

Bernhard R. Leinauer – Curriculum Vitae
New Mexico State University
Extension Plant Sciences Department
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Education

Ph.D., 1997 Hohenheim University, Stuttgart, Germany, Department of Crop Production and Grassland Science.

Thesis: Irrigation Effects on Water Use, Drought Stress Tolerance, and Recuperative Ability of Several Turfgrasses

M.S., 1990 Hohenheim University, Stuttgart, Germany, Department of Crop Production and Grassland Science.

Thesis: Drought Effects on Recuperative Ability of Turfgrasses

Work Experience

Assistant Professor, Associate Professor, Professor and Extension Turfgrass Specialist, Extension Plant Sciences Department & Department of Plant and Environmental Sciences, New Mexico State University, Las Cruces, New Mexico (March 2000 - present), 75% Extension, 25% Research

Endowed Professorship, Turfgrass Ecology, Department of Plant Sciences, Centre of Crop System Analysis, Wageningen University, Netherlands (April 2017 – present)

Extension:

Duties include information dissemination to citizens of New Mexico and elsewhere regarding general turfgrass management, turfgrass species selection, turfgrass irrigation, fertilization, interpretation of soil and water tests as they relate to turf and soil quality.

Research:

- 1) Developing water management strategies for turf areas with the aim of reducing the amount of (potable) water used for irrigation:
 - a. Irrigation with recycled and/or high saline water and subsequent effects on plant and soil quality
 - b. Implementing sensor technologies for monitoring water and salinity in soils and associated stress in plants
 - c. Screening for low water use, cold and salt tolerant grass species and cultivars
 - d. Efficient use of irrigation water on turf (e.g. alternative irrigation systems, irrigation scheduling, and modification of turfgrass root zones)
- 2) Collaboration with researchers from Stanford University, University of California – Berkley, Colorado School of Mines, and New Mexico State University in ReNUWIt (Engineering Research Center for Re-inventing America's urban water infrastructure), a project funded by the National Science Foundation
- 3) Collaboration with University of Padua, Italy which includes a student exchange program and research and extension projects in both turfgrass maintenance and forage production

Research Associate, Department of Crop and Soil Sciences, Michigan State University, East Lansing (May 1997 – February 2000)

Awards

2020: Crop Science Society of America Fellow Award

2018: Board of Regents Professorship – New Mexico State University

2017: American Society of Agronomy Fellow Award

2013: The University Research Council Award for Exceptional Achievements in Creative Scholarly Activity – New Mexico State University

- 2012: Mobley Family Endowed Distinguished Research Award – College of Agricultural, Consumer and Environmental Sciences
- 2007: Outstanding Integrated Program Water Resources Team Award, Rio Grande Basin Initiative, USDA-CSREES.
- 2005: Distinguished Service Award. New Mexico State University – College of Agriculture and Home Economics
- 2005: Team Award. New Mexico State University – College of Agriculture and Home Economics
- 2004: Membership in Gamma Sigma Delta, The Honor Society of Agriculture.
- 2001: Appreciation for outstanding contribution to the Southwest Turfgrass Association. Southwest Turfgrass Association
- 1995, 1996: Graduate scholarship awarded by the Baden-Württemberg Ministry of Science and Research

Graduate Research Program

Advisor:

Daniel Hahn, Ph.D.;

Research Project: Non-chemical weed control for golf course fairways.

William Bosland, M.Sc.;

Research Project: Surfactants for water conservation and their impact on soil health

Guillermo Alvarez, M.Sc.; graduated January 2016

Research Project: Polymer coated sand effects on turfgrass quality and irrigation water requirement

Matteo Serena, Ph.D.; graduated January 2014

Research Project: A comparison of foliar versus granular fertilization on performance of saline irrigated bermudagrass and seashore paspalum under drip and sprinkler irrigation.

Marco Schiavon, Ph.D.; graduated February 2013.

Research Project: Stress response of turfgrasses under saline drip irrigation.

Third place in graduate student research competition (category ‘Applied Research’) at 2010 National Agronomy Meeting, Long Beach, CA

Elena Sevostianova, Ph.D.; graduated April 2012. New Mexico State University Alumni Association’s Outstanding Graduate Student Award.

Research Project: Long Term Sustainability of Turf Areas Irrigated with Saline Groundwater.

First place in graduate student research competition (category ‘Applied Research’) at 2008 National Agronomy Meeting, Houston, TX

Yoshiaki Ikemura, Ph.D.; graduated July 2007.

Research Project: Digital Image Analysis and Spectral Reflectance of Drought and Salinity Stressed Turfgrasses. First place in graduate student research competition (category ‘Applied Research’) at 2005 National Agronomy Meeting, Salt Lake City, UT

Casey Johnson, M.Sc.; graduated September 2007.

Research Project: Using Saline Groundwater to Establish and Maintain Turfgrasses in a Southwestern Climate. First place in graduate student research competition (category ‘Applied Research’) at 2004 National Agronomy Meeting, Seattle, WA

Co-Advisor/Committee Member:

Weiss, James, M.Sc. Colorado School of Mines. Graduated May 2020

Research Project: Adaptive landscape irrigation using reclaimed water.

Montgomery, Jonathan, Ph.D.; University of California, Riverside. Graduated August 2018

Research Project: The impacts of biochar on turfgrass health and drought tolerance.

Cochran, James, M.Sc.; Colorado School of Mines. Graduated December 2015

Research Project: Tailored water for turfgrass irrigation.

Mock, Tyler, Ph.D.; University of California, Riverside.

Research Project: Optimal management of kikuyugrass (*Pennisetum clandestinum* Hochst. ex Chiov.) and improvement through androgenesis and genome sequencing.

Nichols, Ryan Scott, Ph.D.; University of California, Riverside. Graduated December 2013.
Research Project: Water use efficiency and carbon fixation influenced by turfgrass species and irrigation practices.

Roux, Vincent, M.Sc.; Colorado School of Mines. Graduated May 2013.
Research Project: Tailored water for turfgrass irrigation.

Miehls, Alea, M.Sc.; University of California, Riverside. Graduated December 2013.
Research Project: Irrigation Requirements for Salinity Management on Perennial Ryegrass (*Lolium perenne* L.)

Zili, You, M.Sc.; Department of Economics, Applied Statistics, and International Business, NMSU. Graduated December 2012.
Research Project: Analysis of Variance for Balanced Split-plot Design with the Sub-plot Factor Partitioned into Nested Factors: A Case Study Comparing Type I and Type III Sums of Squares.

Miller, Jason, M.Sc.; University of Arkansas. Graduated December 2006.
Research Project: Sensor-based Irrigation and Wetting Agent Application Effects on a Sand-based Putting Green.

Editorial Service

Associate Editor, Agronomy Journal
Associate Editor, Applied Turfgrass Science
Reviewed Journal Articles for Acta Horticulturae, Agronomy Journal, Crop Science, European Journal for Horticultural Science, European Turfgrass Journal, HortScience, HortTechnology, International Turfgrass Science Society Research Journal, Irrigation Science, Journal of Agronomy and Crop Science, Journal of Land Degradation and Development, Vadose Zone
Reviewed Task Force Report for New Mexico State Agricultural Experiment Station, and Extension guides for the Extension Services at New Mexico State University, Utah State University, and Oregon State University
Reviewed grant and Hatch proposals for the Agricultural Experiment Stations of New Mexico State University, University of Guam, University of Rhode Island, Texas A&M University, International Arid Lands Consortium, United States Department of Agriculture's Small Business Innovation Program

Administrative Service / Committees

International

Chair, Editorial Board, European Turfgrass Conference, Manchester, England (2017 – 2018)
European Turfgrass Society, Board member (2016 – present).
Scientific Committee, 29th International Horticultural Congress, Brisbane, Australia, 17-22 August 2014
Editorial Board of the 4th European Turfgrass Society Conference. Osnabrueck, Germany. (2013, 2014)
Editorial Board of the 2nd European Turfgrass Society Conference. Angers, France. (2009, 2010)
Editorial Board of the 1st European Turfgrass Society Conference. Pisa, Italy. (2007, 2008)
Scientific Committee for the 1st International Conference on Turfgrass Management & Science for Sports Fields. Athens, Greece. (2002, 2003)
Editorial Board of the 1st International Conference on Turfgrass Management & Science for Sports Fields. Athens, Greece. (2003, 2004)

National

SCRI (Specialty Crop Research Initiative) Extension Advisory Committee (2020 – present)
CSSA (Crop Science Society of America) C5 Graduate Student Committee (2006 – 2009)
NTEP (National Turfgrass Evaluation Program) Policy Committee (2004 – 2009)

GCSAA (Golf Course Superintendents Association of America) Water Use Task Force (2004 – 2006),
Water Advisory Panel (2006 – 2009)
CSSA (Crop Science Society of America) C5 Extension Education Committee (2003 – 2006)

State

Director for Research and Education – Southwest Turfgrass Association (2007 – present)
Executive Director - Southwest Turfgrass Association (2002 – 2006)
Director for Research and Education – Southwest Turfgrass Association (2000 – 2002)
Member - City of Gallup Golf Course Advisory Committee (2001, 2002)

University

Provost Awards Committee (2020 – present)
University Research Council (2018 – 2020)
NMSU Athletic Field Task Force (Member, appointed by President Carruthers) (2013, 2014)
Water sub-cluster (2005 – present)
STUARDS (Science, Technology, Urban Agriculture, Research and Demonstration Site) committee
(2001 – present)
Advisory Council on Administrative Policy (2004 - 2006)
Athletics Council (2005 – 2006)
Alcohol Use Committee (2003 – 2006)
New Mexico State University Energy Task Force (2004, 2005)
Alternate Member, Advisory Council on Administrative Policy (2001 – 2004)

College / Department

Carbon Sequestration ACES Think Tank (2020 – present)
Faculty Advisory Committee (2017 – 2020)
College of Agricultural, Consumer and Environmental Sciences Promotion and Tenure Committee (2011
– 2014; and 2015 – 2019)
Department of Extension Animal and Range Sciences' Promotion and Tenure Committee (2010 – 2019)
Department of Extension Plant Sciences' Promotion and Tenure Committee (2009 – present)
Committee Chair: Jan 1, 2011 – 2016
Department of Extension Plant Sciences' Awards Committee, Committee Chair: Nov 1, 2011 – 2015
Leyendecker Plant Science Research Center & Fabian Garcia Research Science Center Mission
Committee (2005 – 2007)
Research Extension Advisory Committee for the Fabian Garcia / Leyendecker Research Science Centers
(2002 – 2007)
Ad hoc committee Landscape Garden (2002 – present)
Expert member – Water Task Force (2001 – present)
Search committee for the position of Extension Weed Specialist for the New Mexico Cooperative
Extension Service (2007)
CAHE Visioning Committee (2005 – 2006)
Search committee for the position of Extension Viticulturist for the New Mexico Cooperative Extension
Service (2005)
Search committee for the Soil Physics faculty position for the Department of Agronomy and Horticulture
(2004 - 2005)
CES Electronic Reporting Committee (2003 - 2004)
Search committee for the Turfgrass faculty position for the Department of Agronomy and Horticulture
(2004)
Search committee for the position of Vegetable Specialist for the New Mexico Cooperative Extension
Service (2003)
CSREES review planning committee 'Urban Horticulture' (2003)
CSREES review planning committee 'Research – Extension Bridge' (2003)

Search committee for the position of Assistant Dean and Associate Director for the New Mexico Cooperative Extension Service (2002)
Search committee for the Superintendent of the Fabian Garcia Research Center and the Leyendecker Plant Science Research Center (2002)
Secretary, New Mexico Extension Specialists Association (2001)
Golf Course Planning Committee (2001)
All College Conference Planning Committee (2000 – 2003)
Skeen Hall Advisory Committee (2000 – 2001)

