

Dr. Jennifer Randall
Research Associate Professor
Department of Entomology, Plant Pathology and Weed Science
New Mexico State University
Las Cruces, NM 88003

EDUCATION

Ph.D., 2005 Molecular Biology, New Mexico State University
M.S., 1997 Molecular Biology, Minor: Toxicology, New Mexico State University
B.S., 1992 Biochemistry, New Mexico State University.

PROFESSIONAL EXPERIENCE

2012 – present Research Associate Professor, New Mexico State University
2005 – 2012 Agriculture Research Scientist and Graduate Faculty Professor,
EPPWS and Molecular Biology, NMSU
2002 - 2005 Graduate Research Assistant III (Ph.D. student), NMSU
1998 - 2002 Specialist I (Technician), NMSU
1995 - 1997 Graduate Research Assistant I (MS student), NMSU

PROFESSIONAL AFFILIATIONS and HONORS

1997- Present American Society of Plant Biologists
2002- Present Society of In-Vitro Biology
2006- Present American Phytopathology Society
2013- Present Gamma-Sigma-Delta Agriculture Honor Society (NM President)
2013 Research Excellence Award—New Mexico State University
2015 Research Excellence Award—New Mexico State University
2017 Research Discovery Award—New Mexico State University

SERVICE COMMITTEES AT NMSU

1. Molecular Biology Graduate Program Admissions Committee (Chair)
2. Molecular Biology Graduate Program Curriculum Committee
3. EPPWS Recruitment committee
4. Committee on development of Ph.D. program for Applied Biology

RESEARCH SPECIALITY AND INTERESTS. My research focuses on plant development, plant genetics, plant microbe interactions, plant pathogens, and plant innate ‘immune’ defense systems. My work is mainly focused on tree species such as pecan and pistachio trees but includes row crops such as chile.

RESEARCH PUBLICATIONS (Peer-Reviewed--selected)

Hilton, A., Jo, Y.K, Cervantes, K., Stamler, R.A., French, J.M., Heerema, R.J., Goldberg, N.P., Sherman, J., Wang, X., **Randall, J.J.**, Grauke, L.J., 2017. “First report of *Xylella fastidiosa* in *Carya illinoensis* in Arizona, New Mexico, California, and Texas”. Plant Disease (In Press).

- Keith, K., Stamler, R., **Randall, J.**, Perez, K., McDonald, J.A., 2017. "*Ipomoea gilana*: A New and Endemic Morning Glory (*Ipomoeae Convolvulaceae*) in the Gila National Forests, New Mexico." *Systematic Botany Journal* (In Press).
- Stamler, R., Sanogo, S., Goldberg, N.P., and **Randall, J.**, (2016) Identification of *Phytophthora* species in rivers and streams of the Southwestern United States, *Applied and Environmental Microbiology* DOI: 10.1128/AEM.01162-16.
- Stamler, R., Vereecke, D., Zhang, Y., and **Randall, J.**, (2016) Complete Genome and Plasmid sequences for *Rhodococcus fascians* D188 and Draft Sequences for *Rhodococcus* isolates PBTS 1 and PBTS 2. *Genome Announcements* 4(3): e00495-16.
- Lujan, P., Sanogo, S., Puppala, N., and **J. Randall**, (2016) Factors affecting mycelium pigmentation and pathogenicity of *Sclerotinia sclerotiorum* on Valencia peanut. *Canadian Journal of Plant Science* (10.1139/CJPS-2015-0258).
- French, J., Goldberg, N.P., **Randall, J.**, Hanson, S.F., (2016), New Mexico and the Southwestern US are affected by a distinct population of Tomato Spotted Wilt Virus (TSWV strains), *Archives of Virology*, Vol 161, 4:993-998.
- Stamler, R., Heerema, R., **Randall, J.** (2015), First Report of phytopathogenic *Rhodococcus* isolates on Pistachio Bushy Top Syndrome 'UCB-1' rootstock in New Mexico, *Plant Disease*, (10.1094/PDIS-04-15-0471-PDN).
- Stamler, R., Kilcrease, J., Fichtner, E., Kallsen, C., Cooke, P., Heerema, R., and **J. Randall**, (2015), First Report of *Rhodococcus* species causing Pistachio Bushy Top Syndrome on 'UCB-1' rootstock in California and Arizona, *Plant Disease*, (10.1094/PDIS-12-14-1340-RE).
- Stamler, R., Goldberg, N.P., Sanogo, S., Dungan, B., Holguin, O., Schaub, T., and **J. Randall**, (2015), Metabolomic analysis of Induced resistance from Non-Host *Phytophthora* in *Capsicum annum*, *PLOS ONE*, DOI: 10.1371/journal.pone.0128327.
- Randall, J.**, Heerema, R., Rascon, A., Potter, M., (2015), Molecular Mechanisms of Pecan flower induction, *Acta horticulturae* 1070:89-99.
- French, J., Stamler, R., **Randall, J.**, and N. Goldberg, (2013), First Report of Anthracnose of sunflower sprouts caused by *Colletotrichum acutatum* in New Mexico, *Plant Disease* 97:6:838.
- French, J.M., Stamler, R.A., **Randall, J.**, and N.P. Goldberg (2011), First report of Buckeye Rot caused by *Phytophthora nicotinae* in tomato in New Mexico, *Plant Disease*, vol. 95, no. 8, pg. 1029.

