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Professional Activities

2020-Present**: Vice President for Agriculture and Natural Resources**, University of Florida, and **administrative head**, UF Institute of Food and Agricultural Sciences, Gainesville, Fla.

Leads teaching, research, and Extension functions of the agriculture and natural resources arm of one of the nation's top-ranked land-grant universities. Oversees 2,000 employees and a budget of more than $400 million, including approximately $150 million in external funding for research. Manages an extensive international operation to address global food insecurity and environmental protection. Emphasizes science that contributes to the prosperity of nearly 22 million Floridians with knowledge in support of farmers, land and water managers, entrepreneurs, and families.

2018-Present: **Director, National Institute of Food and Agriculture**, United States Department of Agriculture. Appointed by President Trump.

Led the organization of 300 employees and a $1.7B budget, during a time of transformational change. In 2018, President Trump authorized NIFA to relocate from Washington D.C. to Kansas City, Mo. I oversaw the relocation, including hiring 75% replacement staff. I led *Reimagine NIFA,* a campaign to reorganize the agency for increased efficiency and effectiveness in serving all stakeholders. I was the primary liaison between NIFA and land-grant universities, seeking stakeholder input to inform the *Reimagine NIFA* campaign. Under my leadership, NIFA enhanced administrative efficiency to create a more transparent relationship with the land-grant community.

2015-2018: **President and CEO, International Fertilizer Development Center**. Muscle Shoals, Ala.

I led the organization of 800 staff focused on increasing appropriate fertilizer use globally to enhance agricultural production and profitability, especially among smallholder farmers in Africa and South Asia. I oversaw 23 in-country offices plus a research institute in Muscle Shoals, Ala. When I arrived, business was in rapid decline. I worked with staff to stabilize revenue and energize new business development by reorganizing the entire organization to create a shared vision and reengage our donor community. I empowered a new generation of diverse emerging leaders to assume senior leadership positions while right-sizing operations to meet the global demand for our services.

2005-2015: **Dean, College of Agricultural and Environmental Sciences,** The University of Georgia, Athens, Ga.

My vision as Dean of CAES at UGA was to grow a leading-edge agricultural college that effectively balanced applied and basic research to serve stakeholders and industry. I accomplished this mission by focusing on building the college's reputation nationally, while concurrently improving business practices, state, federal and private support, and growing student enrollment, especially at the graduate level. The college was often rated in the top 10 among agricultural colleges in the U.S. during my tenure. Significant accomplishments include increasing diversity among faculty, staff, and administrators where underrepresented minorities and women were appointed to leadership positions. As a result of our shared success, I was selected as one of Georgia's top 100 leaders several years in a row.

2003-2005: **Executive Associate Dean**, University of Maryland Agricultural Experiment Station and Maryland Cooperative Extension, College Park, Md.

1994-2005: **Associate Director**, MD Agricultural Experiment Station and **Associate Dean**, College of Agriculture and Natural Resources, University of Maryland, College Park, Md.

2002-2003: **Acting Executive Director**, Northeast Research Association.

2002: Visiting **OECD Fellow**, University of Melbourne, Australia, Botany Department.

1999: **Acting Director**, Maryland Center for Agro-Ecology, College Park, Md.

1992-2005: **Professor** of Soil Science, department of Natural Resource Science and Landscape Architecture, University of Maryland. Primary research efforts were directed towards (a) phytoremediation -- developed hyperaccumulator plant species for removal of metals (Ni, Cd, Zn) from soil to facilitate remediation and mining; (b) developed novel approaches to solve problems related to soil microbiology, risks of genetically engineered organisms were assessed, and effects of contamination on soil microbial organisms were studied; (c) nutrient management, led an innovative team within the Chesapeake Bay watershed to control the flow of nutrients from farmlands into the bay. This research continues to be the U.S. flagship project for protecting water quality in rural ecosystems. Additional responsibilities included advising soil microbiology post-doctoral researchers and graduate students as well as serving on research committees of graduate students outside the discipline of soil microbiology, and teaching three courses.

1991: **Visiting Fulbright Scholar**, Rothamsted Experimental Station, Harpenden, United Kingdom, Soils Division.

1987-1992: **Associate Professor** of Agronomy, University of Maryland,

College Park, Md.

1981-1987: **Assistant Professor** of Agronomy, University of Maryland,

College Park, Md.