Grant Funding

1. Effect of Acidification on Soil Bicarbonate Concentration, Infiltration Rate, and Ryegrass Performance. Sponsoring Organization: United States Golf Association. \$116,580 (2021 - 2023)
2. Infiltration measurements and soil bicarbonate content after sulfuric acid treatment: a proof of concept study. Sponsoring Organization: United States Golf Association. \$5,000 (2019).
3. Evaluating plant growth regulators and the soil surfactant Revolution® to alleviate drought stress in bermudagrass. Sponsoring Organization: United States Golf Association. \$15,000 (2019 – 2021).
4. Surfactants for Water Conservation and Their Impact on Soil Health. Sponsoring Organization: Rocky Mountain Environmental Golf Institute. \$15,000 (2018 – 2021)
5. Surfactants for Water Conservation and their Impact on Soil Health. Sponsoring Organization: United States Golf Association. \$15,000 (2019 – 2020).
6. Adaptive Landscape Irrigation using Reclaimed Water. Sponsoring Organization: National Science Foundation, Partnerships for Innovation. 2018 – 2019. \$350,000
7. Turfgrass irrigation and its impact on heat island mitigation and energy consumption. Sponsoring Organization: National Science Foundation. 2017 – 2018. \$56,711
8. Turfgrass irrigation and its impact on heat island mitigation and energy consumption. Sponsoring Organization: Lawn Institute. 2017 – 2019. \$22,500.00
9. Engineering Research Center for re-inventing America's urban water infrastructure (ReNUWIt). Dick Luthy (PI, Stanford University) and several contributing authors from Stanford University, University of California, Berkeley, Colorado School of Mines, and New Mexico State University. 2011 – 2016. National Science Foundation, \$387,338 annually to NMSU and \$56,711 annually to Co-Principal.
10. Toro Soil Moisture Sensor for Turfgrass Water Conservation. July 1, 2012 – Jun 30, 2014. The Toro Co. \$74,232.80.
11. Plant Growth Regulator and Soil Surfactants' Effects on Drought and Salinity Stressed Bermudagrass and Seashore Paspalum. February 1, 2012 - January 31, 2014. United States Golf Association Foundation. \$24,000.00.
12. Field Evaluation of Wetting Agent ACA 3114. Feb 1, 2013 – Feb 28, 2014. Aquatrols Corp. \$15,000.
13. A feasibility study to understand the effects of using the KISSS subsurface irrigation system as compared to a conventional overhead irrigation system with potable and saline water on turfgrass. Jan 1, 2010 – Dec 31, 2012. Water Technologies America, Inc. \$63,658.
14. Experimental Wetting Agent (HM 0317A) effect on bermudagrass' color, quality, and stress tolerance. Jul 1, 2010 – Dec 31, 2011. Helena Co. \$30,000
15. Rootzone Qualities at Ladera Golf Course. July 19 – November 30, 2011. William S. Perkins, ASLA Landscape. \$7,000.00.
16. Evaluation of Moisture and Salinity Sensors to Monitor Soil Conditions for Agricultural Production. Jul 1, 2007 – Jun 31, 2011. USDA Special Projects Grant. \$134,500.
17. Utilization of water from the East Mesa Water Recycling Facility (EMWRF) for golf course irrigation. January – December 2009. City of Las Cruces. \$30,000.
18. Utilization of saline and other impaired waters for turfgrass irrigation. July 2008 – June 2011. USDA Special Projects Grant. \$96,000.

19. Comparing spring and summer establishment of bermudagrass sod under two irrigation systems using saline water. March 2008 – February 2010. The Lawn Institute; Southwest Turfgrass Association. \$20,000.
20. Assessing the usefulness of water and soil conditioning products to improve turfgrass quality and reduce irrigation water use in the Southwest. Jan 2007 – Dec 2008. Aqua-Phyd Corp. and Fre Flo Corp. \$75,225.
21. Effect of physical water conditioners on turfgrass quality and irrigation water use. Jan 2006 – Dec 2008. Co-funded through Golf Course Superintendents Association of America, United States Golf Association, Southwest Turfgrass Association, and Rio Grande Golf Course Superintendents Association. \$33,000.
22. Wireless Irrigation Systems. 2006. Governor Richardson’s Water Innovation Fund II. \$37,812.
23. Longer term assessment of the effects of greens construction systems and irrigation systems on greens performance, turf quality and water conservation. Jul 2006 – Jun 2009. United States Golf Association. \$90,000.
24. Using Subsurface Wastewater Disposal Systems to Irrigate an Athletic Field in New Mexico. 2005. College of Agriculture and Home Economics. \$45,000.
25. Utilization of saline and other impaired waters for turfgrass irrigation. Aug 2005 – Jun 2008. New Mexico Water Resources Research Institute. \$90,000.
26. Longer term assessment of subirrigation systems for water conservation in turfgrass systems. Jul 2004 – Jun 2007. USDA Special Projects Grant. \$153,000.
27. Minimum Irrigation Requirements for Home Lawns in the Southwest. Jul 2003 – Jul 2005. USDA Special Projects Grant. \$25,760
28. GCSAA/USGA Wetting Agent Evaluation Jan 2003 – Dec 2004. \$20,000.
29. Effects of Salinity Level and Irrigation Type on Establishment Rate and Quality of Several Warm and Cool Season Grasses. 2003. NMSU’s Office for Facilities and Services. \$12,000
30. Effects of Salinity Level and Irrigation Type on Establishment Rate and Quality of Several Warm and Cool Season Grasses. Jul 2003 – Jun 2005. USDA Special Projects Grant. \$48,000.
31. Effect of Irrigation Type, Root Zone Material, and Root Zone Depth on Irrigation Efficiency and Water Use on Putting Greens in the Southwest. Jan 2002 – Dec 2007. United States Golf Association. \$150,000.
32. Effect of Type of Irrigation and Root Zone Material on Water Use and Turfgrass Performance on Putting Greens in the Southwest. Jan 2002 – Dec 2004. The Toro Co. \$48,000.
33. Effect of Type of Irrigation and Root Zone Material on Water Use and Turfgrass Performance on Putting Greens in the Southwest. Jan 2002 - Dec 2004. Fytogreen Networks. \$48,000
34. Effect of Type of Irrigation and Root Zone Material on Water Use and Turfgrass Performance on Putting Greens in the Southwest Jan 2002 - Dec 2004. Evaporative Control System Ltd. \$48,000.
35. Real Time Soil Moisture Measurement at the Rouge Phytoremediation Demonstration Facility. Co-PI with Dr. Clayton Rugh, Michigan State University and Dr. Rossana Sallenave, New Mexico State University. Sep 2001 – Jul 2002. The Ford Motor Co. and Michigan State University Phytoremediation Laboratory. \$35,000.
36. Effect of Irrigation Type, Root Zone Material, and Root Zone Depth on Irrigation Efficiency and Water Use on Putting Greens in the Southwest. Jul 2002 – Jun 2004. USDA Special Projects Grant, \$75,000.
37. Evaluation of an Experimental Soil Conditioner For the Use As a Wetting Agent On Turfgrass and For the Improvement Of Soil Physical Properties In Turfgrass Root zones. 1999. CBC America Corp., \$16,000.
38. Effect of Rootzone Material and Depth on Moisture Retention Problems in USGA Putting Greens. 1999 - 2002. O.J. Noer Foundation. \$30,000.
39. Effect of Rootzone Material and Depth on Moisture Retention Problems in USGA Putting Greens 1998 – 2003. Golf Course Superintendents Association of America. \$50,000.
40. Literature reviews on ‘Irrigation of Golf Courses’ and ‘Alternative Spikes’. 1997. German Golf Association. \$20,000

Unrestricted gifts

Between March 1, 2000 and December 31, 2020 a total of \$2,500,000.00 could be secured to support New Mexico State University's Turfgrass Extension and Research program.

Instruction

Courses

Turfgrass Ecology, 12 hours as part of CSA31806 (Grassland Science), Wageningen University
Statistical Analysis of Field Data (Agro 500 – M03, special topics), Fall semester 2009.

German Headgreenkeeper Continuing Education Courses, Agricultural Technology Training School (DEULA), Kempen, Germany. November 2001 – present. Have taught courses to German greenkeepers annually (Total: 16 hours of teaching per year) as part of their diploma courses and training towards the Headgreenkeeper degree during their annual winter school. Topics included turfgrass selection and maintenance, irrigation management and efficiency, and water conservation.

Michigan State University, Department of Crop and Soil Science (Fall semester 1997). Course title: Introduction to turfgrass management (Laboratory section of Crop and Soil Sciences 232)

University of Göttingen, Germany (Winter semester 1996/1997). Course title: Turfgrass management. Total: 20 hours of teaching.

DEULA-Lehranstalt Rheinland - Nord, Kempen, Germany (November 91 - February 97). Taught courses in a golf course superintendent continuing education program five times a year (Total: 30 hours of teaching per year). Topics included turfgrass identification, turf maintenance, irrigation, and stress physiology.

DEULA-Lehranstalt Bayern, Freising (February 1995 - February 1997). Taught course in a golf course superintendent education program (3 hours and 2 full field days on a golf course each year). Topics included turfgrass and weed identification, and IPM for turf.

Irrigation Workshops

From 2000 to present, 2 workshops annually to the general public on the topics of irrigation audit, subsurface drip installation, and irrigation scheduling in Las Cruces, Albuquerque, and in El Paso, TX.

Master Gardener Seminars

From 2000 to present, between 6 and 10 seminars annually (between 1.5 hr to 4 hr in length) to Master Gardener on the topics of turfgrass selection, turfgrass maintenance, and water conservation in various counties of New Mexico (Dona Ana, Otero, Sandoval, Bernalillo, Valencia, Santa Fe, Los Alamos, Taos, Eddy, Lea, and Roosevelt) and in El Paso, TX.

Pesticide Applicator Training

From 2000 to present, between 1 and 5 seminars annually to pesticide applicators at various locations in New Mexico (Las Cruces, Albuquerque, Farmington, Hobbs, Clovis)

Invited Guest Lectures

- 1) How much water does it take to grow grass? Department of Plant and Environmental Protection Sciences, University of Hawaii at Manoa. February 13, 2020.
- 2) Should we have turf in the desert? Management options in terms of water use efficiency. Department of Crop Science and Plant Breeding, Christian Albrechts University, Kiel, Germany. December 17, 2019.

