CONTACT INFORMATION

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EDUCATION

1989. Ph.D. Horticulture. Texas A&M University, College Station

1981. M.S. Horticulture. University of Arizona, Tucson

1979. B.S. Agricultural Science. University of Arizona, Tucson

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2025-Present	Professor Emeritus	Dept. of PES	NMSU	Las Cruces
2008-2025	Professor	Dept. of PES	NMSU	Las Cruces
2003-2008	Associate Professor	Dept. of PES	NMSU	Las Cruces
1996-2003	Assistant Professor	Dept. of Agronomy and Horticulture	NMSU	Las Cruces
1994-1996	Assistant Professor	Dept. of Agricultural Sciences,	Louisiana Tech	Ruston
		Technology, and Education	Univ.	
1992-1994	Postdoc	Horticultural Crops Quality	USDA/ARS	Beltsville
		Laboratory		
1990-1992	Postdoc	Dept. of Pomology	Univ. of	Davis
			California	
1986-1990	Grad. Research Assistant	Dept. of Horticultural Sciences	Texas A&M	College Station
			Univ.	
1986-1988	Grad. Teaching Assistant	Dept. of Horticultural Sciences	Texas A&M	College Station
			Univ.	
1981-1985	County Agric./4-H Agent	Cooperative Extension Service	NMSU	Los Alamos
1980-1981	Grad. Research Assistant	Dept. of Plant Sciences	Univ. of	Tucson
			Arizona	

RESEARCH, TEACHING, COOPERATIVE EXTENSION POSITIONS

SPECIALIZATIONS

Cell membranes, lipids, inorganic nutrition, solute translocation, salinity, HPLC, ICP

COURSES TAUGHT

Plant mineral nutrition, plant propagation, freshman seminar, greenhouse management, ornamental plant production, vegetable production, pomology, floriculture crops judging and design, introductory environmental science, computers in life sciences, deciduous ornamental plant materials, evergreen ornamental plant materials, herbaceous ornamental plant materials, interior plants, graduate thesis and dissertation, horticultural externship and internship

TEACHING HIGHLIGHTS

TEACHING PHILOSOPHY IN BRIEF

- Provide plentiful experiential learning and participatory research opportunities.
- Show the students that you are keeping current by maintaining an active research program.
- Create extracurricular leadership opportunities through internships, externships, clubs, and competitions to add enjoyment and increase job competitiveness.

SELECTED TEACHING INNOVATIONS

Adapted ASHS Outstanding Ornamental Publications Award to a living model for experiential learning on solute translocation in the plant mineral nutrition class.

- Transitioned plant propagation labs from face-to-face to fully online to guide undergraduates in home propagation by seed, cuttings, layering, division, grafting, and tissue culture.
- Created horticultural externship for 63 undergraduates to apprentice at private horticultural firms. Modified lecture-only plant mineral nutrition course with live "mini labs" featured by NMSU's
- Advocates for Scholarly Teaching at the annual "Teaching with the Stars" conference.
- Awarded USDA-NIFA funding to develop international internship program with Universidad Autónoma de Ciudad Juárez, Chihuahua, Mexico in water reuse research.
- Acquired USDA-NIFA funding to use cut flowers as a hands-on medium to teach water appreciation and the scientific method in the classroom.

SAMPLES OF EXTRACURRICULAR ACTIVITIES AND SERVICE TO THE TEACHING PROFESSION

- Awarded USDA-HSI funding to launch NMSU Floral Crops Team to become a permanent department program.
- Served as faculty advisor for intercollegiate horticulture clubs for 28 years.
- Advised an average of 35 undergraduate horticulture students per year since 1994.
- Nominated over 100 undergraduate students for ASHS and university awards.
- Coordinated over 75 internships for horticultural undergraduates.
- Published five peer-reviewed publications on classroom and lab experiential learning in nursery crop water use, canopy light microenvironments, recycling biosolids and wood chips in nursery potting media, and floricultural fundraising in the classroom.
- Two undergraduate research methods papers are currently in preparation

Mentored undergraduate student co-authors of ten peer-reviewed articles.