Educational Background

Bachelor of Science, Agronomy, 1971-1975, University of Maryland
Master of Science, Soil Microbiology and Biochemistry, 1975-1978, University of Maryland
Doctor of Philosophy, Soil Microbiology, 1978-1981, University of Missouri
Dissertation: The fate of aflatoxin in the environment

Leadership Philosophy

My leadership style is based on the servant leadership philosophy of developing staff and faculty toward excellence and professional empowerment by being empathetic, transparent, conceptualizing a shared vision, having foresight, positive stewardship, and a commitment to people that results in a trusting and highly functional organizational climate. After advancing to a senior leadership position 2005, I have led three major organizations (Dean, UGA; President and CEO, IFDC; and Director, USDA NIFA) that required different leadership approaches under the servant leadership umbrella. I advanced each organization by first defining *what we do*, (instruction, research, and Extension); *how we do it* by identifying best practices through discovery and experimentation; and most importantly, *why we do it* – to grow the agricultural and natural resources community through leading-edge research, extended through the Extension and instruction functions, for greater prosperity of the state and regions served. Through honesty, transparency, integrity, modeling, and empowering others, I led these organizations through difficult challenges, including a national economic recession (2008), rapidly declining business development, and moving USDA NIFA from Washington, D.C., to Kansas City, Mo., where 75% of the staff resigned rather than relocate. Each organization benefited from my steady servant leadership approach to these challenges. Because of our shared vision and commitment to advancing the organizations served, all were more effective and efficient in executing their missions.

Scientific Discovery and Research Accomplishments

Summary of Scientific Accomplishments

- 7 Patents issued
- 80 Grants and contracts totaling $5,981,678.00
- 160 peer-reviewed journal articles
- 8 non-refereed proceedings
- 25 book chapters
- 6 edited books
- 13 bulletins and reports
- 150 abstracts and other professional papers
- 1 video

- 30 honors and awards
- 32 invited symposia
- 77 invited seminars
- 14 invitations to chair symposia
- 16 post-doctoral researchers mentored
- 15 Ph.D. students advised
- 19 master's students advised

Significant Findings from Research

1. Non-point pollution - Quantified the loss of nutrients from a variety of agricultural systems. Our research demonstrated that fewer nutrients were lost when crops were cultivated using no-till procedures. This practice reduced the movement of farm chemicals from land to the Chesapeake Bay. Research on runoff nutrient lossesfrom tobacco allowed us to suggest alternative management practices which reduced the loss of nutrients in runoff. Other studies examined nutrient losses from sludge amended land and land cropped to turf. We determined that when sludge was applied at appropriate rates, little potential existed for pollution.
2. Sewage sludge - Examined the potential use of sewage sludge to enhance crop growth. We found that some sludge can be applied to well managed land. Improvements in crop growth were reported with few adverse environmental effects. Our recommendations and warnings were incorporated into the Maryland Dept. of the Environment disposal guidelines.
3. Aflatoxin - Demonstrated that the presence of aflatoxin in soil did not adversely affect the environment. Aflatoxin rapidly decomposes in soil; therefore, thepotential for leaching into groundwater, uptake by plants, or effects on soil microbes was minimal. Our work ended speculation that aflatoxin could be polluting select water supplies.
4. Nitrogen fixation-rhizobia - Provided evidence that sewage sludge did not adversely affect the process of nitrogen fixation. Previous literature demonstrated that sludge should not be used as a fertilizer for soybeans. We could find no reason for this recommendation. In fact, we observed an improvement in soybean yield when the crop was fertilized with sludge.
5. Rhizobia - Developed a system to reduce the indigenous population of soil rhizobia. The problem of competition between indigenous and inoculated rhizobia was identified as a national priority research area. Our system partially solved the problem of competition by reducing the soil population of select indigenous soil rhizobia. This allowed the inoculated rhizobia to nodulate the legume plants.
6. Applied molecular biology - Used techniques in molecular biology to solve applied problems in agriculture. We took techniques out of the lab and used them in novel ways to examine and solve practical problems. We wrote USEPA protocols for testing genetically engineered microbes in microcosms prior to release into the field and have validated these microcosms in the field.
7. Phytoremediation - Chaney, Angle, and Baker pioneered the use of hyperaccumulator plant species to remediate contaminated land and to mine valuable metals from soil. Several patents and private businesses resulted from this work.

