass Management & Ultradwarf Management) at the Grow and Mow Expo, College Park, GA, Jan 16-17th, 2002.

Gave talk on Pasture Management and Footing at the National United States Pony Club Convention, Feb 3rd, 2002, Atlanta, GA.

Gave talk on New Product Evaluation at the USGA Regional Conference, Pinehurst, NC, March 12th, 2002

Co-Instructor for the day-long seminar Bioproducts and Organics taught at the National Meeting of the Golf Course Superintendents Association of America (GCSAA), February, 2000, 2001 and 2002.

Gave presentation at the SEC Sports Turf Conference, Oxford, Mississippi, July 5th-7th, 2001.

Gave presentation on biosolids for putting greens at the Biocycle Conference, Atlanta, GA., August 28th, 2001.

Two presentations (Athletic Field Management - Soil or Sands and Organics for Athletic Field Management) at the Turf and Grounds Exposition, New York State Turfgrass Association, Nov 14-16th, 2000.

Presentation on Inorganic Amendments for Golf Greens at the 55th annual Oklahoma Turfgrass Conference, Afton, OK, Nov 17th, 2000.

Two talks (soil compaction and amendments for golf greens) presented at the Tennessee Turfgrass Association meetings, January, 2000. Nashville, TN.

Gave invited presentation about Auburn Turf Research at Scotts Fertilizer Headquarters, Marysville, OH, 4-13-99

Invited member of 3 member (other members were Capt. Mark Phillips, British Olympic Team and Mick Costello, Head Course builder for Rolex, KY) panel discussion on the subject of Footing Management - United States Combined Training Association national meeting, Dec 5-7th, 1999.

Invited presentations at the 1997 Mississippi State Turfgrass Conference, 'Bermudagrass Selection' and 'Soil Fertility for Turfgrass'.

Invited presentation at the 1997 55th Annual Southeastern Turfgrass Conference on 'New Bermudagrasses for the Southeast', University of Georgia Coastal Plain Experiment Station.

Invited presentation for the Georgia Golf Course Superintendents Association Nov. 13, 1996, meeting titled 'Stress in Turfgrass Management', Tifton, GA.

Web-Based Interactive Instruction - Courses Taught

GCSAA webinar, Jan 17th. This is part of my monthly series that I did for GCSAA in 2019, a series developed for preparing students for the GCSAA certification exam.

Webinar on soil testing strategies, Golf Course Superintendents Association of America (GCSAA) – Jan 3rd, 2019.

Taught GCSAA webinar on Soil Carbon, March 29th. 2017.
 Taught webinar on Soil Testing for GCSAA, Mar 16th, 2016.
 Taught webinar on aerification to Spanish greenkeepers association, 2016.
 Webinar on 'How to Read Your Soil Test Report – New Edition', March, 2016.
 Webinar on P fate. GCSAA, April 7th, 2015.
 Webinar on 'myths of soil fertility' GCSAA. April 9th, 2015.
 Taught Webinar on pre-emergent herbicides for homeowners, AAES, Feb 9th, 2015.
 Webinar on 'Turfgrass Soil Fertility' Golf Course Superintendents Association. Jan 27th, 2015.
 Webinar for TurfNet. 'Non-herbicidal control strategies for *Poa annua*' Sept 24th, 2014.
 Webinar for GCSAA, 'The food analogy for soil and physical chemical properties' September 25th, 2014.
 Webinar on 'Nitrogen – sources, rates and environmental fate' GCSAA webinar, April 16th, 2014.
 Webinar on 'Fertilization for protected water quality' TurfNet, Feb 13th, 2014.
 Webinar on fertilizer recommendations, for TurfNet, August 21st, 2013.
 Taught on-line Webinar course on 'Carbon Sequestration' for GCSAA, Jan 25th, 2012.
 Taught on-line Webinar course on 'Foliars' for TurfNet, Nov 7th, 2012.
 Taught on-line Webinar course on 'Advanced Nitrogen' for the Golf Course Superintendents Association, Jan 26th, 2011.
 Taught on-line Webinar course on 'Organic Fertilizers' for the Golf Course Superintendents Association, Mar 4th, 2009.
 Taught on-line Webinar course on 'How to Read Your Soils Report' to the ValleyCrest golf course superintendents, Weds, March 19th, 2008.
 Taught Golf Course Superintendent Web-based course on 'Soil Testing', Oct 16th, 2007.
 Taught Web-Based on-line course on 'Bioproducts and Organics' for the Golf Course Superintendents Association, Dec 9th, 2004.
 On-line Webinar presentation on 'Compaction' for Lebanon Chemical. July 19th, 2005.
 On-line Web presentation titled 'The Scoop on Organic Fertilizers', Golf Course Superintendents Association, Dec 13th, 2005.
 On-line Golf Course Superintendents Association presentation on 'Reading you Soil Test Report', September, 2007.

RESEARCH/CREATIVE WORK

Books or Book Chapters

- Thompson, C., E.A. Guertal, P. McGroary, and D. Soldat. 2023. Considerations with Soil Testing in Turfgrass. Upcoming book chapter in 'Achieving Sustainable Turfgrass Management'. Francis Dodds, publishers.
- Guertal, E.A. 2012. Carbon Sequestration in Urban Landscapes. In: Carbon Sequestration in Urban Ecosystems. R. Lal and B. Augustin, eds. Springer.
- Frank, K.W. and E.A. Guertal. 2013. Nitrogen research in turfgrass. In: Stier, J.C., B.P. Horgan and S.A. Bonos (eds). Turfgrass: Biology, Use and management. ASA/CSSA/SSSA Agronomy Monograph No. 56.
- Frank, K.W. and E.A. Guertal. 2013. Potassium and phosphorus research in turfgrass. In: Stier, J.C., B.P. Horgan and S.A. Bonos (eds). Turfgrass: Biology, Use and management. ASA/CSSA/SSSA Agronomy Monograph No. 56.

Articles in refereed journals:

Footnotes: # - indicates a student for whom Guertal was major advisor or co-advisor; ^ - indicates a student for whom Guertal was a committee member.