SELECTED STUDENT COMMENTS

- "Possesses expert knowledge of subject"
- "Passes his excitement on to students through 'hands-on' activities"
- "Makes his classes applicable to the real world"
- "Gets us involved in research"

EXAMPLES OF STUDENT CAREER PLACEMENT

University faculty (Arizona, Colorado State, Texas A&M, Angelo State, Tennessee State, Costa Rica, others), high school vo-ag horticulture instructors, community college instructors, private consultants, commercial greenhouse and nursery production managers, cannabis growers, botanic garden horticulturists, horticultural supply sales representatives, retail garden center buyers, forest rangers, range management specialists

REFEREED JOURNAL ARTICLES (Grads/Undergrads in Italics)

- *Lucker, A.O.S.*, G.A. Picchioni, J.D. Consford, R.L. Steiner, I. Guzman, B.J. Schutte, M.K. Shukla, and R.B. Young. 20XX. Brackish groundwater and its desalination brine effects on secondary metabolites of selected native and domesticated halophytes. <u>In preparation</u>.
- Lucker, A.O.S., G.A. Picchioni, J.D. Consford, R.L. Steiner, I. Guzman, B.J. Schutte, M.K. Shukla, and R.B. Young. 2023. Gypsiferous groundwater and its desalination brine concentrate: Biomass, water use, and salt "mining" of three southwestern USA native halophytes. Agricultural Water Management. <u>https://doi.org/10.1016/j.agwat.2023.108553</u>.
- *Kankarla, V.,* M.K. Shukla, and G.A. Picchioni. 2021. Root growth, architecture, and ion uptake of alfalfa and triticale irrigated with brackish groundwater and reverse osmosis concentrate. *Agrosystems, Geosciences, Environment*. <u>https://doi.org/10.1002/agg2.20180</u>.
- *Kankarla, V.*, M.K. Shukla, G.A. Picchioni, D. VanLeeuwen, and B.J. Schutte. 2020. Germination and emergence responses of alfalfa, triticale and quinoa irrigated with brackish groundwater and desalination concentrate. *Agronomy* 10(549), 17. https://doi.org/10.3390/agronomy10040549.
- Picchioni, G.A., *T.N. Hooks*, B.J. Schutte, M.K. Shukla, and D.L. Daniel. 2020. Halophyte ion regulation traits support saline adaptation of *Lepidium latifolium*, *L. draba*, and *L. alyssoides*. *Plant Ecology* 221:295-308. <u>https://doi.org/10.1007/s11258-020-01012-5</u>.
- *Kankarla, V.*, M.K. Shukla, D. VanLeeuwen, B.J. Schutte, and G.A. Picchioni. 2019. Growth, evapotranspiration, and ion uptake characteristics of alfalfa and triticale irrigated with brackish groundwater and desalination concentrate. *Agronomy 9*(789), 17. <u>https://doi.org/10.3390/agronomy9120789</u>.
- Hooks, T.N., G. A. Picchioni, B.J Schutte, M.K. Shukla, and D.L. Daniel. 2018. Sodium chloride effects on seed germination, growth, and water use of *Lepidium alyssoides*, *L. draba*, and L. latifolium: Traits of resistance and implications for invasiveness on saline soils. *Rangeland Ecology and Management* 71:433-442. <u>https://doi.org/10.1016/j.rama.2018.04.001</u>.
- *Ozturk, O.F.*, M.K. Shukla, B. Stringam, G.A. Picchioni, and C. Gard. 2018. Irrigation with brackish water changes evapotranspiration, growth and ion uptake of halophytes. *Agricultural Water Management* 195:142-153. <u>https://doi.org/10.1016/j.agwat.2017.10.012</u>.
- Hooks, T.N., G.A. Picchioni, B.J. Schutte, M.K. Shukla, D.L. Daniel, and J. Ashigh. 2018.
 Salinity an environmental "filter" selecting for plant invasiveness? Evidence from the indigenous *Lepidium alyssoides* on Chihuahuan Desert shrublands. *Rangeland Ecology and Management* 71:106-114. <u>https://doi.org/10.1016/j.rama.2017.07.007</u>.
- *Flores, A.M.*, M.K. Shukla, B.J. Schutte, G.A. Picchioni, and D.L. Daniel. 2017. Physiological response of six plant species grown in two contrasting soils and irrigated with brackish groundwater and RO concentrate. *Arid Land Research and Management* 31:182-203. https://doi.org/10.1016/j.jaridenv.2016.04.003.
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- Picchioni, G.A., S.A. Martinez, J.G. Mexal, and D.M. VanLeeuwen. 2016. Vegetative growth and leaf nutrient status of 'Carpino' chrysanthemum on a pecan wood-amended commercial substrate. *HortScience* 51:177-185. (Journal cover article). <u>https://doi.org/10.21273/HORTSCI.51.2.177</u>.
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- *Tiwari, R.S.*, G.A. Picchioni, R.L. Steiner, D.C. Jones, S.E. Hughs, and J. Zhang. 2013. Genetic variation in salt tolerance at the seedling stage in an interspecific backcross inbred line population of cultivated tetraploid cotton. *Euphytica* 194:1-11. https://doi.org/10.1007/s10681-013-0927-x.
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- Picchioni, G.A., C.J. Graham, and A.L. Ulery. 2004. Gypsum effects on growth and macroelement uptake of field-grown *Asimina triloba* (Pawpaw) irrigated with low-saline, sodic water. *HortScience* 39:1104-1109. <u>http://dx.doi.org/10.21273/HORTSCI.39.5.1104</u>.
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Shukla, M.K., A. Ben Ali, S. Cerra, B. Schutte, G.A. Picchioni, and C. Gard. 2021. Irrigation with brackish groundwater and desalination concentrate: Effect on soil microbial properties,