- 3) How Much Water Does It Take to Grow Grass In The Desert? NMSU Research and Creativity Week, University Research Council and the Office of the Vice President for Research and Graduate School. November 15, 2019.
- 4) Turfgrass water use and water conservation: Should we have grass in the desert? Department of Entomology, Plant Pathology, and Weed Science, New Mexico State University. April 4, 2018.
- 5) Communicating your science: from your research project to presentation and publication. Department of Animal Nutrition and Grassland Science, Mendel University, Brno, Czech Republik. September 15, 2017.
- 6) Irrigation with Saline Water – Impacts on Turf Selection and Soil Quality. Department of Agronomy, Food, Natural Resources, Animals, and Environment. University of Padova, Legnaro, Italy. May 10, 2017.
- 7) Irrigation with Impaired Water: Impacts on Turfgrass Selection and Soil Quality. Department of Environmental Sciences, University of California, Riverside, CA. February 13, 2017.
- 8) Turfgrass Maintenance and Irrigation Water Conservation. German Headgreenkeeper Continuing Education Course, Agricultural Technology Training School (DEULA), Kempen, Germany. November 22, 2016.
- 9) Adjuvants and Surfactants. Department of Agronomy, Food, Natural Resources, Animals, and Environment. University of Padova, Legnaro, Italy. May 11, 2016.
- 10) Turfgrass Maintenance and Irrigation Water Conservation. German Headgreenkeeper Continuing Education Seminar, Agricultural Technology Training School (DEULA), Kempen, Germany. November 20, 2015.
- 11) Recycled Water for Turfgrass Irrigation. Seminar for Faculty and Students at the Technological Institute of Crete, Heraklion, Greece. June 22 – 25, 2015.
- 12) Series of lectures to students of the Golf Institute at the Shanghai Jiao Tong University, Xiamen, China. March 17 – 18, 2015.
- 13) Communicating your science: from your research project to presentation and publication. Department of Agronomy, Food, Natural Resources, Animals, and Environment Ph.D. School. University of Padova, Padova, Italy. January 21, 2015.
- 14) Plant selection and water management for a changing environment. Department of Agronomy, Food, Natural Resources, Animals, and Environment Ph.D. School. University of Padova, Padova, Italy. January 21, 2015.
- 15) Turfgrass Maintenance and Irrigation Water Conservation. German Headgreenkeeper Continuing Education Seminar, Agricultural Technology Training School (DEULA), Kempen, Germany. November 13, 2014.
- 16) Rasenbewässerung - Trends, Technologien, wassersparende Massnahmen. University of Applied Sciences, Osnabrueck, Germany. March 10, 2014.
- 17) Turfgrass Water Conservation. Department of Crop Science, Lab. of Floriculture and Landscape Architecture, Agricultural University of Athens, Greece. October 4, 2013.
- 18) Turfgrass Research at New Mexico State University. University of Padova, Italy, November 22 – 24, 2006.
- 19) Applied Turfgrass Research for Climate Extremes. Department of Agronomy, Food, Natural Resources, Animals, and Environment. University of Padova, Padova, Italy. 2004.
- 20) Subground vs. sprinkler irrigation: A comparison of drought avoidance, quality, and irrigation water use in turfgrasses. Utah State University Crop Physiology Seminar Series, Utah State University, Logan, UT. 19 Sep 2003.
- 21) Instrumentation, Monitoring System Design, Data Acquisition, and Data Processing in TDR Soil Moisture Measurement. 2000. Workshop “Interaction of Plants and Pollutants on Soil Moisture Dynamics” Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI, and Phytoremediation Demonstration Facility at Ford Motor Co., Detroit, MI.

Patents

Makk, J. and B. Leinauer. 2009. US 7,614,827 B1. Subsurface Drip Installer.

Publications

Peer Reviewed Articles

85. Leinauer, B. (2020). Sparsamer Umgang mit Bewässerungswasser für städtische Rasenflächen. *European Journal of Turfgrass Science*, 51(04/20).
84. Geza, M., Deb, S., Leinauer, B., Stanek, S., Sevostianova, E. B., Serena, M. (in press). Modeling NO₃ Leaching During Establishment of Turfgrasses Irrigated With Tailored Reclaimed Water. *Vadose Zone*.
83. Pornaro, C., Serena, M., Macolino, S., Leinauer, B. (2020). Drought stress response of turf-type perennial ryegrass genotypes in a Mediterranean environment. *Agronomy* 10. 1810. doi:10.3390/agronomy10111810
82. Brosnan, J., Chandra, A., Gaussoin, R., Kowalewski, A., Leinauer, B., Rossi, F., Soldat, D., Unruh, B. (2020). A Justification of Continued Management of Turfgrasses. *Agricultural & Environmental Letters*. <http://dx.doi.org/10.1002/ael2.20033>
81. Brosnan, J., Chandra, A., Gaussoin, R., Kowalewski, A., Leinauer, B., Rossi, F., Soldat, D., Unruh, B. (2020). Estimating Economic Minimums of Mowing, Fertilizing and Irrigating Turfgrass. *Agricultural & Environmental Letters*. <http://dx.doi.org/10.1002/ael2.20032>
80. Leinauer, B. Turf Solutions for the Future, the 7th European Turfgrass Society Research Conference: *Agronomy Journal Special Issue*. *Agronomy Journal*. <https://doi.org/10.1002/agj2.20445>
79. Kanaan, A., Sevostianova, E. B., Leinauer, B., Sevostianov, I. 2020. Water Requirement For Cooling Artificial Turf. *Journal of Irrigation and Drainage Engineering*. *J. Irrig. Drain Eng.* 146(10): 05020004. DOI:10.1061/(ASCE)IR.1943-4774.0001506
78. Hahn, D., Sallenave, R., Pornaro, C., Leinauer, B. 2020. Managing cool season turfgrass without herbicides: optimizing maintenance practices to control weeds. *Crop Science*, 60(5), 2204-2220.
77. Serena M, Velasco-Cruz C, Friell J, Schiavon M, Sevostianova E, Beck L, Sallenave R, Leinauer B. 2020. Irrigation Scheduling Technologies Reduce Water Use and Maintain Turfgrass Quality. *Agron. J.* 112(5), 3456-3469..
76. Serena M, Schiavon M, Sallenave R, Leinauer B. 2020. Drought avoidance of warm-season turfgrasses affected by irrigation system, soil surfactant revolution, and plant growth regulator trinexapac-ethyl. *Crop Science*. 2020;1–14. <https://doi.org/10.1002/csc2.20063>
75. Serena, M., M. Sportelli, E. Sevostianova, R. Sallenave, and B. Leinauer. 2018. Combining Trinexapac-Ethyl with a Soil Surfactant Reduces Bermudagrass Irrigation Requirements. *Agron. J.* 110:2180–2188. doi:10.2134/agronj2018.03.0148
74. Brown, S. and B. Leinauer. 2018. Different Shades of Green, the 6th European Turfgrass Society Research Conference: *Agronomy Journal Special Section*. *Agron. J.* 110:2113. doi:10.2134/agronj2018.10.0669
73. Pornaro, C., S. Macolino, A. De Luca, R. Sallenave, and B. Leinauer. 2018. Plant Species Diversity of Naturalized Roughs as Affected by Conversion Strategies. *Agron. J.* 110:1709–1717. doi:10.2134/agronj2017.11.0666
72. Serena, M., M. Schiavon, R. Sallenave, and B. Leinauer. 2017. Nitrogen fertilization of warm-season turfgrasses irrigated with saline water from varying irrigation systems. 2. carbohydrate and protein content. *Journal of Agronomy and Crop Science* 204:265-273.
71. Serena, M., M. Schiavon, R. Sallenave, and B. Leinauer. 2017. Nitrogen fertilization of warm-season turfgrasses irrigated with saline water from varying irrigation systems. 1. quality, spring green up, and fall color retention. *J Agro Crop Sci.* 204:252-264.

70. Ganjegunte, G.K., J.A. Clark, R. Sallenave, E. Sevostianova, M. Serena, G. Alvarez, and B. Leinauer. 2017. Soil Salinity of an Urban Park after Long-Term Irrigation with Saline Ground Water. *Agronomy Journal* 109 (6): 3011-3018. doi:10.2134/agronj2017.06.0369
69. Wang, J., H.C. Monger, X. Wang, M. Serena, and B. Leinauer. 2016. Carbon Sequestration in Response to Grassland– Shrubland–Turfgrass Conversions and a Test for Carbonate Biomineralization in Desert Soils, New Mexico, USA. *Soil Science Society of America Journal*, 80, 1591-1603.
68. Pornaro, C., M. K. Schneider, B. Leinauer, and S. Macolino. 2016. Above and belowground patterns in a subalpine grassland-shrub mosaic. *Plant Biosystem*. <http://dx.doi.org/10.1080/11263504.2016.1187679>
67. Pornaro, C., S. Macolino, and B. Leinauer. 2016. Seeding time affects establishment of warm-season turfgrasses. *Acta Horticulturae*. 1122(4), 27-34.
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- Leinauer, B. and J. White. 2001. Bermudagrasses. Television series: "Southwest Yard and Garden". New Mexico State University Cooperative Extension Service.
- Leinauer, B. and J. White. 2001. Turfgrass Selection and Turfgrass Maintenance in the Southwest. Sunscape Radio Show KTEP FM, El Paso, TX. Aired 8/4/01.
- Leinauer, B. and J. White. 2001. Dethatching and overseeding of home lawns. Television series: "Southwest Yard and Garden". New Mexico State University Cooperative Extension Service.
- Leinauer, B. and J. White. 2000. Fall lawn care. Television series: "Southwest Yard and Garden". New Mexico State University Cooperative Extension Service.
- Leinauer, B. and J. White. 2000. Fertilization of home lawns. Television series: "Southwest Yard and Garden". New Mexico State University Cooperative Extension Service.

Presentations

Webinars

- 1) Reducing Outdoor Water Use With Microirrigation. Alliance for Water Efficiency/EPA Partnership Webinar. October 11, 2018. <https://www.youtube.com/watch?v=LsuXPVihYSA&feature=youtu.be>
- 2) Subsurface Irrigation for Turfgrass Water Conservation. "Water Well with CWEL" Monthly Webinar Series from the Center for Water-Efficient Landscaping. Utah State University. June 13, 2018. https://www.youtube.com/watch?time_continue=10&v=aeRT46ugAgY
- 3) Soil Moisture Meters – Changing the Way Golf Uses Water. Organized and posted by the United States Golf Association.
- 4) Subsurface Irrigation. Google+ Hangout. TurfChat Episode 18: 126 views and an estimated 1533 hours watched since posted on YouTube on Feb 19, 2013. https://www.youtube.com/watch?feature=player_embedded&v=C0wql6rzeVs
- 5) Physical water conditioners for managing turfgrasses. Google+ Hangout. TurfChat Episode 14: https://www.youtube.com/watch?feature=player_embedded&v=wCbqVATST60

International Meetings

- 1) B. Leinauer. 2019. Water Management on Golf Courses. Golf & Groen Symposium 2019, Ziest, Netherlands. December 10, 2019. **Invited Speaker.**
- 2) B. Leinauer. 2019. Minimum Levels for Sustainable Nutrition (MLSN) - Grundsätzliche und erweiterte Aspekte der Nährstoffversorgung und Düngung von Gräsern. COMPO Expert Greenkeeper-Seminar 2019, Compo Expert GmbH, Paderborn, Germany. November 26, 2019. **Invited Speaker.**
- 3) B. Leinauer. 2018. Integrated Pest Management. 2nd TuRF Knowledge Day, Turfgrass Research Foundation, Driebergen, Holland. November 28, 2018. **Invited Speaker.**
- 4) B. Leinauer. 2018. 1) Wassermanagement; and
- 5) 2) Sparsamer Nährstoffeinsatz – Zukunft der Düngung. 28. Austrian Greenkeeper Association – Jahrestagung 2018. St. Johann im Pongau, Austria. October 22 – 24, 2018. **Invited Speaker.**
- 6) J. Idowu, B. Leinauer, M. Serena, W. Bosland, and M. Omer. 2018. Surfactants and Irrigation Regimen Effects on Soil and Plant Health in Arid Turfgrass Systems. 6th European Turfgrass Society Research Conference, Manchester, United Kingdom. July 2 – 4, 2018.
- 7) E. Sevostianova, M. Serena, B. Whitlark, and B. Leinauer. 2018. Sulfuric Acid Effect on Bicarbonate Concentration and Sodium Adsorption Ratio in Soil Solution. 6th European Turfgrass Society Research Conference, Manchester, United Kingdom. July 2 – 4, 2018.
- 8) M. Serena, M. Sportelli, E. Sevostianova, R. Sallenave, and B. Leinauer. 2018. Combining Trinexapac-Ethyl with a Soil Surfactant Reduces Bermudagrass Irrigation Requirements. 6th European Turfgrass Society Research Conference, Manchester, United Kingdom. July 2 – 4, 2018.