Patents Issued

1. Chaney, R.L., J.S. Angle, A.J.M. Baker, and Y.-M.Li. Method for phytomining of nickel, cobalt and other metals from soil. US Patent 5,711,784 issued January 27, 1998.
2. Chaney, R.L., J.S. Angle, A.J.M. Baker and Y.-M.Li. Method for phytomining of nickel, cobalt and other metals from soil. US Patent 5,944,872 issued August 31, 1999.
3. Li, Y.-M., R.L. Chaney, R.D. Reeves, J.S. Angle and A.J.M. Baker. 1999. *Thlaspi caerulescens* subspecies for cadmium and zinc recovery. Australia Patent 765573.
4. Chaney, R.L., J.S. Angle and Y.-M. Li. Method for phytomining of nickel, cobalt and other metals from soil. US Patent No. 6,786,948. 22 pp. Issued Sept. 7, 2004.
5. Y.-M., R.L. Chaney, R.D. Reeves, J.S. Angle and A.J.M. Baker. 2006. *Thlaspi caerulescens* sub_species for Cd and Zn recovery. US Patent 7,049,492; pp. 1-8. Issued May 23, 2006.
6. Chaney, R.L., J.S. Angle, Y.-M. Li and A.J.M. Baker. Recovering metals from soil. US Patent 7,268,273. Issued September 11, 2007.
7. Angle, J.S., R.L. Chaney, R.A. Abou-Shanab and P. Van Berkum. Bacterial effects on metal accumulation by plants. US Patent 7,214,516. Issued May 8, 2007.

Peer-Reviewed Journal Articles

	All	Since 2014
Citations	12,501	3,906
h-index	52	29
i10-index	130	58

1. Angle, J. S. and G. H. Wagner. 1980. Decomposition of aflatoxin in soil. Soil Sci. Soc. Am. J. 44:1237-1240.
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3. Angle, J. S. and G. H. Wagner. 1981. Influence of cultivation practices on soil population of *Aspergillus flavus* and *A. parasiticus*. Soil Sci. Soc. Am. J. 46:401-305.
4. Angle, J. S., D. C. Wolf, and J. R. Hall, III. 1981. Effect of sewage sludge compost on the establishment of turfgrass. Biocycle 22:40-43.
5. Pugashetti, B. K., J. S. Angle, and G. H. Wagner. 1981. Antagonism of soil microorganisms toward *Rhizobium japonicum* in relation to soil and crop management practices. Soil Biol. Biochem. 14:45-49.
6. Angle, J. S., B. K. Pugashetti, and G. H. Wagner. 1981. Effects of soil fungi on *Rhizobium japonicum* - soybean symbiosis. Agron. J. 73:301-306.
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8. Angle, J. S. and D. M. Baulder. 1983. Persistence and degradation of mutagens in sludge amended soil. J. Environ. Qual. 12:137-142.
9. Goldberg, B. S. and J. S. Angle. 1984. Aflatoxin movement in soils. J. Environ. Qual. 13:224-228.
10. Angle, J. S., G. McClung, M. S. McIntosh, P. M. Thomas, and D. C. Wolf. 1984. Nutrient losses in runoff from conventional and no-tilled corn watersheds. J. Environ. Qual.

13:224-228.