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2020-present. Once I quite writing 'Verdure' (see below) I started to write a longer set of articles for Golf Course management magazine. Called 'Par 5', they are quarterly articles in which I condense and review 5 refereed papers that have a similar theme, such as potassium for stress in turfgrass.

2013-2020. For the past seven years I wrote a monthly column called 'Verdure' for the trade publication Golf Course management. This column takes published research (from Crop Science or Agronomy J. or HortScience, etc.) and distills it down to 500 words for a take-home message to superintendents.

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#Welsh, C.E., E.A. Guertal and C.W. Wood. 1996. Fertility and fumigation. *Ala. Ag. Exp. Stn. Highlights of Ag. Res.* 43, No. 2:15.

^Flynn, R.P., C.W. Wood and E.A. Guertal. 1995. Broiler litter can enhance potted plant production. *Highlights of Agricultural Research*. Spring, 1995.

#Crow, W.T., E.A. Guertal and R. Rodriguez-Kabana. 1995. Green manures: An environmentally friendly way to control root-knot nematodes. Highlights of Agricultural Research. Winter, 1995.

Guertal, E.A., E. van Santen, K. Glass, P. Mask and D. Bransby. Interpreting variety trial results. Highlights of Agricultural Research. Fall, 1994.

Experiment Station Field Day Presentations:

Presented talks about on-site research projects at the following field days:

- a. E.V. Smith Research Center, Horticulture Unit - 1994, 1995
- b. North Alabama Horticultural Substation - 1994, 1995, 1996
- c. Chilton Area Horticultural Research Substation - 1994, 1995
- d. Wiregrass Substation - 1995, 1996
- e. Sand Mountain Substation - 1994, 1995
- f. Turfgrass Research Unit - 1996, 1999, 2000, 2001, 2002, 2003, 2005, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2015, 2017, 2019, 2021.

Other research/creative contributions:

Member, CAST Plant Work Group, 2020 – present.

Grant reviewer, Foundation for Ag Research (FAR) Young Investigators Program, 2020.

Panel member (one of 12 people) of the USAID SOILS consortium. 2019. Part of the USAID Sustainable Intensification project administered by Kansas State University, this project will have a major role in soil fertility work in 8 countries in western Africa. Covid has largely halted this activity.

Served as member of the Auburn University in-house IGP proposals review team, Mar 22nd – 23rd. 2017.

Served on the USDA-AFRI grant selection panel, Dec, 2017. Panel member for the Capacity Building Grants for Non-Land Grant Colleges program.

2013, 2014 and 2015. Judge of applications submitted to the Golf Course Superintendents Association of America (GCSAA) award program: Environmental Leadership Awards

2013. Turfgrass/soils expert for the US Corp of Engineers Committee to review the technical documents for the Levee Stabilization program, Corps of Engineers, Louisiana. I was one of 4 experts to serve on this appointed panel. This group reviewed all technical documents for levee safety and stability post-Katrina.

Voting Representative for the Sports Turf Management Association (STMA) to the ASTM. Attend twice yearly meetings of ASTM and vote on standards related to turfgrass. 2010-2011.

Member, WSS Turf Racing Surface Committee (Horse Racing - The Jockey Club), 2008-2014.

Member of the Floratine Products Groups (a commercial fertilizer company) Academic Advisory Board, 2008-2012.

Member of National Turfgrass Evaluation Program zoysiagrass advisory committee, 2001.

Attended and was voting representative of SERA-IEG-25 (Turf) Research and Extension meetings, 1997-2008, various locations throughout southeast U.S.

Director for the 18-member NRI grant review panel for Soils and Soil Biology Program, May 21st-25th, Washington, D.C., 2001.

Member, National Proposal Review Panel for the 1999 and 2000 Soils and Soil Biology Section of the National Research Initiative grants, USDA-ARS.

Served on national CCA (Certified Crop Advisor) panel for revising the Soil Science Competency Area for the American Society of Agronomy, 2000.

Member of the national ASA-CCA Exam and Procedures Committee, August 14-15th, 2001, Indianapolis, IN. Continued to serve on this committee through 2003, assumed the role of Chair in August, 2004-2008.

Reviewer for USDA National Research Initiative proposals in the area of geostatistics, 1995, 1996 and 2001.

Reviewer for USDA-SARE (Sustainable Agricultural Research and Education Program) preproposals, 1994 and 1995.

Co-developer for programs for 1996 through 2000 for the Alabama Turfgrass Association. Program development included the annual meeting of the ATA, sports turf short courses and sod producers short courses.

Invention/Patent Disclosures:

Rodriguez-Kabana, R., E.A. Guertal, R.H. Walker and D.H. Teem. 2004. 2-Propenal and related enal compounds for soil fumigation to control nematodes and other soil-borne pests. Provisional Patent Application #60/488,186, Filed July 17th, 2003.

Elizabeth A. Guertal and Robert H. Walker. 2007. A composition and method of controlling weeds within a target surface. AU Technology Disclosure 06-077. U.S. Provision Patent Application No. 61/003,460 (1/8/2008).

R. Rodriguez-Kabana, E.A. Guertal, R.H. Walker, and D.H. Teem. 2008. 2-Butenal, trans-2-pentenal and related enal compounds for controlling plant pests and weeds in soil. U.S. Patent 7,462,579.

McElroy, J.S. and E.A. Guertal. 2009. Glucosinolate-isothiocyanate containing seed meals improve the herbicide potential of natural plant by-products and reduce effective amount of synthetic herbicides needed for preemergence weed control. Technology Disclosure No. 09-046 and Provisional Patent Application.

Dean, R.N., E.A. Guertal, M.E. Baginski. 2016. Fringing field sensor in printed circuit board technology. Provisional Patent Application No. 61/992,666

Grants and Contracts (Does not include teaching grants previously listed) (If a PI name is not listed that funding is 100% to Guertal):

2021. Fertilizer funding work. Various companies – 55,000.

2020. TKI (Tessenderlo-Kennerly). Evaluations of new nitrification inhibitors. 86,000.

2020. USGA grant – part of three university collaboration to study Bacillus formulations in turfgrass. \$62,000.

2020. Fertilizer research funds for work in turfgrass, vegetables and field crops. \$112,000.

2019. Fertilizer research funds for various work in turf, field crops and vegetables. 92,000.00.

2019. National Turfgrass Evaluation Program. 12,000.00. New programs with bermudagrass and zoysigrass. First year of 5 years.