plant uptake, and ion deposition in soil. New Mexico Water Resources Research Institute Tech. Compl. Rept. TR 397 (47 pp.). NM-WRRI, Las Cruces. Available online at https://cduaws.nmwrri.nmsu.edu/wp-content/uploads/PDF/tr397.pdf.

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SEVENTY ABSTRACTS AT SCIENTIFIC MEETINGS

COMPETITIVE GRANTS-PARTIAL LISTING

Container Farming to Support Wellness, Conservation, and Participatory Research in Underserved Communities of New Mexico Investigators: G.A. Picchioni (P.I.), G.R. Garcia, O. Lavrova, K.A. Lombard, S. Norris-Parish, L. Stanford, G.L. Torell, and S.J. Walker

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USDA/NIFA. Pending.
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- Exploring the Benefits of Halophytes and Brackish Waters for Human Health (2021-2023) Investigators: G.A. Picchioni (P.I.), I. Guzman, B.J. Schutte, and M.K. Shukla USDA/NIFA/AFRI Foundational and Applied Science Program
- Irrigation with Brackish Groundwater and Desalination Concentrate: Effect on Soil Microbial Properties, Plant Uptake, and Ion Deposition in Soil (2017-2021) Investigators: M.K. Shukla (P.I.), G.A. Picchioni. B.J. Schutte, and C. Gard
- New Mexico Water Resources Research Institute
- Drought, Salinity, and Invasive Plants: A New Model for Sustainable Water Management (2014-2015)
 - Investigators: G.A. Picchioni (P.I.) and B.J. Schutte
 - New Mexico Water Resources Research Institute
- Invasiveness of Selected Brassicaceae Plants on Wastewater-Treated Rangelands in New Mexico: Is Sodium a Causal Element? (2012-2014)
- Investigators: G.A. Picchioni (P.I.), J. Ashigh, B.J. Schutte, L. Lauriault, and T. Dominguez New Mexico Agricultural Experiment Station Rangeland Ecosystems Program
- Land Application of Industrial Effluent on a Chihuahuan Desert Ecosystem: Impact on Soil Physical and Hydraulic Properties (2008-2010)
- Investigators: M.K. Shukla (P.I.), J.G. Mexal, G.A. Picchioni, T. Sammis, D. Daniel, P. Adhikari, and M. Babcock
- New Mexico Water Resources Research Institute
- Vegetation, Soil, and Water Quality Monitoring to Develop a Wastewater Reutilization Model in the Chihuahuan Desert (2004)
- Investigators: G.A. Picchioni (P.I.), W.A. Mackay, and J.G. Mexal
- USDA/CSREES, Efficient Irrigation for Water Conservation in the Rio Grande Basin
- Land Application of Saline Wastewater on a Chihuahuan Desert Upland (2004)
 - Investigator: G.A. Picchioni (P.I.)
- USEPA/Southwest Council for Environmental Research and Policy
- Floriculture as "Hands-On" Learning Medium to Promote Water Appreciation, Career Awareness, and the Scientific Method (2004)
- Investigators: G.A. Picchioni (P.I.), S.R. Green, and W.A. Mackay
- USDA/CSREES, Efficient Irrigation for Water Conservation in the Rio Grande Basin
- Strengthening Floricultural Academic Programs at New Mexico State University Targeting Education, Applied Research, and Rural Economies (2002) Investigator: G.A. Picchioni (P.I.)
 - USDA/CSREES, Hispanic Serving Institutions Grants
- Vegetation, Soil, and Water Quality Monitoring to Develop a Wastewater Reutilization Model in the Chihuahuan Desert (2002)
- Investigators: G.A. Picchioni (P.I.), K.B. Marcum, and J.G. Mexal
- USDA/CSREES, Efficient Irrigation for Water Conservation in the Rio Grande Basin
- Land Application of Saline Wastewater on a Chihuahuan Desert Upland (2002) Investigators: G.A. Picchioni (P.I.) and D.J. Saucedo
- USEPA/Southwest Council for Environmental Research and Policy
- High-Performance Liquid Chromatography for Study of Wounding and Salinity Stress on Plant Membranes (2001)
 - Investigator: G.A. Picchioni (P.I.)
 - USDA/CSREES, National Research Initiative Grants
- Mechanism of Boron Phytotoxicity: A Case Study in Mature Pecan Trees (1997)