French, J.M., Stamler, R.A., **Randall, J.**, and N.P. Goldberg (2011), First report of *Phytophthora nicotianae* on Bulb Onions in the United States, Plant Disease, Vol. 95, no. 8, pg. 1028.

Randall, J., French, J., Yao, S., Hanson, S.F., and N.P. Goldberg (2011), First report of *Xylella fastidiosa* in peach in New Mexico, Plant Disease, vol. 95, no. 7, pg. 871.

Randall, J., Bosland, P., and S.F. Hanson (2011), Brote Grande, a phytoplasma disease of chile peppers in the desert Southwest, Plant Health Progress, February 2011.

Randall, J., Goldberg, N.P., Kemp, J.D., Radionenko, M., French, J.M., Olsen, M.W., and S.F. Hanson (2009), Genetic Analysis of a novel *Xylella fastidiosa* Subspecies found in the Southwestern United States, Applied and Environmental Microbiology, Vol. 75 (17), pg. 5631-5638.

Randall, J., Bosland, P., and S.F. Hanson (2009), Brote Grande, a new and noteworthy phytoplasma associated disease of chile peppers, Plant Disease, Vol. 93 (9), pg. 968.

Randall, J., Radionenko, M., French, J.M, Goldberg, N.P. and S.F. Hanson, (2007), First report of Pierce's Disease in New Mexico, Plant Health Progress, October 3, 2007.

Randall, J., Radionenko, M., French, J.M., Olsen, M.W., Goldberg, N.P., and S.F. Hanson (2007), First report of *Xylella fastidiosa* in New Mexico, Plant Disease, 91: 329.

Randall, J., Sutton, D.S., Hanson, S.F., and J.D. Kemp (2005), BiP and zein binding domains within the delta-zein protein, Planta, 221: 656-666.

Randall, J., Sutton, D.S., Ghoshroy, S., Bagga, S., and J.D. Kemp (2004), Co-ordinate expression of beta and delta-zeins in transgenic tobacco, Plant Science, 167:267-372.

Selected Meeting Presentations

Ray, D.K., Fisk, J.N., Cervantes, K., Molina, E., Soneji, J., Stamler, R.A., and **Randall, J.**, 2017. "Insights into the effect of Geography and Genetics on the Pecan Microbiome". Pecan National Meeting, March 2017, Noble Foundation Ardsmore OK.