- 9) B. Leinauer. 2017. Golfplatzbewässerung. Greenkeeper Verband Deutschland Jahrestagung 2017, Potsdam, Germany. October 27, 2017. **Invited Speaker.**
- 10) B. Leinauer. 2017. Turfgrass Research Update. European Turfgrass Producers Seminars and Expo, Ysselsteyn, Netherlands. September 28 – 29, 2017. **Invited Speaker.**
- 11) B. Leinauer. 2017. Turfgrass Water Conservation. 5th European Turfgrass Society Field Days, Brno, Czech Republic. September 12 – 13, 2017. **Invited Speaker.**
- 12) B. Leinauer. 2017. Parameter zur Bestimmung von Bergnungsqualität – Bedeutung und Interpretation für die Praxis. COMPO Expert Greenkeeper Seminar, Golfclub Hohenstaufen e.V. May 17 – 19, 2017. **Invited Speaker.**
- 13) B. Leinauer. 2016. Turfgrass Selection to Maximize Water Use Efficiency. International Irrigation Show 2016, Irrigation Association of America, Las Vegas, NV, December 7, 2016.
- 14) B. Leinauer. 2016. Parameter zur Bestimmung von Beregnungswasserqualität – Bedeutung und Interpretation für die Praxis. OWL Greenkeeper-Seminar 2016, Greenkeeperverband Ostwestfalen & Compo GmbH, Bad Salzuflen, November 28, 2016. **Invited Speaker.**
- 15) B. Leinauer. 2016. Rasenbewässerung. Umwelt-Geräte-Technik Turfgrass Workshop, Umwelt-Geräte-Technik, Müncheberg, Germany. November 24, 2016. **Invited Speaker.**
- 16) B. Leinauer. 2016. Warmzonengräser – Vorstellung und Verwendung der wichtigsten Arten. 123th Turfgrass Seminar, German Turf Council, Geisenheim, Germany. September 27, 2016. **Invited Keynote speaker.**
- 17) B. Leinauer. 2016. Communicating your science: from your research project to presentation and publication. IV. Russian conference of young scientists (with international participation) "Biodiversity: global and regional processes", FEDERAL AGENCY OF SCIENTIFIC ORGANIZATIONS OF RUSSIA, Ulan Ude, Russia. June 23, 2016. **Invited Speaker.**
- 18) B. Leinauer. 2015. Water Conservation and Management. International Golf Forum, Shenzhen, China. October 26 - 29, 2015. **Invited Keynote speaker.**
- 19) B. Leinauer. 2015. Irrigation Technologies and Water Management. China Golf Show 2015, March 13 – 16, 2015, Beijing, China. **Invited Speaker.**
- 20) B. Leinauer. 2014. Turfgrass Water Conservation – Should We Grow Grass in the Desert? IRLA2014 International Symposium: The effects of Irrigation and Drainage on Rural and Urban Landscapes, European Union and National Funds of Greece and Italy, Patras, Greece. November 27, 2014. **Invited Speaker.**
- 21) B. Leinauer, E. Sevostianova. 2014. Irrigation with Tailored Water: Benefits and Risks. 24th Session of Committee on Agriculture, Food and Agriculture Organization of the United Nations, Rome, Italy. October 3, 2014. **Invited Speaker.**
- 22) B. Leinauer. 2014. Turfgrass Water Conservation. FESCUE-GREEN Reference Group Meeting, Copenhagen, Denmark. July 4, 2014. **Invited Speaker.**
- 23) Sevostianova, E., B. Leinauer. Salt and Nitrate Leaching from Cool and Warm-season Turfgrasses Irrigated with Tailored Water. Third International Salinity Forum, University of California, Riverside, Riverside, CA. June 17, 2014.
- 24) Serena, M. Leinauer, B., Alvarez, G. Turfgrass Establishment from Polymer Coated Seed under Saline Irrigation. Third International Salinity Forum, University of California, Riverside, Riverside, CA. June 17, 2014.
- 25) B. Leinauer, E. Sevostianova, G. Alvarez. 2013. Soil Surfactants improve turf quality and reduce irrigation requirement. Biohydrology Conference 2013, Landau/Pfalz, Germany. May 21 – 24, 2013.
- 26) B. Leinauer. 2012. Turfgrass Irrigation and Water Conservation. Annual Spring Meeting, Greenkeeper Association of Germany, Fulda, Germany, February 13, 2012. **Invited Speaker**
- 27) B. Leinauer. 2011. Turfgrass Irrigation and Water Conservation. Austrian Golf Course Superintendents Meeting, Bad Leonfelden, Austria, October 18 to 20, 2011. **Invited Speaker**
- 28) B. Leinauer. 2011. Irrigation Scheduling. International Golf Industry Show and Conference. Golf Course Superintendents Association of America, Orlando, Florida, USA, February 8, 2011.
- 29) B. Leinauer. 2010. Measuring Turf Stress – Tools for the Golf Course Superintendent. Regional Golf Course Superintendents Meeting. Riedberg, Germany, Nov 22, 2010. **Invited Speaker**

- 30) B. Leinauer. 2010. Measuring Turf Stress – Tools for the Turf Manager. COMPO Sports Turf Seminar ‘Everything About Sorts Turf’. Imtech Arena, Hamburg, Germany, Nov 10, 2010. **Invited Speaker**
- 31) B. Leinauer. 2010. Measuring Turf Stress – Tools for the Turf Manager. COMPO Sports Turf Seminar ‘Everything About Sorts Turf’. BayArena, Leverkusen, Germany, Nov 9, 2010. **Invited Speaker**
- 32) B. Leinauer and D. Karcher. 2010. Relationships between soil moisture, water repellency, localized dry spot, and soil surfactants on a sand based turfgrass rootzone. 9th International Symposium on Adjuvants for Agrochemicals (ISAA). Munich, Germany. August 16 – 19, 2010.
- 33) B. Leinauer. 2010. Water Demands and Water Conservation Strategies in Turfgrass Management. 28th International Horticultural Congress. Lisbon, Portugal. August 22 – 27, 2010. **Invited Speaker**
- 34) M. Schiavon, B. Leinauer, E. Sevostianova, M. Serena, and S. Macolino. Warm Season Turfgrass Quality, Spring Green Up, and Fall Color Retention Under Drip Irrigation in an Arid Climate. 28th International Horticultural Congress. Lisbon, Portugal. August 22 – 27, 2010.
- 35) M. Schiavon, B. Leinauer, E. Sevostianova, and F. Rimi. 2010. Cool-season Turfgrass Performance Under Drip Irrigation in an Arid Climate. 2nd European Turfgrass Society Conference. Angers, France. April 12 – 15, 2010.
- 36) M. Serena, B. Leinauer, S. Macolino, and M. Gill. 2010. Germination of Coated and Uncoated Turfgrass Seed Under Saline Conditions. 2nd European Turfgrass Society Conference. Angers, France. April 12 – 15, 2010.
- 37) E. Sevostianova, B. Leinauer, and M. Serena. 2010. Performance of Non-Irrigated Warm Season Turfgrasses in an Arid Climate. 2nd European Turfgrass Society Conference. Angers, France. April 12 – 15, 2010.
- 38) B. Leinauer. 2010. Irrigation Technologies and Water Management. Golf Course Superintendents Association of America 2010 Education Conference. San Diego, CA, February 7 – 12, 2010. **Invited Speaker**
- 39) B. Leinauer. 2009. Soil Sensor Technologies for Turf. Golf Courses & Services Conference and Show, Oldenburg, Germany, November 25 – 26, 2009. **Invited Speaker**
- 40) E. Sevostianova, B. Leinauer, M. Shukla, and B. Maier. 2009. Evaluation of a tortuosity parameter of a sandy soil from the bulk electrical conductivity measurements. 2009. 16th school “Ecology and soil science”, Puschino, Russia., Oct 5-8, 2009.
- 41) B. Leinauer, E. Sevostianova, M. Serena, M. Schiavon, S. Macolino. 2009. Irrigation Water Conservation for Urban Lawn Areas. 2nd International Conference on Landscape and Urban Horticulture. Bologna, Italy. June 9 – 13, 2009.
- 42) B. Leinauer. 2009. Irrigating Turfgrasses with Impaired Water - Possibilities and Challenges. European Turfgrass Society – Field Days, Valencia, Spain. April 21 – 22, 2009. **Invited Speaker**
- 43) B. Leinauer. 2009. Physical Water Conditioner Effects on Turfgrass. 2009 Golf Industry Show. New Orleans, LA. February 2 – 7, 2009. **Invited Speaker**
- 44) B. Leinauer. 2009. Irrigation Technologies and Water Management. 2009 Golf Industry Show. New Orleans, LA. February 2 – 7, 2009. **Invited Speaker**
- 45) B. Leinauer. 2009. Technologies to Identify Turfgrass Stress. Golf Courses & Services Conference and Show, Oldenburg, Germany, November 26 – 27, 2008. **Invited Speaker**
- 46) B. Leinauer, V. Gibeault, L. Lauriault, R. Autio, S. Cockerham, R. Kirksey, and S. Ries. 2008. Establishment and Subsequent Spring Survival of Low Maintenance Turfgrasses in Transition Zone Climates. 1st European Turfgrass Society Conference, Pisa, Italy, May 19 – 20, 2008.
- 47) B. Leinauer. 2007. 1) Localized Dry Spots: Development and Treatment Options; and
- 48) 2) Physical Water Conditioning. Annual German Greenskeeper Conference, Bad Honnef, Germany, October 24 – 28, 2007. – **Invited Speaker**
- 49) B. Leinauer. 2007. 1) Spring Transition of Overseeded Bermudagrass; and
- 50) 2) Bermudagrass Establishment from Seed. Annual Italian Greenskeeper Conference, Bologna, Italy, September 9 – 11, 2007. . – **Invited Speaker**

- 51) B. Leinauer. 2006. Comparing Water Repellency in Turfgrass Root Zones Using Different Drying Methods. International Conference BIOHYDROLOGY 2006, Prague, Czech Republic. September 18 – 22, 2006.
- 52) B. Leinauer. 2006. Turfgrass Irrigation Management for the 21st Century. 27th International Horticultural Congress Global Horticulture: Diversity & Harmony, Seoul, South Korea. August 13 – 19, 2006. **Invited Speaker**.
- 53) B. Leinauer. 2005. Assessing Establishment Rates and Winter Survival of Low Maintenance Turfgrasses in Two Climate Zones. International Turfgrass Society Meeting, July 10 – 15, 2005. Llandudno, Great Britain.
- 54) B. Leinauer. 2005. Water Repellency in Sprinkler- and Subirrigated Turfgrass Root Zones. Meeting of the General Assembly of the European Geosciences Union, Vienna, Austria, April 24 – 29, 2005.
- 55) B. Leinauer. 2005. New Technologies for Effective Irrigation. Fairway Congress and Trade Show, Munich, Germany, March 2 – 4, 2005. **Invited speaker**.
- 56) B. Leinauer. 2004. Turfgrasses for Extreme Environments. 98th Turfgrass seminar series, German Turf Council. Vught, Netherlands. October 04/05, 2004. **Invited Speaker**.
- 57) B. Leinauer. 2003. 1) USGA Guidelines for the Construction of Greens and Tees; and
- 58) 2) Establishment of Turfgrass Areas; and 3) Localized Dry Spots and Wetting Agents. Annual Meeting of Austrian Greenkeepers Association, Loipersdorf, Austria. 27 Nov 2003. **Invited speaker**.
- 59) B. Leinauer. 2003. Subground vs. sprinkler irrigation: A comparison of drought avoidance, quality, and irrigation water use in turfgrasses. 2003. 1st International Conference on Turfgrass Management & Science for Sports Fields. Athens, Greece.
- 60) B. Leinauer. 2003. The Future of Putting Green Construction. 2003. International Golf Show and Conference, Barcelona, Spain. **Invited speaker**.
- 61) B. Leinauer. 2002. USGA Specifications for the Construction of Golf Greens. 2002. International Meeting for Turf Managers, Luzern, Switzerland. **Invited speaker**.
- 62) B. Leinauer. 2001. Effects of Soil Surfactants on Water Retention in Turfgrass Root Zones. 2001. International Turfgrass Society Meeting, Toronto, Canada
- 63) B. Leinauer. 2000. Microirrigation for golf courses. Meeting of Golf Course Investors, Builders, and Managers, Murcia, Spain. **Invited keynote speaker**.
- 64) B. Leinauer. 2000. Amendments for Sandy Root zones. 2000. Sod Producer Field Day, Vienna, Austria. **Invited Speaker**.
- 65) B. Leinauer. 1998. Biostimulants and Soil Amendments. GVD-Jahrestagung (Annual Meeting of German Greenkeepers Association), Nuernberg, Germany, October 29-November 1, 1999. **Invited Speaker**.
- 66) B. Leinauer. 1998. Alternative Spikes. GVD-Jahrestagung (Annual Meeting of German Greenkeepers Association), Karlsruhe, Germany, October 21-25, 1998. **Invited Speaker**.
- 67) B. Leinauer. 1997. *Poa supina* (Schrad.): A new Species for Turf. International Turfgrass Research Conference, Sydney (Australia), July 18-24, 1997.