Investigator: G.A. Picchioni (P.I.) Oak Ridge Associated Universities
Pilot Study for an Integrated Waste Treatment and Disposal System Along the Mexico/U.S. Border: Ojinaga as a Prototype (1997) Investigators: J.G. Mexal (P.I.) and G.A. Picchioni USEPA/Southwest Center for Environmental Research and Policy
Improving Undergraduate Science Education in Horticulture and Agricultural Education (1997) Investigators: J.G. Mexal (P.I.), G.A. Picchioni, and J.L. Fowler USDA/CSREES Higher Education Challenge Grants
Salinity and Boron Tolerance of *Pistacia* Species (1989) Investigator: G.A. Picchioni (P.I.) Texas A&M University Thomas B. Slick Research Fellowship Grant

FOUNDATION AND COMMODITY GRANTS

NMSU Grants Indoor Food Production: Container Farming for Community Food Distribution and Workforce Development (2021-2024) Investigators: G.A. Picchioni, S. Walker, K. Lombard, G. Torell, J. Lilywhite, and O. Lavrova Tri-State Generation & Transmission Association National Intercollegiate Floral Crop Quality Evaluation and Design Competition (2003) Investigator: G.A. Picchioni (P.I.) American Floral Endowment Exploring the Benefits of Methylcyclopropene (1-MCP) for Vaselife Extension of Cut Lupinus havardii (Bluebonnet) Flowers (2000) Investigators: G.A. Picchioni (P.I.) and M. Valenzuela-Vazquez Fred C. Gloeckner Foundation Calcium Nutrition and its Potential to Extend the Vase Life of Cut Lupinus havardii (Bluebonnet) Flowers--Mechanism of Action at the Cell Membrane Level (1999) Investigator: G.A. Picchioni (P.I.) Fred C. Gloeckner Foundation Calcium Nutrition and its Potential to Extend the Vase Life of Cut Bluebonnet Flowers: Mechanism of Action at the Cell Membrane Level (1998) Investigator: G.A. Picchioni (P.I.) Fred C. Gloeckner Foundation Effects of Alternate Bearing on Nutrient Demand, Storage, and Uptake in Pistachio (1991) Investigators: G.A. Picchioni (P.I.), S.A. Weinbaum, and P.H. Brown California Pistachio Commission

INSTITUTIONAL RESEARCH GRANTS AND OTHER FUNDING

- NMSU BR&R Funding for Fabian Garcia and Skeen Hall Greenhouse Renovations: Greenhouse Misting Renovation (2018); Greenhouse Bench Renovation (2016); Greenhouse Shade and Irrigation System Renovation (2013)
- Revisiting the Wounding and Aging Phenomenon in Plant Cells and its Relationship to Membrane Lipid Metabolism: A Practical Case Study in Horticulture (1996) Investigator: G.A. Picchioni (P.I.) Louisiana Tech University Office of the President
- Cell Membrane Stability and the Role of Calcium in Postharvest Quality of Apples (1995) Investigators: G.A. Picchioni (P.I.) and A.E. Watada Louisiana Tech University Office of the President, USDA/Beltsville

