

IVETTE GUZMÁN, PH.D.

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EDUCATION

- Ph.D., Agronomy and Horticulture, New Mexico State University (2009)
- M.S., Biology, Texas Woman's University (2005)
- B.S., Biology, University of Texas at San Antonio (2001)

PROFESSIONAL APPOINTMENTS

- Assistant Professor in Horticulture, *New Mexico State University, Las Cruces, NM* (August 2016 – Present)
- Biology Associate Faculty, *Richland College, Dallas, TX and Collin College, McKinney, TX* (2016)
- Science Program Educator, *Dallas Arboretum and Botanical Society, Dallas, TX* (2015)
- Quality Control Laboratory Manager, *Vitality Works, Albuquerque, NM* (2014)
- Assistant Professor of Biology, *Northern New Mexico College, Española, NM* (2013 – 2014)
- Postdoctoral Research Associate, *Plants for Human Health Institute, North Carolina State University* (2010 – 2013)
- Graduate PhD Research Assistantship, *Agronomy and Horticulture, New Mexico State University* (2005 – 2009)
- Graduate MS Research Assistantship, *Biology, Texas Woman's University, Denton, TX* (2002 – 2005)

PEER-REVIEWED PUBLICATIONS

1. **Guzman, I.** and Bosland, P.W. (2018) A Matter of Taste: Capsaicinoid Diversity in Chile Peppers and the Importance to Human Food Preference. In Mozsik, Gyula (Ed.), *Capsaicin and its Human Therapeutic Development*. Rijeka: IntechOpen. <https://doi.org/10.5772/intechopen.77317>
2. **Guzman, I.** and Bosland, P.W. (2017) Sensory Properties of Chile Pepper Heat - and its importance to food quality and cultural preference. *Appetite*. 117:186-190.
3. Yousef, G.G., Brown, A.F., **Guzman, I.**, Ballington, J.R., and Lila, M.A. (2016) Variations in chlorogenic acid levels in an expanded gene pool of blueberries. *AIMS Agriculture and Food*. 1(3): 357-368.
4. Brown, A., Yousef, G., **Guzman, I.**, Chebroolu, K., Werner, D., Parker, M., Gasic, K., and Perkins-Veazie, P. (2015) Variation of Carotenoids and Polyphenolics in Peach and Implications on Breeding for Modified Phytochemical Profiles. *Journal of the American Society for Horticultural Science*. 139:1–11.
5. **Guzman, I.**, Grace, M., Yousef, G.G., Raskin, I., and Lila, M.A. (2015) Novel Strategies for Capturing Health-Protective Mango Phytochemicals in Shelf Stable Food Matrices. *International Journal of Food Sciences and Nutrition*. (doi:10.3109/09637486.2014.979315)
6. Yousef, G.G., Grace, M.H., Guerrero Medina, J.L., Neff, S., **Guzman, I.**, Brown, A.F., Raskin, I., and Lila, M.A. (2014) Concentrating immunoprotective phytoactive compounds from fruits and vegetables into shelf-stable protein-rich ingredients. *Plant Foods for Human Nutrition [QUAL-D-14-00289R1]*
7. Brown, A.F., Yousef, G.G., Chebroolu, K.K., Byrd, R.W., Everhart, K.W., Thomas, A., Reid, R.W., Parkin, I.A., Sharpe, A.G., Oliver, R., **Guzman, I.**, and Jackson, E.W. (2014) High-density single nucleotide polymorphism (SNP) array mapping in Brassica oleracea: identification of QTL associated with carotenoid variation in broccoli florets. *Theoretical and Applied Genetics*. 127(9):2051-2064.
8. Yousef, G.G., Lila, M.A., **Guzman, I.**, Ballington, J. and Brown, A.B. (2014) Impact of Interspecific Introgression on Anthocyanin Profiles of Southern Highbush Blueberries (*Vaccinium* spp.) *Journal of the American Society for Horticultural Science*. 139:99-112.
9. Grace, Mary, **Guzman, I.**, Roopchand, D.E., Moskal, K., Cheng, D.M., Pogrebnyak, N., Raskin, I., Howell, A., and Lila, M.A. (2013) Stable binding of alternative protein-enriched food matrices with concentrated cranberry bioflavonoids for functional food applications. *Journal of Agricultural and Food Chemistry*. 61(28):6856–6864.

10. **Guzman, I.**, Yousef, G.G., and Brown, A.F. (2012) Simultaneous extraction and quantitation of carotenoids, chlorophylls, and tocopherols in *Brassica* vegetables. *Journal of Agricultural and Food Chemistry*. 60(29):7238-7244.
11. Rodriguez, L., **Guzman, I.**, Rajapakse, W., Richins, R.D., and O'Connell, M.A. (2012) Carotenoid accumulation in orange pigmented *Capsicum annuum* fruit, regulated at multiple levels. *Journal of Experimental Botany*. 63(1):517-526.
12. **Guzman, I.**, Bosland, P. W., and O'Connell, M.A. (2011) "Heat, color and flavor compounds in *Capsicum* Fruit" *The Biological Activity of Phytochemicals*. Ed. David R. Gang. Springer, New York. 109-126.
13. **Guzman, I.**, Hamby, S., Romero, J., Bosland, P.W., and O'Connell, M.A. (2010) Variability of carotenoid biosynthesis in orange colored *Capsicum* spp. *Plant Science*, 179:49-59.