National Meetings

- 1) Serena, M., Leinauer, B., Sevostianova, E. B. 2020. Limitations of deep and infrequent watering for maintaining turfgrass in arid environments. American Society of Agronomy | Crop Science Society of America | Soil Science Society of America Annual Meeting. Online Meeting.
- 2) Sevostianova, E. B., Serena, M., Leinauer, B. 2019. Perennial Ryegrass Quality Affected by Acidification of Irrigation Water. American Society of Agronomy | Crop Science Society of America | Soil Science Society of America Annual Meeting, San Antonio, TX. November 10 – 13, 2019.
- 3) Serena, M., Sevostianova, E. B., Leinauer, B. 2019. Subsurface drip irrigation and minimum irrigation requirements to maintain bermudagrass and seashore paspalum. American Society of Agronomy | Crop Science Society of America | Soil Science Society of America Annual Meeting, San Antonio, TX. November 10 – 13, 2019.

- 4) Leinauer, B., Serena, M., Sevostianova, E. B. 2019. Wireless Soil Sensing for Turfgrass Irrigation. American Society of Agronomy | Crop Science Society of America | Soil Science Society of America Annual Meeting, San Antonio, TX. November 10 – 13, 2019. **Invited presentation.**
- 5) Bosland, W., Idowu, O. J., Leinauer, B., Serena, M., Omer, M., Pruitt, D. 2019. Soil and Plant Health As Affected By Surfactants. American Society of Agronomy | Crop Science Society of America | Soil Science Society of America Annual Meeting, San Antonio, TX. November 10 – 13, 2019. (November 12, 2019).
- 6) Leinauer, B., Serena, M., Sevostianova, E. B. 2019. Water Conservation Research Update. 2019 SERA IEG 25/ WERA IEG 11 Joint Annual Meeting. WERA 11 Regional Multistate Committee, Guam. June 3, 2019.
- 7) Leinauer, B. 2019. Subsurface Irrigation for Turfgrass Areas. ASIC National Conference, American Society of Irrigation Consultants, Santa Fe, NM. May 7, 2019.
- 8) Serena, M., Sevostianova, E., Bosland, W., Leinauer, B. 2018. Evaluation of several plant growth regulators to alleviate drought stress in bermudagrass. ASA-CSSA-SSSA annual meeting, Baltimore, MD. November 7, 2018.
- 9) Sevostianova, E., Serena, M., Leinauer, B. 2018. Effect of acidification products on bicarbonate concentration in irrigation water. ASA-CSSA-SSSA annual meeting, Baltimore, MD. November 6, 2018.
- 10) Bosland, W., Idowu, O. J., Leinauer, B., Serena, M., Omer, M. 2018. Impact of soil surfactants on Soil and Plant Health. ASA-CSSA-SSSA annual meeting, Baltimore, MD. November 4, 2018.
- 11) Leinauer, B. 2018. Water Conservation – Drought. 2018 SERA IEG 25/ WERA IEG 11 Joint Annual Meeting, WERA 11 Regional Multistate Committee, Fort Lauderdale, FL. July 12, 2018.
- 12) Sevostianova, B., M. Serena, B. Leinauer. 2017. Sulfuric Acid Effect on Bicarbonate Concentration and SAR in Soils. ASA, CSSA and SSSA Annual Meetings, American Society of Agronomy | Crop Science Society of America | Soil Science Society of America, Tampa, FL. October 24, 2017.
- 13) Kanaan, A., M. Serena, E. Sevostianova, I. Sevostianov, and B. Leinauer. 2017. Quantifying Water Required to Cool Artificial Turf. ASA, CSSA and SSSA Annual Meetings, American Society of Agronomy | Crop Science Society of America | Soil Science Society of America, Tampa, FL. October 24, 2017.
- 14) Serena, M., E. Sevostianova, D. VanLeeuwen, and B. Leinauer. 2017. Accuracy of handheld and buried moisture sensors in a saline soil. ASA, CSSA and SSSA Annual Meetings, American Society of Agronomy | Crop Science Society of America | Soil Science Society of America, Tampa, FL. October 23, 2017.
- 15) Leinauer, B., M. Serena, E. Sevostianova, and M. Schiavon. 2017. New Techniques in Measuring and Distributing Water in Urban Soils. ASA, CSSA and SSSA Annual Meetings, American Society of Agronomy | Crop Science Society of America | Soil Science Society of America, Tampa, FL. October 23, 2017. **Invited presentation.**
- 16) Sevostianova, E., B. Leinauer, and M. Serena. 2017. Performance of cool-season turfgrasses irrigated with varying evapotranspiration replacement rates. Annual Conference of the American Society for Horticultural Sciences, Waikoloa, HI, September 22, 2017.
- 17) Serena, M., B. Leinauer, and E. Sevostianova. 2017. Perennial ryegrass overseeding rates affect fairway coverage of dormant bermudagrass. Annual Conference of the American Society for Horticultural Sciences, Waikoloa, HI, September 19, 2017.
- 18) B. Leinauer. 2017. Turfgrass Water Conservation and Irrigation Efficiency. Meeting of American Society of Irrigation Consultants, Seattle, WA. April 24 – 26, 2017. **Invited Speaker.**
- 19) B. Leinauer. 2016. 1) Non-chemical Water Conditioners and Surfactants for Turfgrass Management; and
- 20) 2) Turfgrass Water Conservation. Penn State Golf Turf Conference 2016, Penn State and the Pennsylvania Turfgrass Council, State College, PA. November 16, 2016. **Invited Speaker.**
- 21) B. Leinauer, M. Schiavon, M. Serena, E. Sevostianova. 2016. Plant Growth Regulator and Soil Surfactants' Effects on Drought and Salinity Stressed Bermudagrass and Seashore Paspalum. ASA, CSSA and SSSA Annual Meetings, American Society of Agronomy | Crop Science Society of America | Soil Science Society of America, Phoenix, AZ. November 8, 2016.

- 22) B. Leinauer. 2016. Effective Water Conservation through Better Stewardship: Subsurface Drip Irrigation for Turfgrass Areas. Landscape Expo, Long Beach, CA. October 19, 2016. **Invited Speaker.**
- 23) E. Sevostianova, B. Leinauer, J. Skerker, M. Serena, P. Rollo. 2016. Sustainable Landscape Irrigation with Reclaimed Water: Nitrogen losses from warm-season turfgrasses during establishment. Annual Meeting Re-Inventing the Nation's Urban Water Infrastructure, National Science Foundation, Stanford University. January 11, 2016.
- 24) Serena, M. and B. Leinauer. 2015. Does irrigating dormant bermudagrass pay off? ASA, CSSA and SSSA International Annual Meetings, Minneapolis, MN, November 18, 2015.
- 25) Sevostianova, E., Skerker, J., Deb, S., Alvarez, G., Serena, M., Leinauer, B. 2015. Nitrogen losses from warm-season turfgrasses during establishment. ASA, CSSA and SSSA International Annual Meetings, Minneapolis, MN, November 18, 2015.
- 26) Deb, S., Serena, M., Idowu, O.J., McMillan, M., Duttler, A., Leinauer, B., 2015. Surfactants effects on water retention and flow in subsurface drip irrigated unsaturated soils. ASA, CSSA and SSSA International Annual Meetings, Minneapolis, MN, November 18, 2015.
- 27) Leinauer, B., VanLeeuwen, D., Serena, M., Sevostianova, E., Alvarez, G., Goss, R.M. 2015. Visual Turfgrass Quality Revisited. ASA, CSSA and SSSA International Annual Meetings, Minneapolis, MN, November 17, 2015.
- 28) Leinauer, B., Cochran, J., Munakata-Marr, J., Sevostianova, E. 2015. Sustainable Landscape Irrigation with Reclaimed Water. ERC Project Review Meeting, National Science Foundation. Stanford University, Palo Alto, CA. April 18, 2015.
- 29) Sevostianova, E., Munakata-Marr, J., Leinauer, B., Cath, T., Lentz, P., Cochran, J., Serena, M., Stanek, S. 2014. Nitrate Leaching from Irrigation with Tailored Water during Turfgrass Establishment. Advisory Board Meeting Re-Inventing the Nation's Urban Water Infrastructure (ReNUWIIt), National Science Foundation & University of Stanford, El Paso, TX. November 18, 2014.
- 30) Serena, M. B. Leinauer, B. 2014. Ideal irrigation management for establishing cool-season grasses. ASA, CSSA and SSSA Annual Meetings, Crop Science Society of America, Long Beach, CA. November 5, 2014.
- 31) Leinauer, B. M. Serena, E. Sevostianova, M. Schiavon. 2014. Subsurface drip irrigation for turfgrass areas. ASA, CSSA and SSSA Annual Meetings, Soil Science Society of Agronomy, Long Beach, CA. November 5, 2014. **Invited presentation.**
- 32) Sevostianova, E., B. Leinauer, P. Lentz, S. Stanek. 2014. Nitrate leaching from irrigation with tailored water during turfgrass establishment. ASA, CSSA and SSSA Annual Meetings, Crop Science Society of Agronomy, Long Beach, CA. November 3, 2014.
- 33) Leinauer, B., Munakata-Marr, J., Sevostianova, E., Cochran, J., Roux, V., Alvarez, G. 2014. Tailored Water for Distributed Non-Potable and Potable Reuse (E1.3) - Sustainable Landscape Irrigation with Reclaimed Water. Annual Meeting Re-Inventing the Nation's Urban Water Infrastructure (ReNUWIIt), National Science Foundation & University of Stanford, Palo Alto, CA. May 20, 2014.
- 34) Leinauer, B. 2013. Subsurface Drip Irrigation for Sports Turf. 24th Annual Sports Turf Managers Association Conference and Exhibition, Sports Turf Managers Association, Daytona Beach, FL, January 16, 2013.
- 35) Serena, M., Leinauer, B., Zimmerman, J. 2013. Comparing Turfgrass Irrigation Scheduling Based On Soil Moisture Sensors and ET-Controllers., ASA, CSSA and SSSA Annual Meetings, Tampa Bay, FL, November 3-6, 2013.
- 36) Alvarez, G., Leinauer, B., Sevostianova, E., Serena, M. 2013. Effects of Polymer-coated Sand on Turfgrass Quality Under Drought Stress. ASA, CSSA and SSSA Annual Meetings, Tampa Bay, FL, November 3-6, 2013.
- 37) Sevostianova, E., Munakata-Marr, J., Leinauer, B., Drewes, J., Cath, T., Roux, V., Cochran, J. 2013. Irrigation with Tailored Water: Nitrogen Leachate. ASA, CSSA and SSSA Annual Meetings, Tampa Bay, FL, November 3-6, 2013.
- 38) Leinauer, B., Munakata-Marr, J., Sevostianova, E., Roux, V., Cochran, J., Alvarez, G. 2013. Tailored Water for Distributed Non-Potable and Potable Reuse (E1.3) - Sustainable Landscape Irrigation with