11. Kotb, S. I. and J. S. Angle. 1986. Survival of blue-green algae in various carrier media. Tropical Agric. 63:113-116.
12. Angle, J. S. 1985. Effect of cropping practices on sediment and nutrient runofflosses from tobacco. Tob. Sci. 29:107-110.
13. Angle, J. S. and J. R. Heckman. 1985. Effect of soil pH and sewage sludge on VA mycorrizal infection of soybeans. Plant Soil. 93:437-441.
14. Angle, J. S. 1985. Production of petic and proteolytic enzymes by fast and slow growing *Rhizobium japonicum.* Soil Biol. Biochem. 18:115-116.
15. Hashem, F. M., J. S. Angle, and P. A. Ristaino. 1986. Isolation and characterization of rhizobiophages specific for *Bradyrhizobium japonicum*. Can. J. Microbiol. 32:326-329.
16. Heckman, J. R., J. S. Angle, and R. L. Chaney. 1986. Soybean nodulation and nitrogen fixation on soil previously amended with sewage sludge. Biol. Fert. of Soils. 2:181-185.
17. Thomas, P. M., L. D. Kuykendall, and J. S. Angle. 1986. Plasmid transfer and transposon mutagensis in *Rhizobium fredii*. Appl. Environ. Microbiol. 52:206-208.
18. Angle, J. S. 1986. Aflatoxin decomposition in various soils. Environ. Sci. Health. B21:277-288.
19. Glenn, D. S. and J. S. Angle. 1987. Atrazine and simazine in runoff from conventional and no-till corn watersheds. Agric. Ecosystem Environ. 18:273-280.
20. Heckman, J. R., J. S. Angle, and R. L. Chaney. 1987. Residual effects of sewage sludge: I. Accumulation of heavy metals. J. Environ. Qual. 16:113-118.
21. Heckman, J. R., J. S. Angle, and R. L. Chaney. 1987. Residual effects of sewage sludge: II. Accumulation of soil and symbiotically fixed nitrogen. J. Environ. Qual. 16:118-125.
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24. Heckman, J. R. and J. S. Angle. 1987. Soybean cultivar response to VA mycorrhizal inoculation. Agron. J. 79:428-430.
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26. Hashem, F. M. and J. S. Angle. 1986. Effect of rhizobiophage on nodulation, nitrogen fixation, and soybean growth. Soil Biol. Biochem. 20:69-73.
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28. Bell, P. F., R. L. Chaney, and J. S. Angle. 1988. Staining localization of ferric reduction on roots. J. Plant Nutrition. 11:1237-1252.
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36. Angle, J.S. and R.L. Chaney. 1989. Cadmium resistance screening in NTA-buffered minimal media. Appl. Environ. Microbiol. 55:2101-2104.
37. Angle, J.S. 1990. Nitrate leaching from soybeans. Agric. Ecosyst. Environ. 31:91-97.
38. Magette, W., R. Weismiller, J. Angle, and R. Brinsfield. 1989. Nitrate groundwater standard for the 1990 farm bill. J. Soil Water Conser. 5:491-494.
39. Bell, P.F., R.L. Chaney, and J.S. Angle. 1990. Free metal and total metal concentrations in nutrient solutions as indices of micronutrient availability for barley. Plant and Soil. 130:51-62.
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ionic concentrations of nutrients similar to that found in the soil solution. Appl. Environ. Microbiol. 57:3674-3676.

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23. Levin, M. and J.S. Angle. 2000. Implications of the VNC state in risk assessment based on field testing of genetically engineered microorganisms. *In*: Nonculturable Organisms in the Environment. Colwell, R.R., and Grimes J., eds. ASM press, pp 243-255.
24. Chaney, R.L., J.A. Ryan, U. Kukler, S. L. Brown, G. Srzegorz, M. Malik, and J.S. Angle. 2000. Heavy metal aspects of compost use. In: Compost Utilization in Horticulture Cropping Systems. Pp323-360. Lewis Publ., NY.
25. Angle, J. S., 2017. Fertilizer use efficiency – More income at less cost. Fertilizers and Farm Income, Fertilizer Association of India. Fall Annual Seminar. SH3 (1-12).

Edited Books

1. Weaver, R., J.S. Angle and P. Bottomly. 1994. Methods of Soil Analysis. Part III. Microbiological Properties. ASA Publ., Madison, WI.
2. Skipper, H., R. Turco, I. Pepper and J. S. Angle. Bioremediation-Science, Applications, and Education. ASA Publ., Madison, WI.
3. Levin, M.A., C. Grimm, J.S. Angle. 1995. Biotechnology Risk Assessment: Proc. of the Biotech Risk Asses. Symp. June 22-24, 1994. MBI. Baltimore, MD.
4. Levin, M.A., C. Grimm and J.S. Angle. 1996. Biotechnology Risk Assessment; Proc. Biotechnology Risk Assess. Symp., June 6-18, 1995, Pensacola, FL. MBI Press, Baltimore, MD.
5. Levin, M.A., C. Grimm, and J.S. Angle. 1997. Biotechnology risk assessment. Proc. Biotech. Risk Asses. Symp. June 23-25, 1996, Ottawa, Ontario, Canada, MBI Press, Baltimore, MD.
6. Brown, S., J.S. Angle, L. Jacobs. 1998. Beneficial Coutilization of Agricultural, Municipal and Industrial By-Products. Kluwer Publ.