Pursell fertilizer. 2019. Specific funds for field trials. 23,000.00

Harrells. 2019. Fertilizer trials. 12,000.

GCSAA. 2019. Phosphite fertilizer work. 15,000.00

Cotton, Inc. Phosphite work. 24,000.00

2018. Fertilizer research – industry work in field crop, turfgrass and vegetables. 80,000.00

100,000 Strong in the Americas – for international fertilizer development work. 2018 year only. 25,000.00

National Turfgrass Evaluation Program. 2018. 8,000.00. This is the last year of a 5 year trial.

Pursell fertilizer. 2018. Specific funds for summer salary support and field trials. 35,000.00

Gamble and Guertal. 2018. Cotton Commission. Soil and foliar K for cotton. 7,628.00.

Honeywell. 2018. S sources and sulfur incubation. 8,000.00

Audrey Gamble, Rishi Prasad, Elizabeth Guertal. 2018. Evaluation of a Rapid Test to Evaluate Nitrogen Mineralization in Tropical and Subtropical Soils. 49,979.00. USAID/IFDC.

Beth Guertal, Professor, and Jenny Koebernick and Audrey Gamble, Assistant Professors. 2018. Soybean Commission. Exploring Phosphite Fertilizer for Soybean: Fungicide or Fertilizer? 6,216.00

Guertal and Han. 2018. Alabama Department of Transportation Bureau of Research and Development – Roadside work. In Year 2 of 2. 130,000.00

2017. Various evaluations of fertilizer technologies. These are projects conducted over the year in which we examine color, quality and clipping growth as affected by test fertilizers (typical grant, per project, is 5,000 to 7,000): \$150,000.0

2017. Various evaluations of fertilizer placement and rates for field and vegetable crop production. These are studies in which crop growth and yield is examined as affected by fertilizer source (typical grant: 10,000): 50,000.00.

2017. National Turfgrass Evaluation Program (year 3 of 3). Evaluations of turfgrass cultivars: 8,000.00

2017. Alabama Department of Transportation (ALDOT) Roadside work: 63,000.00

2017. US EPA Biosolids work in Birmingham, AL (with A. Gamble): 45,000.00

2017. General Electric – evaluation of fertilizer materials from a processing waste: 50,000.00

National Turfgrass Evaluation Program (year 2 of 3). 2016. Evaluations of turfgrass cultivars: 8,000.00

R. Dean (PI) and E.A. Guertal. 2016. Auburn University ‘Launch’ Program funding to evaluate in-field sensors for moisture: 35,000.00.

AL Soybean Commission: Effect of K rate on yield: 6,000.00

Plantakote, Inc. 2015. Vinca fertilizer studies. 5,000.00

Crystal Green, Inc. 2015. P leaching studies. 6,000.00

EcoAgro. 2015. Nitrification inhibitor studies. 6,000.00

Scotts fertilizers. 2015. Various soil fertility and wetting agent studies. 26,000.00

Compass minerals. 2015. Iron studies. 26,000.00

Lebanon fertilizers. 2015. Volatilization work. 8,000.00

National Turfgrass Evaluation Program (NTEP) 2015. Cultivar studies. 4,000.00

AgSpectrum. 2015. P placement work. 6,000.00

Fluid Fertilizer Foundation. 2015. Foliar K work. 4,400.00

Agricen. 2015. P solubilization studies. 11,000.00

Atlas Turf. 2015. Seashore paspalum establishment. 5,220.00

Auburn University Outreach 2015. (Outreach Program Grant) (with D. Weaver) 12,500.00

Syngenta. 2015. Nematode studies. 8,250.00

Cotton Incorporated. 2015. Cotton K Studies. With D. Weaver 12,000.00

Soybean Board. 2015. Foliar K for Soybean. With D. Weaver. 6,000.00

Dow Chemical. 2015. Nitrogen Leaching. 3,000.00

Fluid Fertilizer Foundation. \$9,000.00. 2014. Foliar fertilizers for K in cotton.

Aquatrols. \$12,000. 2014. Evaluation of new generation wetting agent for protected water quality.

Scotts fertilizer. \$12,000. 2014. On-going ammonia volatilization, leaching and surfactant research.

Mosaic fertilizers. 2014. \$16,000. Cotton, soybean and wheat trials.

Lebanon fertilizers. 2014. \$16,000. Ongoing ammonia volatilization research.

Harrells. \$12,000. 2014. Growth regulator and turfgrass tint studies.

Agricen, Inc. \$8,000. 2014. Biologically amended fertilizer studies.

Syngenta. 2014. \$14,000. Nematode evaluations.

Sylvite, Inc. 2014. \$8,000. Nitrification inhibitor incubation studies.

National Turfgrass Evaluation Program. \$18,000. (5 year program, funded in 2014). NTEP national bermudagrass and zoysiagrass evaluations.

SQM. 2014. \$7,000. Field studies – foliar K for soybean.

Alabama Cotton Commission. With Dr. Weaver (CSES). 2013. \$12,000.00 Potassium partitioning as a function of new generation cultivar cultivars.

Mosaic fertilizers. \$10,000. 2013. Soybean and cotton fertilizer trials.

Scotts fertilizers. \$14,000. 2013. Various field trials and ammonia volatilization research.

United States Golf Association. \$12,000. 2013. Field evaluations of new generation N fertilizers.

Alabama Turfgrass Association. \$6,000. 2013. N Timing and rates for Alabama Turfgrass.

SQM. \$4,000. 2013. Foliar K source work.

Hologanix. \$6,000. 2013. Nitrogen fertilizer evaluations.

Syngenta. \$8,000. 2013. Nematode research trials.

Bayer. \$10,000. 2013. Nematode research trials.

Green Releaf, Inc. \$4,445. 2013. Slow release P for sweet corn and peppers.

ReeCourse. \$2,000. 2013. Fertilizer evaluations.

Easy Gardener. \$5,000. 2013. Nitrogen incubation study.