- Reclaimed Water. Annual Meeting ‘Re-Inventing the Nation’s Urban Water Infrastructure (ReNUWI)’ , National Science Foundation & University of Stanford, Palo Alto, CA. May 19 – 22, 2013.
- 39) Leinauer, B. 2013. Saline Water for Turfgrass Irrigation. Rio Grande Basin Project Meeting, Texas Water Resources Institute & Texas A&M Institute of Renewable Natural Resources, San Antonio, TX, April 16, 2013.
 - 40) Sevostianova, E., J. Munakata-Marr, B. Leinauer, J. Drewes, and T. Cath. Nitrate Leaching From Turfgrasses Irrigated with Tailored Effluent Water Using Subsurface Drip System. 2012 ASA, CSSA and SSSA Annual Meetings, Cincinnati, OH, October 21 – 24, 2012.
 - 41) Serena, M., B. Leinauer, and M. Schiavon. Nitrogen Fertilization Effects On Protein Content of Warm Season Grasses Under Saline Drip Irrigation. 2012 ASA, CSSA and SSSA Annual Meetings, Cincinnati, OH, October 21 – 24, 2012.
 - 42) Schiavon, M., B. Leinauer, and M. Serena. Pigment Content and Quality of Drought Stressed Warm-Season Turf Species Treated with Plant Growth Regulators. 2012 ASA, CSSA and SSSA Annual Meetings, Cincinnati, OH, October 21 – 24, 2012.
 - 43) Schiavon, M., B. Leinauer, and M. Serena. Superoxide Dismutase Activity In Leaves and Stolons of Two Warm-Season Turfgrass Species In An Arid Environment. 2012 ASA, CSSA and SSSA Annual Meetings, Cincinnati, OH, October 21 – 24, 2012.
 - 44) Schiavon, M., B. Leinauer, and M. Serena. Plant Growth Regulators and Soil Surfactants Improve Warm-Season Turfgrass Quality Under Saline Conditions. 2011 ASA, CSSA and SSSA Annual Meetings, San Antonio, TX, October 16 – 20, 2011.
 - 45) Serena, M., B. Leinauer, M. Schiavon, and D. Kieffer. Comparison of soil moisture uniformity in sprinkler and subsurface drip irrigated warm season turfgrasses. 2011 ASA, CSSA and SSSA Annual Meetings, San Antonio, TX, October 16 – 20, 2011.
 - 46) Serena, M., B. Leinauer, M. Schiavon, E. Sevostianova, and B. Maier. A Comparison of Underground Biomass and Stolon Production of *Paspalum Vaginatum* (Swartz) established from Seed under Potable and Saline Subsurface Drip Irrigation. 108th Annual Conference of the American Society for Horticultural Sciences, Waikoloa, HI, September 25 – 28, 2011.
 - 47) Schiavon, M., B. Leinauer, M. Serena, and B. Maier. Establishment of *Festuca arundinacea* (Shreb) Using Subsurface Capillary Irrigation and Saline Water. 108th Annual Conference of the American Society for Horticultural Sciences, Waikoloa, HI, September 25 – 28, 2011.
 - 48) Sevostianova, E., B. Leinauer, and B. Maier. Soil Salinity and Turf Performance under Saline Irrigation. 108th Annual Conference of the American Society for Horticultural Sciences, Waikoloa, HI, September 25 – 28, 2011.
 - 49) Leinauer, B., M. Serena, M. Schiavon, and E. Sevostianova. Efficient Irrigation Technologies: Helping to Meet Public Policy Goals in Landscape Water Conservation. , 2011 Land Grant and Sea Grant National Water Conference, Washington, DC, January 31 – February 1, 2011.
 - 50) M. Schiavon, B. Leinauer, and M. Serena. Subsurface capillary irrigation to establish *Festuca arundinacea* (Schreb.) in an arid environment. 2010 ASA-CSSA-SSSA Annual Meeting, Long Beach, CA, Oct 31 – Nov 4, 2010.
 - 51) M. Serena, B. Leinauer, and M. Schiavon. Nitrogen source and rate affect color retention on warm season grasses under saline and drip irrigation. 2010 ASA-CSSA-SSSA Annual Meeting, Long Beach, CA, Oct 31 – Nov 4, 2010.
 - 52) M. Serena, B. Leinauer, and M. Schiavon. Scalping effect on spring green-up of bermudagrass and seashore paspalum. 2010 ASA-CSSA-SSSA Annual Meeting, Long Beach, CA, Oct 31 – Nov 4, 2010.
 - 53) E. Sevostianova, B. Leinauer, and B. Maier. Warm Season Turfgrass and Rootzone Quality Under Saline Sprinkler and Drip Irrigation. 2010 ASA-CSSA-SSSA Annual Meeting, Long Beach, CA, Oct 31 – Nov 4, 2010.
 - 54) B. Leinauer, M. Serena, E. Sevostianova, and M. Schiavon. Utilization of Saline Waters for Turfgrass Irrigation – 2009 Accomplishments. Efficient Irrigation for Water Conservation in the Rio Grande Basin. 2010 Annual Conference. Alpine, TX. May 17 – 20, 2010.

- 55) B. Leinauer. Water Conservation in Turfgrass Irrigation. 2010 Land Grant & Sea Grant National Water Conference. Hilton Head, SC, Feb 21 – 25, 2010.
- 56) M. Schiavon, B. Leinauer, and M. Serena. Growing Degree Days to Predict Warm Season Turfgrass Establishment from Seed under Saline and Subsurface Drip Irrigation. 2009 ASA-CSSA-SSSA Annual Meeting, Pittsburgh, PA, Nov 1 – 5, 2009.
- 57) M. Serena, B. Leinauer, and M. Schiavon. Dormant Seeding and Sodding for Faster Turfgrass Establishment Under Saline and Subsurface Drip Irrigation. 2009 ASA-CSSA-SSSA Annual Meeting, Pittsburgh, PA, Nov 1 – 5, 2009.
- 58) E. Sevostianova, B. Leinauer, M. Shukla, and B. Maier. Using tortuosity and bulk electrical conductivity measurements to estimate salinity in a sandy soil. 2009 ASA-CSSA-SSSA Annual Meeting, Pittsburgh, PA, Nov 1 – 5, 2009.
- 59) B. Leinauer and E. Sevostianova. 2009. Turf Quality of Minimally Irrigated Warm and Cool Season Grasses. 2009 ASA-CSSA-SSSA Annual Meeting, Pittsburgh, PA, Nov 1 – 5, 2009
- 60) Sevostianova, E., and B. Leinauer. 2009. Salinity Effect on Soil Moisture Measurement: Comparison of Different Sensors for two Soil Types
- 61) E. Sevostianova, B. Leinauer, M. Shukla, and B. Maier. 2009. Evaluation of a tortuosity parameter of a sandy soil from the bulk electrical conductivity measurements. 2009. 16th school “Ecology and soil science”, Puschino, Russia., Oct 5-8, 2009.
- 62) B. Leinauer. EPA Water-Efficient New Home Specification – The Southwest Perspective: ET_o, Alternative Water Sources, Education. EPA Water Sense Stakeholder Listening Session, Washington D.C. August 14, 2008. – **Invited Speaker**
- 63) B. Leinauer and E. Sevostianova. Turf Quality of Minimally Irrigated Warm and Cool Season Grasses. 2008 ASA-CSSA-SSSA Annual Meeting, Houston, TX, Oct 5 -9, 2008.
- 64) E. Sevostianova; B. Leinauer, M. Shukla, and B. Maier. Accuracy of Moisture Sensors in Saline Soils. 2008 ASA-CSSA-SSSA Annual Meeting, Houston, TX, Oct 5 -9, 2008.
- 65) M. Serena, B. Leinauer, M. Schiavon, and S. Macolino. Planting Date and Water Quality Effects on the Establishment of 2 Warm-Season Grasses under Sub-Surface Drip and Sprinkler Irrigation. 2008 ASA-CSSA-SSSA Annual Meeting, Houston, TX, Oct 5 -9, 2008.
- 66) B. Leinauer. 2007. Irrigation Requirements of Low Water Use Turfgrasses in 2 Climate Zones. 2007 USDA-CSREES National Water Conference, Savannah, GA, January 28 – 31, 2007.
- 67) Y. Ikemura and B. Leinauer. Remote Sensing of Stressed Turfgrass. 2007 ASA-CSSA-SSSA Annual Meeting, New Orleans, LA., Nov 4 -8, 2007.
- 68) E. Sevostianova; B. Leinauer, B., and M. Barrick. Long Term Performance of Cool and Warm Season Grasses Under Saline Irrigation. 2007 ASA-CSSA-SSSA Annual Meeting, New Orleans, LA. Nov 4 - 8, 2007.
- 69) B. Leinauer. 2007. Water Management Technologies. Victor A. Gibeault Symposium on Turfgrass Water Conservation in Riverside, CA, September 5 – 7, 2007. – **Invited Speaker**
- 70) B. Leinauer and T. Barrick. 2006. Evaluating the Performance of Physical Water Conditioning Devices on Turf Quality Irrigated with Saline Water. ASA-CSSA-SSSA Annual Meeting, Indianapolis, IN, November 12 – 16, 2006.
- 71) B. Leinauer, J. Makk and M. Shukla. 2006. Evaluation and Calibration of a New Wireless Soil Sensor. ASA-CSSA-SSSA Annual Meeting, Indianapolis, IN, November 12 – 16, 2006.
- 72) J. Makk and B. Leinauer. 2005. Water distribution in two golf green systems. ASA-CSSA-SSSA Annual Meeting, Salt Lake City, UT, November 6 – 10, 2005.
- 73) Leinauer, B., R. Goss, J. Makk, and T. Barrick. 2005. Using soil moisture to predict water repellency in turfgrass root zones. ASA-CSSA-SSSA Annual Meeting, Salt Lake City, UT, November 6 – 10, 2005.
- 74) Ikemura, Y., and B. Leinauer. 2005. Spectroradiometry analysis of drought and salinity stressed turfgrass. ASA-CSSA-SSSA Annual Meeting, Salt Lake City, UT, November 6 – 10, 2005.
- 75) Johnson, C., R. Kochevar, B. Leinauer, and D. Karcher. 2005. Turfgrass germination using saline geothermal irrigation. ASA-CSSA-SSSA Annual Meeting, Salt Lake City, UT, November 6 – 10, 2005.