Shagdou, H., Potter, M., Martin, J., Heerema, R., and **Randall, J.**, 2017. "First Glimpse at the Timing of Flower Initiation in *Carya Illinoensis* using gene expression studies". Plant and Animal Genomics Conference. January 2017, San Diego, CA.

Cervantes, K., Hilton, A., Ray, D., Stamler, R., French, J., Soneji, J., Heerema, R., Grauke, L.J., Wang, X., Jo, Y., and **Randall, J.**, 2016. "Evidence of seed transmission of *Xylella fastidiosa* in pecan (*Carya illinoensis*)." APS National Conference, August 2016, Tampa Bay, Florida

Barnes, S., Zhong, H., Grauke, L.J., Mattison, C., Stamler, R., Schmutz, J., Jenkins, J., Heerema, R., Song, M., and **Randall, J.**, 2016. "Computational annotation of the pecan genome". Plant and Animal Genomics Conference. January 2016, San Diego, CA.

Stamler, R., Cooke, P., Soneji, J., and **Randall, J.**, 2015. In-vivo pathogenicity assays using *Rhodococcus* spp. isolated from Bushy Top UCB-1 Pistachio rootstock (*P.integerrima* x *P. atlantica*), Society for In-vitro Biology, May 2015, Tucson, AZ.

Martin, J., Stamler, R., and **Randall, J.**, 2015. "Elucidating the role FLOWERING LOCUS T plays in pecan flower development." Society for In-vitro Biology, May 2015, Tucson, AZ.

Saucedo, G., Stamler, R., Randall, A., and **Randall, J.** 2015. "Evaluation of GC/DMS for detection of aflatoxin." Society for in-vitro biology. May 2015, Tucson, AZ.

Randall, J., Potter, M., Heerema, R., Stamler, R., Martin, J., "Initiation of flowering and alternate bearing in pecan", 2015, Proceedings for Pecan Growers Meeting, Hermosillo September 2015 (Invited Speaker).

Sowder, D., Molina, E., Stamler, R., and **Randall, J.** 2015. "Plant-microbiome associations with *Carya illinoensis*.". Society for in-vitro biology. May 2015, Tucson, AZ.

Stamler, R., Kilcrease, J., and **J.Randall** (2014), Pistachio Bushy Top Syndrome; an emerging problem in Arizona and California, American Meeting of the American Phytopathology Society, Minneapolis, MN (Poster presentation).

Kilcrease, J., Stamler, R., and **J.Randall** (2014), Pistachio Bushy Top Syndrome: The association between *Rhodococcus* sp. and clonal UCB-1 in Arizona and California, Microscopy Meeting, August 2014.

Stamler, R., Kilcrease, J., and **J.Randall** (2014), *Rhodococcus* sp. associated with abnormal 'UCB1' pistachio rootstock in CA and AZ, APS-Pacific Division, July.

Stamler, R., Dungan, B., Holguin, O., Sanogo, S., Goldberg, N.P., Schaub, T., and **J. Randall**, Metabolomic analysis of non-host pathogen induced resistance in chile pepper (*Capsicum annuum*), Annual Meeting of the American Phytopathology

Society, Austin TX, (Poster presentation) 2014.

Rascon, A., Zizumbo, M., Potter, M., Heerema, R., and **J.Randall** (2013), Genetics of Pecan Flowering, First Pecan Symposium, International Society of Horticulture, College Station Texas, July. (Oral Presentation)

Stamler, R., Goldberg, N.P., Sanogo, S., and **J. Randall** (2012), Characterization of induced resistance in chile pepper against *Phytophthora capsici* following inoculation with non-host *Phytophthora nicotianiae*. Annual Meeting of the American Phytopathology Society, Providence, RI (poster presentation #599-P).

Stamler, R., Goldberg, N.P., Sanogo, S., and **J. Randall** (2012), In-vitro and In-vivo RNAi silencing of *P.capsici*, Annual Meeting of the American Phytopathology Society, Providence, RI (poster presentation #598-P).