Koch Agronomy. \$4,000. 2013. Fertilizer prill dissolution study.

Agrium. \$8,000. 2013. Fertilizer trials.

Guertal, E.A. and C.W. Wood. 2012. Carbon sequestration in turfed landscapes. Auburn University Competitive Grant Program. 35,879.00

Guertal, E.A. 2012. USGA. Fertilizer response testing – new products. 12,000.00

E.A. Guertal. 2012. Hydroseeding with cotton mulch. Cotton Inc. 16,000.00

E.A. Guertal. 2012. Various turfgrass fertilizer trials, various companies. 57,000.00.

E.A. Guertal. 2012. Nematode control products - evaluations. Syngenta. 17,000.00.

E.A. Guertal. 2012. Various vegetable fertility trials, various companies. 16,000.00.

Guertal, E.A. and S. McElroy. 2011. IPM strategies for annual bluegrass control. USEPA IPM program. 50,000.00.

Guertal, E.A. 2011. Georgia-Pacific Fertilizer Trials. 16,800.00.

Guertal, E.A. 2011. Bayer Nematicide Trials. 8,000.00.

Guertal, E.A. 2011. Scotts Fertilizer Trials. \$16,000.

Guertal, E.A. 2011. Arysta Fertilizer Trials. \$8,000.

Guertal, E.A. 2011. Agrotain fertilizer Trials. \$8,000.

Guertal, E.A. 2011. Agrium strawberry and fertilizer trials. \$7,000.

Guertal, E.A. 2011. Lebanon fertilizer trials. \$4,000.

Guertal, E.A. 2010. Fulbright Fellow Funding US Department of State 56,335.00.

Dougherty, W. Zech, E. Guertal, C. LeBleu and E. Norton. 2010. Maintaining vegetation for long-term erosion control on disturbed slopes. Alabama Department of Transportation. 42,050.

Guertal, E.A. Biogreen product evaluation. 2010. Biogreen, Inc. 3,000.

Guertal, E.A. and McElroy, S. 2010. Bayer fungicide trials. Bayer, Inc. 11,000.

Guertal, E.A. 2010. Saint Augustinegrass growth regulator trial. Nugrowth. 3,000.

Guertal, E.A. 2010. Foliar fertilizer evaluations. Harrells, Inc. 7,000.

Guertal, E.A. 2010. Leaching of N fertilizers. Scotts, Inc. 8,000.

Guertal, E.A. 2010. N leaching trial. Aquatrols. 4,000.

Guertal, E.A. 2010. Vegetable fertility trials. Aquatrols. 7,000.

Doughtery, M., E. Guertal, E. Norton and C. LeBleau. 2010. Techniques for Long-Term Establishment of Vegetation on Disturbed Slopes. Alabama Department of Transportation. \$50,000.00.

Guertal, E.A. 2010. Fertilizer Research. Lebanon Seaboard, Inc. \$3,000.00.

B. Ortiz, J. Fulton, P. Mask, T. McDonald, J.N. Shaw, E.A. Guertal, K. Bowen and S. Taylor. 2009. Precision Agriculture, Alabama. CSREES-Federal Administration Research Grants. \$390,628.00

Guertal, E.A. 2009. Fertilizer Research – Lebanon. \$6,000.00

Guertal, E.A. 2009. Fertilizer Research – Georgia Pacific. \$6,000.00

Guertal, E.A. 2009. Agronomic establishment techniques for highway construction. Alabama Department of Transportation. \$86,000.00.

Guertal, E.A. 2009. Fertilizer research – Agrium. \$10,000.00.

Guertal, E.A. 2009. Hydroseeding cotton-gin trash. Cotton, Inc. \$5,000.00

Doughtery, M., E. Guertal, E. Norton and C. LeBleau. 2008. Techniques for Long-Term Establishment of Vegetation on Disturbed Slopes. Alabama Department of Transportation. \$50,000.00.

A.N. Wright and E.A. Guertal. 2008. Development of a seed production program for AL native and indigenous wildflowers. AAES Grant Program. \$53,958.00.

Guertal, E.A. and J. Howe. 2008. Auburn University Instructional GFEs funds to purchase an ion chromatograph. \$30,000.00.

Guertal, E.A. 2008. Evaluation of hydromulches on bermudagrass seed germination and establishment. Cotton Inc. \$5,060.00.

Guertal, E.A. Cotton Incorporated. 2007. Continued funding for cotton hydromulch research. \$15,000.

Guertal, E.A. 2007. Scott's Fertilizer. \$10,000.

Guertal, E.A. 2007. Agrium and Polyon, Inc. Fertilizer Research. \$6000.

Guertal, E.A. 2007. Agrotain. Testing of Agrotain for Volatility Reductions. \$6,000.

Guertal, E.A. 2007. Scott's Inc. Seashore paspalum germination and establishment. \$5,000.

Guertal, E.A. Cotton Incorporated. \$4,553.00. 2006. Investigation of a cotton-mulch fiber for use in erosion control blankets.

Guertal, E.A. Honeywell, Inc. \$6,000. 2006. Ammonia volatilization evaluation study.

Guertal, E.A. Fertilizer Solutions, Inc. \$4,000. 2006. Product testing of various N fertilizer sources.

Guertal, E.A. Aquatrols. \$4,000. 2006. Wetting Agent Study.

Guertal, E.A. Pursells, Inc. \$8,000. 2006. Effect of K Sources and Placement in a Bentgrass Putting Green.

Guertal, E. Feng, Y. and R. Patillo. Auburn University Athletic Dept. \$10,000. 2006. Sampling procedures for the determination of antibiotic-resistant strains of streptomyces.

Guertal, E.A. Jacobsen. \$5,200. 2006. Groomer spacing and depth effects on a TifEagle hybrid putting green.

E.A. Guertal, R.H. Walker and D.Y. Han. 2005. USDA Turfgrass Line Item (part of USDA Turf and Ornamental Line Item). \$88,864.

E.A. Guertal, C.W. Wood and Y. Feng. 2005. Georgia Pacific. Slow Release Fertilizer Evaluations. \$1,998

E.A. Guertal. 2005. Scott's. Hybrid bluegrass fertility. \$3,000.