- 76) Barrick, M. T., B. Leinauer, and A. Petermeier. 2005. Efficacy of magnetic and catalytic water conditioning devices on establishment and quality of perennial ryegrass under saline and potable water. ASA-CSSA-SSSA Annual Meeting, Salt Lake City, UT, November 6 – 10, 2005.
- 77) B. Leinauer. Saving Water for Park and Rec with Irrigation Efficiency. Lands Conference and Expo, Louisville, KY. October 14 – 16, 2005. **Invited Speaker**.
- 78) B. Leinauer. Turfgrass Establishment with Saline Irrigation. Southern California Salinity Coalition, Board of Directors Meeting, Riverside, CA. October 6, 2005. **Invited Speaker**
- 79) B. Leinauer. 2004. Sub-surface drip for large turf areas. Desert Green Turf and Landscape Conference, Las Vegas, NV. – **Invited Speaker**.
- 80) Johnson, C., B. Leinauer, and B. Erhard. 2004. Effect of salinity and subsurface irrigation on cool season turfgrass establishment. 2004 ASA-CSSA-SSSA Annual Meeting, Seattle, WA, Oct. 31–Nov. 4, 2004.
- 81) Miller, J. P., D. E. Karcher, M. D. Richardson, B. Leinauer, and J. W. Landreth. 2004. Irrigation scheduling on sand based putting greens using volumetric water content. 2004 ASA-CSSA-SSSA Annual Meeting, Seattle, WA, Oct. 31–Nov. 4, 2004.
- 82) B. Leinauer. 2004. Turf Research at New Mexico State University. 2004 NCR-192 and WRCC-11 Joint Meeting, University of Nebraska, Lincoln, NE.
- 83) B. Leinauer. 2004. Renovation of Aggie Memorial Stadium. Pennington/Seeds West 7th International Field Day, Maricopa, AZ. 2004 – **Invited Speaker**
- 84) B. Leinauer and J. Makk. Effect of Irrigation Type, Root Zone Material and Root Zone Depth on Irrigation Efficiency and Water Use on Putting Greens in the Southwest. USGA (United States Golf Association) Golf Course Construction Workshop, Columbus, OH. October 14 – 16, 2003. **Invited Speaker**.
- 85) B. Leinauer. Sub-Irrigation for Sports Fields. 2003 Sports Turf Managers Association 14th Annual Conference and Exhibition, San Antonio, TX. **Invited speaker**.
- 86) Leinauer, B., J. Bilskie, M. Parossien, T.L. Jones. 2002. Accurate Technologies for Monitoring Soil Moisture in Turf. 2002 ASA-CSSA-SSSA Annual Meeting, Indianapolis, IN, Nov. 10–14. **Invited presentation**
- 87) Leinauer, B., K.L. Kopp, and G.K. Stahnke. 2002. A Survey of Turfgrass Extension in the West. 2002 ASA-CSSA-SSSA Annual Meeting, Indianapolis, IN, Nov. 10–14. **Invited presentation**
- 88) Leach, B.E., K.W. Frank, J.R. Crum, T.A. Nikolai, R.N. Calhoun; and B. Leinauer. 2002. Understanding water relations in a USGA putting green. 2002 ASA-CSSA-SSSA Annual Meeting, Indianapolis, IN, Nov. 10–14.
- 89) Leinauer, B., D.M. VanLeeuwen, and T. Jones. 2001. Effect of Wetting Agents on Drainage in Turfgrass Root zones. ASA-CSSA-SSSA Annual Meeting Charlotte, NC, Oct. 21–25, 2001.
- 90) Leach, B.E., K.W. Frank, J.R. Crum, B. Leinauer, T.A. Nikolai, P.E. Rieke, R.N. Calhoun. 2001. Water Relations in a Variable Root zone USGA Putting Green. ASA-CSSA-SSSA Annual Meeting Charlotte, NC, Oct. 21–25, 2001.
- 91) Leinauer, B., D. M. Vanleeuwen, R. M. Sallenave, P. E. Rieke, J. Makk, and E. Johnson. 2000. Effects of wetting agents on soil physical properties of turfgrass rootzones. ASA-CSSA-SSSA Annual Meeting Minneapolis, MN, Nov. 5–9.
- 92) Frank, K. W., T. A. Nikolai, B. Leinauer, J. R. Crum, and P. E. Rieke. 2000. The effects of a variable depth rootzone mix on soil moisture retention in a sloped USGA putting green. ASA-CSSA-SSSA Annual Meeting Minneapolis, MN, Nov. 5–9.
- 93) Leinauer, B. Instrumentation, Monitoring System Design, Data Acquisition, and Data Processing in TDR Soil Moisture Measurement. 2000. Workshop entitled “Interaction of Plants and Pollutants on Soil Moisture Dynamics” at Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI, and Phytoremediation Demonstration Facility at Ford Motor Co., Detroit, MI. October 16-18, 2000. **Invited speaker**
- 94) Leinauer, B. TDR Probe Design and Signal Interpretation. 2000. Workshop “TDR Soil Moisture Measurement in Sandy Root Zones”, Rutgers University, New Brunswick, NJ. March 27-30, 2000.

- 95) Leinauer, B., P. E. Rieke, J. R. Crum, T. A. Nikolai, and R. N. Calhoun. 1999. Soil moisture retention in sloped USGA putting greens. ASA-CSSA-SSSA Annual Meeting Salt Lake City, UT, Oct 31–Nov 4, 1999.
- 96) Leinauer, B., P. E. Rieke, and R. N. Calhoun. 1998. Soil moisture measurement in sandy rootzone mixes by TDR. ASA-CSSA-SSSA Annual Meeting Baltimore, MD, Oct. 19–22, 1998.
- 97) Leinauer, B., and P. E. Rieke. 1998. Influence of organic amendments on particle density of sandy rootzone mixes. ASA-CSSA-SSSA Annual Meeting Baltimore, MD, Oct. 19–22, 1998.
- 98) Leinauer, B., and H. Schulz. 1996. Influence of irrigation systems on drought tolerance of three turf species. ASA-CSSA-SSSA Annual Meeting, Indianapolis, IN, Nov. 3–8, 1996.

Regional Meetings

- 1) Leinauer, B. 2019. 1) Turfgrass Selection and Irrigation Scheduling; and
- 2) 2) Extension and Research Update. Southwest Turfgrass Association Conference & Trade Show, Albuquerque, NM. October 16, 2019.
- 3) Leinauer, B., Serena, M., Sevostianova, E. B. 2019. Water Conservation Research Update. 2019 SERA IEG 25/ WERA IEG 11 Joint Annual Meeting, WERA 11 Regional Multistate Committee, Guam, June 3, 2019.
- 4) Leinauer, B. and Sevostianova, E. B. 2019. Water Conservation with Artificial Turf – Seriously? Las Cruces Water Festival, City of Las Cruces, NM. April 18, 2019.
- 5) Bosland, W., Idowu, O. J., Leinauer, B., Serena, M., Omer, M. 2018. Impact of soil surfactants on Soil and Plant Health. New Mexico sustainable agriculture conference, Los Lunas, NM. December 12, 2018.
- 6) Leinauer, B. 2018. 1) 2018 Extension and Research Update; and
- 7) 2) Turfgrass Water Conservation. Southwest Turfgrass Association Conference & Trade Show, Ruidoso, NM. November 14, 2018.
- 8) Bosland, W., Giardine, F., Sevostianova, E. B., Serena, M., Leinauer, B. 2018. Nitrate leaching and nitrous oxide emissions from two warm -season turfgrasses irrigated with tailored water. 63rd Annual New Mexico Water Conference, Las Cruces, NM, October 17, 2018.
- 9) Leinauer, B., Serena, M., and Sevostianova, E. 2018. Water Conservation – Drought. 2018 SERA IEG 25/ WERA IEG 11 Joint Annual Meeting, WERA 11 Regional Multistate Committee, Fort Lauderdale, FL. July 12, 2018.
- 10) Leinauer, B. 2018. WaterSmart Turfgrass. Tech2O WaterSmart Workshop Series, El Paso, TX. June 9, 2018.
- 11) Leinauer, B. 2017. Turfgrass Water Conservation. New Mexico Water Conservation Alliance October Meeting, Albuquerque, NM. October 20, 2017.
- 12) Leinauer, B. 2017. Alternate Water Sources and How They Impact the Landscape. Think Trees Conference, Albuquerque, NM. January 19, 2017.
- 13) Leinauer, B. 2016. 2016 Extension and Research Update. Southwest Turfgrass Association Conference & Trade Show, Southwest Turfgrass Association & NMSU Extension Service, Las Cruces, NM. October 26, 2016.
- 14) Leinauer, B. 2016. Chemicals for Water Conservation. Turfgrass Field Day, Southwest Turfgrass Association & NMSU Extension Service, Las Cruces, NM. October 26, 2016.
- 15) Leinauer, B., Serena, M., Sevostianova, E., Sportelli, M. 2016. Turfgrass Research at New Mexico State University. WERA11: Western Regional Turfgrass Research Grant Proposal Meeting, Multistate Research Coordinating Committee and Information Exchange Group, Honolulu, HI. July 25, 2016.
- 16) Leinauer, B. 2016. Adjuvants and Surfactants – How Can They Help The Superintendent? GCSAA Rio Grande Chapter Education and Golf Meeting, Rio Grande Chapter Golf Course Superintendents Meeting, Las Cruces, NM. March 22, 2016.
- 17) Leinauer, B. 2016. Trees and Turf. An Urban Tree Care Conference, Think Trees New Mexico, Albuquerque, NM. February 2, 2016.

- 18) Leinauer, B. 2015. 2015 Extension and Research Update. Southwest Turfgrass Association Conference & Trade Show, Southwest Turfgrass Association & NMSU Extension Service, Ruidoso, November 4, 2015.
- 19) Leinauer, B. 2014. Subsurface drip irrigation for turfgrass areas. Water Efficient Landscaper, Las Cruces Utilities, Las Cruces, NM, October 23, 2014.
- 20) Leinauer, B. 2014. 2014 Extension and Research Update. Southwest Turfgrass Association Conference & Trade Show, Southwest Turfgrass Association & NMSU Extension Service, Albuquerque, NM, October 28, 2014.
- 21) Leinauer, B. 2013. Outta Sight Irrigation for Turfgrass – Research Perspective. Landscape Industry Show, California Landscape Association, Los Angeles, CA, February 13, 2013.
- 22) Leinauer, B., Alvarez, G., Serena, M. 2013. Seed Coating to Improve Turfgrass Establishment in Hydrophilic and Hydrophobic Saline Rootzones. Aquatrols Research Update, Aquatrols Corp., Paulsboro, NJ, July 7, 2013.
- 23) Leinauer, B. 2013. Turfgrasses for the Transition Zone. Meeting of the Rio Grande Golf Course Superintendents Association, Socorro, NM, July 22, 2013.
- 24) Leinauer, B., Serena, M. 2013. Bermudagrass and Seashore Paspalum Establishment and Management Using Subsurface Drip Irrigation vs. Overhead Sprinkler Irrigation. UC Riverside Turfgrass Field Day, UC Riverside, Riverside, CA, September 12, 2013.
- 25) Leinauer, B. 2013. Turfgrass and Water. El Paso and Sun Country Landscape Conference, Sun Country Landscape Association, El Paso, TX, October 31, 2013.
- 26) Leinauer, B. 2013. Extension and Turf Research at New Mexico State University. 2013 Southwest Turfgrass Association Annual Conference, Ruidoso, NM, November 12 – 14, 2013.
- 27) Subsurface Drip Irrigation for Turf Areas. 2012 Southwest Turfgrass Association Annual Conference, Ruidoso, NM, November 13 – 15, 2012.
- 28) Leinauer, B. 2012. Extension and Turf Research at New Mexico State University. 2012 Southwest Turfgrass Association Annual Conference, Ruidoso, NM, November 13 – 15, 2012.
- 29) Leinauer, B. Irrigating turf areas with saline and potable water from a subsurface drip system. 2012 Irrigation Show & Education Conference, Irrigation Association, Orlando, FL, November 2 – 5, 2012.
- 30) Leinauer, B. Sodium and Salinity: Soil and Plant Health. Fall Education Golf Course Superintendents Association - San Diego Chapter, San Diego, CA, October 18, 2012. **Invited speaker.**
- 31) Leinauer, B., M. Serena, M. Schiavon, and E. Sevostianova. Efficient Irrigation Technologies: Helping to Meet Public Policy Goals in Landscape Water Conservation. 57th Annual New Mexico Water Conference, New Mexico Water Resources Research Institute, Las Cruces, NM, September 28, 2012.
- 32) Leinauer, B., and M. Serena. Tall Fescue Establishment and Management Using Drip vs. Overhead Irrigation. UC Riverside Turfgrass Field Day, UC Riverside, Riverside, CA, September 13, 2012. **Invited speaker.**
- 33) Serena, M., B. Leinauer, M. Schiavon. Warm Season Turfgrass Establishment Using Saline Water and Subsurface Drip Irrigation. 47th Annual Water Resources Conference, Albuquerque, NM, November 7, 2011.
- 34) Schiavon, M., B. Leinauer, M. Serena. Establishment of cool-season turfgrasses using subsurface capillary irrigation and saline water. 47th Annual Water Resources Conference, Albuquerque, NM, November 7, 2011.
- 35) B. Leinauer. 1) Extension and Turf Research at New Mexico State University; and
- 36) 2) Saline Irrigation Water: Which Grasses Work Best? 2011 Southwest Turfgrass Association Annual Conference, Las Cruces, NM, November 1 – 3, 2011.
- 37) B. Leinauer. New Technologies for Managing Irrigation. 54th Annual Tennessee Turfgrass Assoc. Conference and Trade Show, Franklin, TN, January 5 – 7, 2011. **Invited speaker.**
- 38) B. Leinauer. Turf Research at New Mexico State University. 2010 Southwest Turfgrass Association Annual Conference, Ruidoso, NM, October 19 – 21, 2010.
- 39) B. Leinauer and R. Goss. Turfgrass Research at New Mexico State University. Western Regional Turfgrass Research (WERA-11) Meeting. Riverside, CA. June 2 – 4, 2010.
- 40) B. Leinauer. 1) Non-Chemical Water Conditioning and its Effects on Turfgrass; and