Lujan, P., Sanogo, S., Puppala, N., and **J. Randall** (2012), Factors affecting mycelium pigmentation and pathogenicity of *Sclerotinia sclerotiorum* on Valencia peanut, Annual Meeting of the American Phytopathology Society, Providence, RI (poster presentation 47-P).

Stamler, R., Goldberg, N.P., Sanogo, S., and **J. Randall**, (2011), RNAi silencing of the Plant Pathogen *Phytophthora capsici*, American Society of In-vitro Biology, (poster abstract).

Randall, J., Goldberg, N.P., Kemp, J.D., Radionenko, M., French, J.M., Olsen, M.W, and S.F. Hanson (2009), Genetic Analysis of a novel *Xylella fastidiosa* Subspecies found in the Southwestern United States. Annual meeting of the American Phytopathology Society, Portland, OR (poster presentation).

Randall, J., Bosland, P.W., and S.F. Hanson (2008), A new phytoplasma associated disease of chile peppers. Annual meeting of the American Phytopathology Society, Minneapolis, MN (Oral presentation).

GRANTS, CONTRACTS, AND SPONSORED RESEARCH FUNDS (Through 2017)

Grant Title	Dates	Agency	PI
Coordinated development of genetic tools for pecan	2016-2021	USDA	Randall, J.
Pecan Rootstock Improvement	2012-2017	A&P GROWERS	Randall, J.
Mitigation of alternate bearing in NM Pecans	2013-2017	NMDA/USDA Specialty Crop Block	Randall, J.

Ecology and Genetic Diversity of Pecan	2015-2017	University of Tokyo	Randall, J.
<i>Xylella fastidiosa</i> Detection	2016-2019	NGPR	Randall, J. Collaboration with USDA ARS TX
Controlling diseases in chile pepper using native, non-pathogenic <i>Phytophthora</i> species to induce natural plant resistance in combination with known beneficial microbes.	2016-2017	ACES/GROWERS	Randall, J.
Real Time Detection of Aflatoxin	2016-2018	ATB Growers	Randall, J.

INVITED PRESENTATIONS.

“The impact of genetics, environment, and biotechnology on future pecan (*Carya illinoensis*) nut production.” University of Tokyo. **Invited speaker.** (March 9, 2017).

“Pecan genetics and the future!” Georgia Pecan Growers Association. **Invited speaker.** (March 29, 2017).

“Pecan Genetic Research and the future of the pecan industry.” New Mexico Pecan Growers Association. **Invited speaker.** (October 26, 2016).

“The future of pecan genetics.” Western Pecan Production Short Course. **Invited speaker.** (October 17, 2016).

“Pecan Cloning Breakthrough.” Arizona Pecan Growers Association Conference. **Invited speaker.** (August 26, 2016).

“Pecan Rootstock Cloning, A New Chapter.” Texas Pecan Growers Association Conference. **Invited speaker.** (July 11, 2016).

“Pistachio Bushy Top Syndrome Research Updates, Microscopy, Genomes, and Control measures. California Pistachio Day, Visalia, CA. **Invited speaker.** (January 2016).

“Initiation of flowering and alternate bearing in Pecan. PROGRAMA DEL XVI SIMPOSIO INTERNACIONAL DE NOGAL PECANERO. **Invited Speaker.** (September 2015).

“Pistachio bushy top syndrome and *Rhodococcus*: What we know and ongoing research.” Workshop for Pistachio Bushy Top. Bakersfield, CA. **Invited speaker.** (April 8, 2015).

“Pistachio bushy top syndrome. Disease etiology and diagnosis procedures.” Workshop for Pistachio Bushy Top. Keerney Center, CA. **Invited speaker.** (April 7, 2015).

“*Rhodococcus fascians* and the pistachio industry”. California Pistachio Research Board, Proposals, **Invited speaker.** (January 20, 2015).