R.H. Walker, E.A. Guertal and R. Rodrigo-Kabana. 2005. Integrated pest management as replacement for methyl bromide in a centipedegrass-based sod rotation system. USDA. \$400,000.

R.H. Walker and E.A. Guertal. 2005. Pursell Technologies. Slow-release fertilizer testing. \$5,000.

E.A. Guertal. 2005. Pursell Industries. Slow-release fertilizer testing. \$2,500.

E.A. Guertal. 2005. Alabama Turfgrass Research Foundation. Zoysiagrass cultivar evaluation. \$3,000.

E.A. Guertal. 2005. Valent Chemical. Nutsedge herbicide evaluation on tomato. \$2,500.

E.A. Guertal. 2004. Aquatrols. Product Testing. \$3,500.

E.A. Guertal. 2004. Andersons slow-release fertilizer testing. \$12,000.

E.A. Guertal and C. Waltz (UGA). 2004. GCSAA (Golf Course Superintendents Association). Deep-tine aerification of calcine clay amendments. GCSAA Grants Program. \$8,000.

E.A. Guertal. United States Eventing Association. 2004. Footing Management for event courses. \$10,000.

R. Rodrigo-Kabana and E.A. Guertal. 2004. Evaluation of fumigants for use in crops for soil disinfestations. USDA/ARS. \$23,953.

E.A. Guertal, R.H. Walker and D.Y. Han. 2004. USDA Turfgrass Line Item (part of USDA Turf and Ornamental Line Item). \$88,864.

E.A. Guertal, R.H. Walker and D.Y. Han. 2003. USDA Turfgrass Line Item (part of USDA Turf and Ornamental Line Item). \$88,864.

E.A. Guertal. 2003. Aquatrols. Product Testing. \$4,000.

R.H. Walker, E.A. Guertal and R. Rodriguez-Kabana. 2003. IR-4 Methyl Bromide Alternatives for Turf and vegetables. \$52,000.

E.A. Guertal. 2003. CERES Fertilizer Testing. \$14,000.

E.A. Guertal. 2003. Andersons slow-release fertilizer testing. \$8,000.

E.A. Guertal. 2003. Novozymes, Inc. Product Testing. \$3,000.

E.A. Guertal, M.L. Elliott, C. Stiles and D.Y. Han. 2003. United States Golf Association. Mini-Grant to study effects of Mn on take-all in ultradwarf bermudagrasses. \$6,000.

E.A. Guertal. 2002. Funds for fertilizer research. Mississippi Chemical. \$7,200

E.A. Guertal and E. van Santen. 2002. National Turfgrass Evaluation Program Bermudagrass Trial. \$12,000

E.A. Guertal and R.H. Walker. 2002. Auburn University Athletic Field Funds. \$15,000

E.A. Guertal, R.H. Walker and D.Y. Han. 2002. USDA Turfgrass Line Item (part of USDA Turf and Ornamental Line Item). \$88,864.

E.A. Guertal. 2002. Alabama Turfgrass Association Research Endowment. \$7,000

E.A. Guertal. Scotts Fertilizer. 2001. Funds for iron fertilizer research. \$2,500.00

E.A. Guertal. Lebanon Chemical. 2001. Funds for fertilizer research. \$2,500.00

E.A. Guertal. Pursell Industries. 2001. Funds for fertilizer research on corn and turfgrass. \$8,000.00

R.H. Walker and E.A. Guertal. 2001. Athletic Dept. Field Maintenance Funds. \$15,000.

E.A. Guertal and E. van Santen. 2001. NTEP Tall fescue study. \$12,000.

E.A. Guertal. 2001. Sybron Chemical. Funds for study of a biological dethatcher. \$5,000.00.

E.A. Guertal. 2001. Fertilizer Incubation Study. Mississippi Chemical. \$4,500.00.

E.A. Guertal, R.H. Walker and D.Y. Han. 2001. USDA Turfgrass Line Item (part of USDA Turf and Ornamental Line Item). \$88,864.

Rodriguez-Kabana, R., Sikora, E. and E.A. Guertal. 2001. Alternatives for methyl bromide for vegetables and turf. USDA Methyl Bromide alternative program. \$225,000.

E.A. Guertal. Lebanon Chemical. 2000. Funds for fertilizer research. \$1,000.00

E.A. Guertal. Pursell Technologies. 2000. Funds for fertilizer research. \$11,000.00

E.A. Guertal. 2000. Phosphorus placement for USGA putting greens. United States Golf Association. \$30,000.00

R.H. Walker and E.A. Guertal. 2000. Athletic Field Maintenance Funds. \$30,000

J. Hess, S. Bilgili, M. Eckman, J. Blake, R. Norton and E. Guertal. 2000. Field adaptation of sand as a litter source for broilers. U.S. Poultry & Egg Assoc. \$57,960.

E.A. Guertal. 2000. Seeded bermudagrasses for Alabama. Cooperative Extension Mini-Proposal. \$2,500.00

E.A. Guertal. 2000. Oxygenators for putting greens: effectiveness and use. United States Golf Association Mini-Grant. \$3,000.00

E.A. Guertal. 2000. Fertilizer incubation study. Mississippi Chemical. \$3,600.00

E.A. Guertal. Scotts Fertilizer 2000. Funds for fertilizer research. \$8,000.00

E.A. Guertal. Scotts Fertilizer 1999. Funds for fertilizer research, various bentgrass and bermudagrass projects. \$8,000.00

E.A. Guertal. 1999. ATA gift for turf research. \$3,000.00

E.A. Guertal. 1999. Terra Chemical. Funds for fertilizer research. \$4,000.00

E.A. Guertal and E. van Santen. 1999. NTEP statistical evaluation package. \$5,000.

E.A. Guertal. 1999. Tall Fescue turfgrass evaluation. Lofts Seeds and GA Agric. Exp. Stn. \$900.00

E.A. Guertal. 1999. N Rate and Timing for Meyer Zoysiagrass Production. International Turfgrass Producers Foundation. \$7,000.00

E.A. Guertal. 1999. Injected Stockosorb for Water Retention and Compaction Relief in Tifway Bermudagrass Athletic Fields. \$14,991.00

E.A. Guertal. 1999. Equipment donation for soil compaction research. Turf Concepts. \$13,500.