Special Recognitions and Achievements

1. MD Turfgrass Association Scholarship, 1973
2. Golf Course Superintendent Association Scholarship, 1974
3. Outstanding Univ. of MO. Agric. Graduate Student, 1980
4. Univ. of MO. nominee for outstanding dissertation to the Council of Graduate Schools in the U.S.
5. Research award, N.E.B. Am. Soc. Agronomy, 1990
6. Fulbright Scholar, Rothamsted, UK, 1991
7. Dean Cairns Award for Excellence in Innovation and Teaching, University of Maryland, 1993
8. Fellow - American Society of Agronomy, 1995
9. Fellow - Soil Science Society of America, 1995
10. Univ. of Maryland - Invention of the Year, 1996
11. MD Agricultural Research Award, 1997
12. Chair - A5, 1998

13. American Society of Agronomy - Environmental Research Award, 1998
14. Soil Science Society of America – Presidential nominee (one of two nominees for the society), 1999.
15. OECD Fellow to study in Melbourne, Australia, 2001
16. American Society of Agronomy Education Award, 2003
17. University of Maryland Distinguished Teacher-Scholar Award, 2003
18. ADEC Education Program Award for NRSC 499-P, Phytoremediation, 2003
19. Honorary Agent, MD Cooperative Extension, 2006
20. Honorary Brother, Alpha Gamma Rho, 2008
21. 100 Most Influential Georgians, Georgia Trend Magazine, 2009
22. Honorary Counselor, Rock Eagle 4-H Camp, 2009
23. 100 Most Influential Georgians, Georgia Trend Magazine, 2010
24. Chair - Southern Association of Agricultural Scientists, 2010
25. Chair - Policy Board of Directors, Board on Agricultural Assembly, 2010 to 2012
26. Friend of the City of Shanghai Magnolia Award, Shanghai, China, 2015
27. Friend of Liberia Honor, Atlanta GA, 2015
28. Earl Douglas Harris Memorial Aghon Lifetime Achievement Award, 2015
29. Georgia Green Industry Association Vivian Munday/Buck Jones Memorial Lifetime Achievement Award, 2015
30. Vidalia Onion Hall of Fame Inductee, 2016

Invitation to Chair Symposia

1. Rhizobia Ecology Session. 1984. Am. Soc. for Microbiology National Meetings.
2. Sewage Sludge Utilization Session. 1984. Am. Soc. of Agronomy National Meetings.
3. Rhizobia Ecology Session. 1986. 2nd African Assoc. for Biol. Nitrogen Fix.
4. Environmental Quality Session. 1988. Am. Soc. of Agronomy National Meetings.
5. Molecular ecology of microbes in soil. 1990. Am. Soc. Agron. Nat. Meetings.
6. Viable but nonculturable bacteria in soil. 1992. Am. Soc. Agron. Nat. Meetings.
7. Potential ecological and non-target effects of transgenic plant gene products on agriculture, silviculture and natural ecosystems. 1992. EPA Symposium. Large Scale Use of Transgenic Plants.
8. Use of microcosms for risk assessment. EC Biotechnology Symposium, Amsterdam, 1993.
9. Metals and microbes: Serpentine Ecology. South Africa, 1999.
10. Biological Variability in Children and Implication for Environmental Rick Assessment, College Park, MD 2002.
11. Beyond Compliance: Campus Greening through Stewardship. College Park, MD 2002.
12. Phytoremediation in SE. Asia. Int. Conf. Phytoremediation Technology. Cha Am, Thailand, July 6 – 9, 2004.
13. Low Impact Development, Univ. of Maryland, September, 2004.
14. Serpentine Ecology, International Conference on Serpentine Ecology, Siena Italy, 2005.

International Activities

1. Participation in training program sponsored by Office of International Programs.
2. Hosted and arranged numerous U.S. visits for Egyptian faculty.
3. Traveled to Egypt numerous times to coordinate and facilitate research projects.
4. Led delegation of scientists working on nitrates in groundwater on meeting with "Comite Nitrate" of Walloonian Region of Belgium.
5. Member - Maryland/Walloonia (Belgian) Sister States Committee, 1993-1995.
6. US State Dept. Biotech promotional team Chile, July 2003.
7. President and CEO of the International Fertilizer Development Center with office locations in 23 countries, 2015-2018.

Summary of Student Mentorship (1981-2005)

	Total
▪ Post-doctoral advisees	16
▪ Ph.D. Students, Chair	15
▪ Master's Students, Chair	19
▪ Served on graduate committees	47