- 41) 2) Turfgrass Water Conservation. Spring Meeting Inland Empire Golf Course Superintendents Association. Walla Walla, WA, March 8 – 9, 2010. **Invited Speaker**
- 42) B. Leinauer. Moisture and Salinity Sensors For Golf Course Management. 2009 Northern California's Golf Course Superintendents Institute: Tools For Tomorrow: Getting in Touch With GPS/GIS and Sensor Technology. Livermore, CA, Oct 19, 20, 2009. **Invited Speaker**
- 43) B. Leinauer. Subsurface Irrigation. 2009 California GCSA Annual Conference. San Luis Obispo, CA, Oct 31 – Nov 2, 2009. **Invited Speaker**
- 44) B. Leinauer. Extension and Turf Research at New Mexico State University. 2009 Southwest Turfgrass Association Annual Conference, Ruidoso, NM, October 12 – 14, 2009.
- 45) E. Sevostianova, B. Leinauer, M. Shukla, and B. Maier. 2009. Accuracy of Moisture Sensors in Saline Soils. Efficient Irrigation for Water Conservation in the Rio Grande Basin. 2009 Annual Conference. McAllen, TX. Aug. 10-13, 2009.
- 46) B. Leinauer, E. Sevostianova, M. Serena, M. Schiavon, S. Macolino. Task 7: Saline and Wastewater Management and Water Reuse. Efficient Irrigation for Water Conservation in the Rio Grande Basin. 2009 Annual Conference. McAllen, TX. Aug. 10-13, 2009.
- 47) M. Schiavon, B. Leinauer, and M. Serena. 2009. Growing Degree Days to Predict Warm Season Turfgrass Establishment under Saline and Subsurface Drip Irrigation. New Mexico Water Resources Research Institute's 2009 New Mexico Water Research Symposium, Socorro, NM. August 11, 2009.
- 48) M. Serena, B. Leinauer, and M. Schiavon. Dormant Seeding and Sodding for Faster Turfgrass Establishment under Saline and Subsurface Drip Irrigation. New Mexico Water Resources Research Institute's 2009 New Mexico Water Research Symposium, Socorro, NM. August 11, 2009.
- 49) B. Leinauer. Efficient Irrigation for Turf. Minnesota Golf Course Superintendents Association's March Mini-Seminar, Minneapolis, MN. March 11, 2008. – **Invited Speaker**
- 50) B. Leinauer and E. Sevostianova. Utilization of Saline and other Impaired Waters for Turfgrass Irrigation. 2008 Annual Conference Efficient Irrigation for Water Conservation in the Rio Grande Basin. Las Cruces, NM. July 14 – 17, 2008.
- 51) E. Sevostianova, B. Leinauer, M. Shukla, and B. Maier. Accuracy of Moisture Sensors in Saline Soils. New Mexico Water Resources Research Institute's 2008 New Mexico Water Research Symposium, Socorro, NM. August 12, 2008.
- 52) B. Leinauer. Turfgrasses for the Future. PureSeed Field Day, Woodburn, OR. June 19, 2008. – **Invited Speaker**
- 53) B. Leinauer and R. Goss. Turfgrass Research at New Mexico State University. Western Regional Turfgrass Research (WERA-11) Meeting. Pullman, WA. June 5 -6, 2008.
- 54) B. Leinauer and J. Makk. Longer Term Assessment of the Effects of Greens Construction Systems and Irrigation Systems on Greens Performance, Turf Quality and Water Conservation; and 2) B. Leinauer and T. Barrick. Physical Water Conditioners Effects on Turfgrass Establishment, Turfgrass Quality, and Rootzone Salinity in the Desert Southwest. USGA (United States Golf Association) Research Meeting, Las Cruces, NM. November 27 – 28, 2007.
- 55) B. Leinauer. 1) Subsurface Irrigation for Turf; and
- 56) 2) Efficient Irrigation of Turfgrass Areas. 2007 Peaks and Prairies Golf Course Superintendents Association Meeting, Billings, MT. October 2 – 4, 2007. – **Invited Speaker**
- 57) B. Leinauer. Technologies for Monitoring Water Stress in Turf. Annual Conference of the American Society of Horticultural Science in Scottsdale, AZ, July 15 – 17, 2007. – **Invited presentation**
- 58) B. Leinauer. Water Conservation and Turfgrass Irrigation. Meeting on Current NMSU's Research Projects with Staff from Senator Pete Domenici's office. New Mexico State University, Las Cruces, NM, May 31, 2007.
- 59) B. Leinauer. Products to Assist in Turfgrass Irrigation: Tools or Snake Oils? Annual Spring Turfgrass Management Seminar, Maricopa, AZ, April 11, 2007. **Invited Speaker**
- 60) B. Leinauer. Water Conservation and Turfgrass Irrigation. Meeting on Current Water Research Projects at the College of Agriculture and Home Economics. New Mexico State University, Las Cruces, NM, February 20, 2007.
- 61) B. Leinauer and T. Barrick. 2006. Turfgrass Research at New Mexico State University. Western Regional Turfgrass Research (WERA11) Meeting. Las Cruces, NM, October 2-3, 2006.

- 62) B. Leinauer. Irrigating Salt Tolerant Grasses with RO Concentrate. 2006 Desalination Conference: Concentrate on Concentrate, Paso, TX. March 15 – 17, 2006. **Invited Speaker**
- 63) B. Leinauer. 1) Subsurface Irrigation; and
- 64) 2) Wetting Agents. Annual Rocky Mountain Regional Turfgrass Association Conference. December 6-8, 2005. Denver, CO. **Invited Speaker.**
- 65) B. Leinauer. Turfgrass Establishment with Saline Irrigation. Southern California Salinity Coalition, Board of Directors Meeting. Chino, CA. **Invited Speaker.**
- 66) B. Leinauer. 1) Subsurface Irrigation for Sports Turf; and
- 67) 2) Subsurface Irrigation for the Golf Course. 43rd Annual Nebraska Turfgrass Conference and Trade Show. Nebraska Turfgrass Association. Omaha, NE. 2005. **Invited Speaker.**
- 68) B. Leinauer. 1) Wetting Agents; and
- 69) 2) Irrigation Scheduling. 16th Annual Arkansas Conference and Trade Show. Arkansas Turfgrass Association. Hot Springs, AR. 2004. **Invited Speaker.**
- 70) B. Leinauer. Subsurface Drip Irrigation for Large Turf Areas. Drought in the Desert: Doomsday or Opportunity? Desert Green Conference, Las Vegas, NV. 2003. **Invited Speaker.**
- 71) B. Leinauer. Extension and Research Update. 2003. Southwest Turfgrass Association Annual Conference, Ruidoso, NM.
- 72) B. Leinauer. Subirrigation for Turfgrass Areas. 2003. Urban Irrigation and Water Conservation Conference, Albuquerque, NM.
- 73) B. Leinauer. Sub-Irrigation for Turf. 2003. Sports Field Construction and Renovation Seminar, SFC Associates, Albuquerque, NM.
- 74) B. Leinauer. Subirrigation for Turfgrass Areas. Urban Irrigation and Water Conservation Conference, Santa Fe, NM.
- 75) B. Leinauer. Greens Water Management and the Future of Putting Greens Construction. 37th Annual Tennessee Turfgrass Association Conference and Trade Show 2003. **Invited speaker.**
- 76) B. Leinauer. Subsurface Irrigation of Turf Areas. Maui Turfgrass Conference: A Short Course on Turfgrass Management, University of Hawaii, College of Tropical Agriculture and Human Resources, Cooperative Extension Service, 2002. **Invited speaker.**
- 77) B. Leinauer. Sub-Irrigation for Sports Turf. Seminar Sports Field Renovation and Maintenance, Honolulu, Hawaii, 2002. **Invited speaker.**
- 78) B. Leinauer. Reducing Irrigation Water for Turf by Using Alternative Irrigation Systems. Water Conservation: A Sensible Business Solution for your Facility. Albuquerque, NM. 29 Aug 2002.
- 79) B. Leinauer. Selecting Turfgrasses for New Mexico – A Climatic Dilemma. New Mexico Water Research Symposium, New Mexico Tech University, Socorro, NM. 13 Aug 2002
- 80) B. Leinauer. Turfgrass Research at New Mexico State University. 2002. WRCC-11 (Western Turfgrass Workgroup Meeting), Texas A&M University Research and Extension Center, Dallas, TX. 5/18/02 – 5/19/02.
- 81) B. Leinauer. Fertilization Program for Sports Fields. 2002. Workshop Sports Field Renovation & Maintenance, Albuquerque, NM. 2 Feb 2002. – **Invited Speaker**
- 82) B. Leinauer. Fall Turf Maintenance. 2001. Sun Country Tree Conference, El Paso, Texas. 2 Nov 2001. **Invited speaker.**
- 83) B. Leinauer. Turf Research at New Mexico State University. 2001. 2001 Southwest Turfgrass Association Annual Conference, Ruidoso, NM. 10 Oct 2001
- 84) B. Leinauer. Turf Research at New Mexico State University. WRCC (Western Regional Conference Committee) Meeting, Corvallis, OR. June 23, 2000
- 85) B. Leinauer. Turfgrass & Lawn Care. Texas A&M Agricultural Research & Extension Center, El Paso, TX. April 13, 2000. **Invited speaker.**

Membership in Professional Societies

American Society of Agronomy (ASA)
Crop Science Society of America (CSSA)

European Turfgrass Society
German Turf Council (Deutsche Rasengesellschaft)
Golf Course Superintendents Association of America (GCSAA)
Greenkeeper Association of Germany (Greenkeeperverband Deutschland e.V.)
International Turfgrass Society (ITS)
New Mexico Extension Specialists Association
Rio Grande Golf Course Superintendents Association
Southwest Turfgrass Association
Sports Turf Managers Association (STMA)
United States Golf Association (USGA)