E.A. Guertal. 1999. Equipment donation for fan research. Tempest fans, Inc. \$3,000.

R.H. Walker and E.A. Guertal. 1999. Athletic Dept. Field Maintenance Funds. \$30,000.

J.N. Shaw and E.A. Guertal. 1999. Spectral reflectance and remote sensing of turfgrass stress from compaction. NASA. \$10,000.

Guertal, E.A. and R.H. Walker. 1998. Alabama Department of Environmental Management. BMPs for golf course management. \$197,000.

Guertal, E.A. 1998. Scotts Fertilizer. \$4,000.

Guertal, E.A. 1998. Pursell Technologies. Slow-release fertilizers for corn, turf and tomatoes. \$6,000.

Guertal, E.A. 1998. Regal Chemical Product Testing. \$5,000.

Guertal, E.A. National Turfgrass Evaluation Program (NTEP) Bentgrass varieties testing. \$8,000.

Guertal, E.A. and R.H. Walker. 1998. USGA Alabama Section Turfgrass Research. \$2,000

Guertal, E.A. 1997. Use of Polyon fertilizer for no-till corn production. Pursell Technology, Inc. \$3,000.

Guertal, E.A. 1997. Remote sensing of forage crop stress. USDA Soil Quality Institute. \$20,000.

Guertal, E.A. 1997. Construction of USGA-type putting greens using biosolids. Earthgreen Products, Inc. and Watson Brothers Sand. \$9,000.

Guertal, E.A., R.H. Walker, A. Hagan and K.L. Bowen. 1996. Remote sensing of turfgrass stress. NASA - Stennis Remote Space Sensing Center. \$ 22,000.

Guertal, E.A., and J. Kloepper, 1996. Microbial dynamics in USGA-type putting greens. United States Golf Association. \$66,000. (Part of a \$200,000 grant awarded to Auburn, Florida and Clemson).

Guertal, E.A. 1996. Bermudagrass selections for southeastern putting greens. United States Golf Association. \$13,000.

Mitchell, C.C., E.A. Guertal and C.D. Monks. 1996. New legumes in cotton production systems. Al. Cotton Commission. \$3,000.

Guertal, E.A. 1996. National St. Augustinegrass Variety Trial. National Turfgrass Evaluation Program. \$ 6,000.

Bowen, K.L., B.K. Behe and E.A. Guertal. 1996. Disease management and fertility for rose maintenance in the urban landscape. USDA Southern IPM. \$26,000.

Guertal E.A. 1996. Bermudagrass selections for SE putting greens. Turfgrass research support from the Alabama Turfgrass Association and the Golf Course Superintendents Association. \$8,000.

Guertal, E.A. 1996. Boron for bentgrass production. U.S. Borax. \$ 3,000.

Guertal, E.A. 1996. Best Management practices for sod farming. ADEM. \$ 18,164.

Guertal, E.A. \$5,000. 1996. Slow-release N fertilizers for strawberry and pepper production. Helena Chemical.

Guertal, E.A. and C.W. Wood. 1995. Ammonia volatilization and nitrate leaching as affected by effluent disposal. USDA Travel Grant. \$12,000.

Wilson, M., J.B. Jones and E.A. Guertal. 1995. Integrated approaches for control of foliar bacterial diseases of tomato and pepper. Southern Region IPM-USDA. \$145,180.

Behe, B., E.A. Guertal and J.M. Kemble. 1995. Poultry litter compost test for vegetable transplant production. TVA. \$10,000.

Guertal, E.A., E.J. Sikora and J.M. Kemble. 1995. Evaluation of Cahaba vetch as a nematode suppressant. W.L. Research, Inc. \$5,700.

Guertal, E.A. 1994 and 1995. Foliar B sources on cotton and soybean. U.S. Borax. \$4,000.

Guertal, E.A. 1994. Micro-fertigation: Effects on water quality. Research Grant-in-Aid, Auburn University. \$10,000.

Guertal, E.A., C. Mitchell and J. Novak. 1994. Sustainable cotton production for the South. SARE/ACE Research Training Program. \$10,000.

Wood, C.W., E.A. Guertal, M. Mullen and M.L. Cabrera. 1994. Broiler litter management in major land resource areas of the Southeast: N loss and water quality. USDA Special Research Grants: Water Quality. \$287,000.

Guertal, E.A. and R.H. Walker. 1994. Chufa production. James River Timber Corporation. \$2,000.

Guertal, E.A. and C.C. Mitchell. 1994. Evaluation of a new greenhouse material: DPFN. Degussa Chemical. \$60,000.

Guertal, E.A., P.L. Mask and W. Reeves. 1994. Stability of chlorophyll meter readings for wheat yield determinations. ALFA. \$8,630.

Guertal, E.A., D.G. Himelrick, J. Entry, H. Walker, E. Sikora and C.W. Wood. 1993. Soil solarization, biovolatile production and broiler litter composting: Alternatives to methyl bromide. Southern Region Pesticide Impact Assessment Program. \$20,800.

EXTENSION/OUTREACH ACTIVITIES NOT PREVIOUSLY LISTED

Article-length publications - AAES and Extension publications

Guertal, E.A., C.C. Mitchell and J.W. Everest. 1996. Can buffalograss roam Alabama's lawns? AAES Timely Information. S-04-96.

Kemble, J.M., E.A. Guertal and J. Eason. 1996. Effect of banded and broadcast P on yield of sweet corn. Fruit and Vegetable Research Report. Research Report Series No. 11, AAES.

Kemble, J.M., E.J. Sikora and E.A. Guertal. 1995. Blossom-end rot of tomatoes. Plant Disease Note. ACES.

Kemble, J.A., E. Sikora, E.A. Guertal and M. Beasley. 1994. Blossom end rot in tomatoes: Causes and prevention. AAES Timely Information. S-11-94.

Guertal, E.A., C.C. Mitchell and J.A. Kemble. 1994. Gardeners Beware! You may be overfertilizing. AAES Timely Information Sheet. S-02-94.