Water Quality as Limiting Commercial Mayhaw Production in Louisiana (1994) Investigator: G.A. Picchioni (P.I.) Louisiana Tech University Office of the President

USDA/NIFA FUNDED HATCH PROJECTS

New Frontiers for Plants and Water Issues in the Southwestern U.S.–Landscape Ecology, Human Health, and Curriculum Enhancement (2018-2023)
Waste Utilization and Mineral Nutrition of New Mexico Plants (2013-2018)
Mineral Nutrition of Ornamental Plants in the Chihuahuan Desert (1998-2013)

PROFESSIONAL AWARDS AND RECOGNITION

Exemplary Teaching Professorship, Department of PES and College of ACES (2022-2024) Donald C. Roush University Award for Teaching Excellence (2016) Teaching and Advising Appreciation Award, PES Faculty and Graduating Students of 2013-14 College of ACES Team Award–Wastewater Land Application Team (2014) College of ACES Distinguished Researcher Award (2013) College of ACES Distinguished Teacher Award (2009) ASHS Outstanding Ornamental Horticulture Publication Award (2008) USDA National Team Award, Outstanding Integrated Program in Water Resources (2007) College of ACES Faculty Senator Award (2006) PES Teaching Appreciation Award (2006) College of ACES Team Award, Rio Grande Basin Initiative (2005) Texas A&M Vice Chancellor's Award in Excellence, Rio Grande Basin Initiative (2005) Honorary member, New Mexico FFA Program (2004) NACTA Distinguished Teacher Award (2003) PES Teaching Appreciation Award (2003) Oak Ridge Associated Universities Junior Faculty Achievement Award (1997) Outstanding Researcher Award, College of Life Sciences, Louisiana Tech University (1995) Thomas B. Slick Graduate Research Fellowship Award, Texas A&M University (1989) NACAA Professional Information and Turfgrass/Horticulture Communication Awards (1984) General Dillingham Produce Industry Scholarship (1978)

PROFESSIONAL SERVICES

NATIONAL

ASHS Cross-Commodity Publication Awards Committee Member, 2025-present. ASHS Ornamental Horticulture Publication Awards Committee Chair, 2024. ASHS Ornamental Horticulture Publication Awards Committee Member, 2021-2023. NM State Chair, W-3170 Multistate Research Project: Beneficial Reuse of Residuals and Reclaimed Water: Impact on Soil Ecosystems and Human Health, 2015-2019

ASHS Working Groups (Plant Nutrition, Ornamentals, Floriculture, and Teaching), 2000-present ASHS National Teaching Publications Award Committee Member, 2012-2016 ASHS National Research Awards Committee Chair, 1995-1996

DEPARTMENT AND COLLEGE

PES Department Promotion and Tenure Committee Member (2008-2024) PES Department Promotion and Tenure Committee Chair (2018-2019) ACES Dean Faculty Advisory Committee Member (2017-2018) PES Curriculum Committee Chair (2009-2012)

CV-G.A. PICCHIONI

PES Awards Committee Member (2019-2024) PES Department Awards Committee Chair (2015-2017) PES Department Scholarship Committee (2014-2019) ACES Greenhouse Committee Chair (2000-2024) National Host, Pi Alpha Xi Intercollegiate Floral Judging and Design Competition (2023) Faculty advisor, NMSU Intercollegiate Floral Judging and Design Team (1996-2024) Faculty advisor, NMSU Horticulture Forum (1996-2025) Faculty advisor, Louisiana Tech Horticulture Society (1994-1996)

UNIVERSITY

University Senate–NMSU (2004-2006) Minority Recruitment Committee (2000-2004) Admission Appeals Committee (2000-2002) University Senate–Louisiana Tech University (1994-1996)

U.S. BORDER REGION COMMUNITIES

After 50 years in the public education, cooperative extension, and research professions, I retired in May 2025. I count my years in training as being as challenging as the years working through the ranks. An important part of my retirement is to open up new possibilities that I have always wanted to experience but have never had the opportunities. Namely, to give back to a profession that has been so kind. Thus, I am volunteering for organizations that produce and distribute food to communities in need, and that educate the public about plants and the environment. I offer volunteer support in many ways including horticultural consulting, science lessons, working in food distribution lines, giving tours, producing vegetables and fruits, pulling weeds, sweeping floors, and any other ways that I can to help underserved people, the next generation of horticulturists, and the general public.