“Pistachio Bushy Top Syndrome” California Pistachio Day, Visalia, CA. **Invited speaker.** (January 19, 2015)

GRADUATE STUDENT ADVISING

Chair of Graduate Student Committee (Major Professor)

Hormat Shagdou—Ph.D. Student (Molecular Biology—estimated date of completion: 2019).

Research: Molecular Mechanisms of Pecan flowering.

Chair of Graduate Student Committee (Major Professor)

Paul Lambert—M.S. Student (Ag. Biology—estimated date of completion December 2017).

Research: Motility of PBTS *Rhodococcus* spp.

Chair of Graduate Student Committee (Major Professor)

Kim Cervantes—M.S. Student (Ag. Biology—estimated date of completion December 2017).

Research: Pecan transmission of XF and microbiome analysis.

Chair of Graduate Student Committee (Major Professor)

Esteban Molina—M.S. Student (Ag. Biology—estimated date of completion May 2018).

Research: Controlling diseases in chile pepper induced natural plant resistance.

Chair of Graduate Student Committee (Major Professor)

Rio Stamler—Ph.D. Student (Molecular Biology—**Completed Ph.D. 2014**)

Research: Molecular Mechanisms of Non-Host Resistance Response of *Phytophthora* in plants

Chair of Graduate Student Committee (Major Professor)

Adriana Rascon---M.S. Student (Molecular Biology—**Completed M.S. 2014**)
Research: Flowering genetics in Pecans.

Chair of Graduate Student Committee (Major Professor)

Jorge Gil Angeles---Ph.D. Student (Ag. Biology--**Completed Fall 2011**)
Research: Molecular Analysis and Expression of Fungal Promoters.

Chair of Graduate Student Committee (Major Professor)

Jason M. French—M.S. Student, 2010 (Ag. Biology--**Completed Fall 2010**)
Research: Genetic based population analysis of the nucleocapsid protein of tomato spotted wilt virus isolates in New Mexico.

COURSES TAUGHT

EXPERIMENTAL SYSTEMS IN GENETICS. (Genetics 110) 2008-2016.

Developed and taught new introductory course aimed towards undergraduate students with an interest in Genetics.

Class includes topics in Plant Genetics, Forensics, DNA fingerprinting, genetic diseases, cancer genetics, viral genetics, and microbial genetics.

Student Class evaluation average from 2008-2016 is 4.8 out of a 5.0 scale.

EPPWS UNDERGRADUATE AND GRADUATE SEMINAR (EPPWS 447/590).

Students were taught to write abstracts, develop PowerPoint presentations and give presentations.

Student Class evaluation average from 2016 4.8 out of 5.0 scale.

PLANT PHYSIOLOGY (EPPWS and BIOL 314/514) Spring 2010 and Spring 2011

Undergraduate and Graduate core course.

Developed and taught curriculum covering the basics and intricacies of Plant Physiology, including the most current research.

Spring 2010 the class had 82 students enrolled.

Student Class evaluation average: 4.6 out of a 5.0 scale.

Spring 2011 the class has 104 students enrolled.

Student Class evaluation average: 4.4 out of a 5.0 scale.

SCIENTIFIC ETHICS/RISE PROGRAM Summer 2009 and 2010

Developed workbook and workshops.

Taught workshops based on NIH and NSF guidelines to RISE minority students.

Used multiple case studies to facilitate learning.

Aug 2003-Present: (Volunteer) Science Education Advisor (SCIAD) Program for Las Cruces Public Schools.

Select Guest Lectures for courses

"Molecular techniques in	EPPWS 373/573
--------------------------	---------------

identification of fungal pathogens”	
“Plant breeding and plant biotechnology”	EPPWS 100
“Molecular techniques in diagnosing plant disorders”	EPPWS 492
“Diagnosing a new disease in Pistachio: Pistachio Bushy Top Syndrome”	Biol 450/550