Guertal, E.A. 'Finding funding for turfgrass research in Alabama' Southern Landscape and Nursery Publication. August, 1997.

Other Outreach /Involvement

Member, United States Golf Association (USGA) Green Section Committee. Review grants and other materials on behalf of the USGA's Green Section, 2020-present.

Member, Golf Course Superintendents Association of America (GCSAA) Grants Committee, 2018-present.

Member, Slow-Release fertilizer committee, AAPFCO, 2019-present. This group is evaluating the 15% rule for slow-release materials.

Member, Equine Safety on Turfed Areas (ESTA). 2021 to present. This is a newly formed group of scientists and others who manage and conduct research in turfed surfaces for polo, eventing, racing and steeplechase.

Member, STMA Education Committee, 2011-2012. Chair of this committee and planner for the education for the annual meeting – 2017-2018.

Member, STMA Environmental Committee, 2012.

Member, Sports Turf Managers of America (STMA), STMA Conference Subcommittee, 2008, 2009.

Member, National American Society of Agronomy Certified Crop Advisor (CCA) board for development of National Test and Exam Procedures, 1999.

Member, National American Society of Agronomy Certified Crop Advisor (CCA) panel for the development of Crop Production Learning Objectives, 1999.

Contributor to the quarterly newsletter of the Alabama Turfgrass Association, 1995-1997 and 1999.

Member, National American Society of Agronomy Certified Crop Advisor (CCA) panel for the development of Crop Production Learning Objectives, 1996.

Judged extension video tapes, American Society of Agronomy Extension materials contests, 1993.
Certified Crop Advisor. Member, CCA Southeastern Board, 2017-present.

International Activities

2009-present. Work with and have signed university-level agreements with various agricultural entities in Cuba (University of Havana – Ag College, CENSA). We continue to have scientific exchange and student trips to Cuba, and have hosted Cubans here at Auburn University as with the Soil Science Society of America (SSSA) at the 2015 Annual meetings in Minnesota.

2019. Finished Year 1 of distance education with University of Mauritius. Developed monthly webcasts that were used for training of staff on golf courses at resorts in Mauritius. Traveled to Mauritius in 2019 to finish teaching requirements.

2019. Attended USAID Soils Consortium meeting as a part of the team for the USAID Soils consortium, Niger, April 29 – May 3rd.

2019. Visited Canouan Island, St Vincent & The Grenadines to assess development potential for study abroad for our students, June 1-5th.

2019. Hosted two students from Argentina as a part of our grant work from last years' funded project '100,000 strong in the Americas'. This is our work with coated fertilizer technology.

2018. Taught 3 seminars at the British golf chow (BiGGA) in Harrogate, UK. Invited.

2018. Taught 2 seminars at the Mauritian turfgrass show, Mauritius.

2018. Taught 3 seminars at the Spanish golf course (greenskeepers) show, Sevilla, Spain.

2017. Taught webinar to Spanish greenkeepers association, April 6th.

2017. Taught webinar to the Italian greenkeepers association, Nov 21st.

2017. Taught turfgrass short course in Japan. March 2,

2017. Haiti – continued outreach work on garden development. In collaboration with But God ministries and AU CoAg and Building Science.

2017. Taught two courses at the Jamaica turfgrass conference, March.

Taught short course for turfgrass managers, Cuba, Nov 28-Dec 3rd, 2016.

Taught two seminars (‘Nitrogen’ and ‘Poa annua’) to the Canadian Golf Course Superintendents Association, Dec 11-12, 2016, Toronto

Taught three seminars at the British Greenkeepers meetings, Harrogate, UK, Jan 18-21., 2016.

Taught three seminars at the Asian Turfgrass Conference, Thailand, Feb 4-10th., 2016.

2016. Presentations at the Asian Turfgrass Meetings, Thailand. March.

Three presentations (N, P and K) at various golf courses in Canada, Nutrite seminar series, March 9-12th., 2015.

2014. Presentations at the Vietnam Golf Show. September 1 – 10th, 2014

2014. Presentations at the Philippines Golf Show. September 1 – 10th, 2014.

2014. Gave talk on our ongoing work with the Brazilian ‘Science without Borders’ program, University of Tennessee Crop Science department seminar series, April 7th, 2013.

Gave presentation on ‘potassium fertilizers – source and rate issues’ at the European Turfgrass meetings, Germany, July 6th – 9th, 2014.

Mini-sabbatical at the Sports Turf Research Institute, Bingley, England. July 12th, 2014 to August 16th, 2014. Primary area was the evaluation of calibrated soil moisture sensors.

Part of College of Ag/Building Science/Architecture trip to Haiti. Program is funded with the support of Gorrie Construction. May 12 – 16th, 2014. This project was conducted through 2016.

Traveled to China as part of our 3+2 program – student recruitment and program development. Chinese Agricultural University (CAU). 2013.

2013. Taught ‘organic matter and thatch control in greens’ Chinese National Golf Show. Beijing. 2013.

2013. Gave presentation on ‘Nitrification inhibitors for improved water quality’ New Ag International meetings, Rio de Janeiro, Brazil.

2013. Continued our work with students as a part of the Brazilian 'Science without Borders' program. Typically host 1 to 2 students per year who work in my lab and take courses whilst at Auburn.

2013. Presentation at the Mexico turfgrass show. November, 2013.

2012. Presentations at the Brazil turfgrass show, Botucatu, Brazil. February, 2012.

2012. Co-led student travel tour – agricultural study tour of Cuba, May, 2012.

2012. Awarded Fulbright Fellowship, Islamabad, Pakistan. Did not complete this Fulbright due to national security issues.

May, 2012. Gave presentations on 'Turfgrass Management' and 'Basic Soils' at the Brazilian Turfgrass meeting, Botucatu, Brazil.

November 29th, 2011. Gave presentations on "Nitrogen" and "Potassium" for the Nutrite Golf Course Managers Show, Toronto, Canada.

November, 2011. Attended the International meeting on rhizomes and tubers, Santa Clara, Cuba.

May 2nd-6th, 2011. Attended and gave presentation at the International Crop Protection meeting, Havana, Cuba.

2010. Awarded Fulbright Fellowship, Mauritius. Taught Soil Science and Turfgrass Management and conducted turfgrass research at the University of Mauritius, August – Dec, 2010.

May, 2010. Traveled to Spain to meet with Spanish and Cuban researchers and to attend AgroEcology conference.

August-December, 2009. Hosted two undergraduate Chinese students for their working Internships as a part of the China/Michigan State University undergraduate turfgrass education program.

September, 2009. Spent 1 week in Argentina giving presentations for the Argentina Golf Association, and visiting polo fields.

August, 2009. Spent 1 week in Cuba as part of Alabama Agriculture Commissioner Ron Sparks' information trip.

June, 2009. Spent 1 week in England as a faculty member for the student-exchange program for Turfgrass and Horticulture majors, Myerscough College.

June, 2004. Spent 1 week in England developing student-exchange programs for Turfgrass Track majors, Myerscough College.

May, 1999. Spent two weeks in China selecting potential turfgrass breeding germplasm. Also gave presentations about Alabama turfgrass while there.

January, 1996. Spent 2 weeks in Vera Cruz, Mexico, evaluating a test system for measuring ammonia volatilization.

October, 1996. Discussed turfgrass research and provided tours for visiting scientists from Hubei Academy of Agricultural Sciences.

July-August, 1995. Spent 6 weeks at Lincoln College, Canterbury, New Zealand conducting research in measurement of nitrogen flux from swine-waste amended soils.

August, 1994. Attended meeting in Geostatistical Methods at the international meeting of the American Statistical Association, Toronto, Canada.

SERVICE

University Service

Chair, Parental leave committee, 2020.

Member, University Promotion and Tenure committee, 2019-present.

University Senator – department representative, 2014 – 2016.

Chair, Provosts Commission on Women in Academic Careers, 2014.

University Faculty Welfare Committee, 2011-2012, Chair – 2013.

University Student Grievance Committee, 2014- present.

University Retention Committee, 2009-2011. Chair, 2011-2012.

University Promotion & Tenure Committee, 2006-2009. Appeals committee, 2010, 2012.

Alumni Professor Awards Committee, 2005-2007

University Committee on Intercollegiate Athletics, 2004-2009.

Lead writer, Self-study document for the NCAA 10-year review of the AU Athletic Dept., 2006

SACS Undergraduate Curriculum Committee, 2002

University Core Curriculum Committee, 1999

Water Resources Council, 1996-1999

Institutional Biosafety Committee, 1994-1996

Graduation Committee, 1995-1998

Service to the College/School

Member, Fire Ant Grant Funds Committee, 2000-2018 - met once a year to evaluate proposals to award the state line-item fire ant extension/research monies.

York Lecture Committee, 1995-1998, Chair, 1996-1997

Highlights of Agricultural Research Editorial Committee, 1996-1999

Internship Committee, 1995-1998

Ag. Alumni Roundup Committee, 1994-1997, Chair, 1997

Member, Agri-Opry (entertainment at Ag. Alumni Roundup), 1994-1997

Service to the Department

Curriculum Committee, 2003 - present, Chair, 2008-2010. Chair again, 2012. Member again, 2018-2022.

Scholarship Committee, 1996 - present

Variety Release Committee, 1994-1996

Drying Room Committee, 1996-1998

Professional Service

Memberships:

NACTA - North American Colleges and Teachers of Agriculture
United States Golf Association
Golf Course Superintendents Association of America (also AL and Gulf Coast (FL and AL) chapters)
Soil Science Society America
Crop Science Society America
American Society of Agronomy
American Society of Horticultural Science
European Turfgrass Society
International Turfgrass Society

Activities in those memberships listed above (Note: I ended all editorial journal service in 2014, once I was appointed Chief Editor of Agronomy publications)

Technical Editor, Agronomy Journal, 2020 (for papers submitted for the International Turfgrass Meetings).
President, Crop Science Society of America, 2019.
President Elect, Crop Science Society of America, 2018.
Chief Editor of all Agronomy publications, American Society of Agronomy, 2014 - 2017.
Associate Editor, Soils, Agronomy Journal, 1995-1999
Associate Editor, Division S-8, Soil Science Society of America Journal, 1996 – 2003
Associate Editor, Crop Science, 2002 - 2007
Technical Editor, Crop Science, 2007 – 2012.
Member, PPI J. Field Reed Scholarship Committee, American Society of Agronomy, 2010
Golden Opportunity Scholars Mentor, 2011.
Chair, Division C-5 (Turfgrass Science), Crop Science Society of America, 2006
American Society of Agronomy, Syngenta Crop Protection Recognition Award Committee, 2002-2004.
Member, American Society of Agronomy Undergraduate Educator Awards Committee, 2002
Member of the steering committee for the American Society of Agronomy CCA (Certified Crop Advisor) Educational Initiative program, 1999-present
Secretary/Treasurer, Southern Branch American Society of Agronomy, 1996-1997, Program Chair, 1998 and 1999, Vice President, Soils, 1999, President, 2000, Treasurer, 2001-present
Presiding Officer for Div. S-4 (Soil Fertility) for session at the American Society of Agronomy national meetings, St. Louis, MO, 1995.
Member, National Meetings Site Selection Committee, American Society of Agronomy, 1997-1999.
Presiding Officer for Southern Branch meetings of American Society of Agronomy, 1994.
Member of the Regional Research Group W-170, Chemistry and Bioavailability of Waste Constituents in Soils, Eastern Representative, 1994-1998
Co-advisor, University and Education, Alabama Turfgrass Association, 1995-2000.
Member of Southern Region IEG-25 Working Group, Turfgrass Management, 1996-present.
Prequalified expert, Geostatistical Techniques, South Florida Water Management District, 1994-1997.

Additional Editorial Duties:

Associate Editor, Journal of Extension, since 2010. Ended term in 2014.
Associate Editor, ISRN Soil Science, since 2011. Ended term in 2014.
Associate Editor (Abstract Review), European Turfgrass Society, 2012 and 2013.
Associate Editor, J. Natural Resources and Life Science Education, since 2012. Ended term in 2014.