INVENTION & PATENT DISCLOSURES

- Lila, M.A., Guzman, I., Grace, M.H. "One Step Natural Phytoactive Fortification and Stabilization of Edible Oils". File # 13205. Provisional patent application submitted April 27, 2013.
- Brown, A.F., Guzman, I., Yousef, G.G. "Broccwell: Broccoli Flavoring and Wellness Additive". File # 12129. Provisional patent application submitted December 15, 2011.

FUNDED GRANTS

- Characterization of Onion Phenotypes Exhibiting Fewer Iris Yellow Spot (IYS) Symptoms and Release of Onion Germplasm for IYS Mitigation, C. Cramer, **I. Guzman**. NMSU sub-award of USDA NIFA (CO-PI)
- The Impact of Southern New Mexican Dietary Practices on Gut Bioavailability of Health Promoting Carotenoids. **I. Guzman**, L. Stanford, L., B. O'Donnell, B., M.A. O'Connell. NMSU Vice President of Research Impact Grant (PI)
- Best 4 Kids: Northern New Mexico Pueblo and Rio Arriba STEM and Food Research Learning. **I. Guzman**. Los Alamos National Laboratory Foundation (PI)

RESEARCH FELLOWSHIPS AND AWARDS

- Linton-Poodry SACNAS Leadership Institute, Full Travel Award, AAAS and SACNAS, Washington, D.C. July 16 – 20, 2018.
- PlantSEED Metabolic Modeling Workshop, Full Travel Award – University of Florida, August 17-18, 2017.
- Professional Minority Recognition Award, Full Travel Award – American Society of Plant Biologists Annual Meeting, Portland, OR, July 2014.
- Employee of the Month, Plants for Human Health Institute, North Carolina State University, North Carolina Research Campus, January 2012.
- Postdoctoral Travel Award – Phytochemical Society of North America Conference, Kohala Coast, HI. 2011.
- Best Research Poster Award – Phytochemical Society of North America Conference, Towson, MD. 2009.
- Research Initiative for Scientific Enhancement (RISE), NMSU. 2007 – 2009.
- Research Travel Award – SACNAS Annual Conference, Salt Lake City, UT. 2008.
- Best Research Poster Award – Plant Metabolism, Banff, Canada. 2008.
- Alfred P. Sloan Ph.D. Research Fellowship, New Mexico State University, 2004 – 2005.

CURRENT TEACHING - *New Mexico State University*

1. Hort 310 – Medicinal Herbs
2. Hort 485 lecture and lab – Vegetable Crop Management
3. Agro/Hort 315/515 – Crop Physiology
4. Agro/Hort 100 lecture and lab – Introductory Plant Sciences

RESEARCH AND STUDENT ADVISING*New Mexico State University*

- Graduate Research Advisor for:
 1. Brigit O'Donnell, Ph.D. Student, "The Impact of Southern New Mexican Dietary Practices on Gut Bioavailability of Health Promoting Carotenoids" (Spring 2018 - present) *Major advisor*
 2. Calen McKenzie, M.S. Student, "Esterification of Xanthophylls in *Solanaceae* Fruits" (Spring 2018 – present) *Major advisor*
 3. Srijana Dura, Ph.D. Student, "Factors contributing to the reduction of Phytophthora blight caused by *Phytophthora capsici* in Jalapeño pepper" *Co-advisor*
 4. Jagdeep Singh, M.S. Student, "Effect of water stress at different crop stages on physiology, seed yield and galactomannan content of guar under semi-arid conditions" *Co-advisor*
 5. Jacqueline Cormier, M.S. Student, "Year-round intercropping practices in Blackberry high tunnels" (Spring 2017 – Graduated Fall 2018) *Major advisor*

- Undergraduate Research Advisor for:
 1. Denise Garcia, Genetics and Biotechnology (Spring 2019 – Present)
 2. Sarah Ramirez, Horticulture (Fall 2018 – Present)
 3. Yvonne Lucero, Nutrition and Dietetics (Spring 2018 – Present)
 4. Francisco Chacon, Genetics and Biotechnology, Marc Research Scholar (Spring 2018 – Present)
 5. Denise Garcia, El Paso Community College, RISE program (Spring 2018 – Fall 2018)
 6. Rakhila Mamenova, Biology (Summer 2017 – Fall 2018)
 7. Krystal Vargas, Horticulture, Marc Research Scholar (Fall 2016 – Present)
 8. Shane Hamby, Nutrition, New Mexico State University (2007 – 2008)
 9. Joslynn Romero, Biology, New Mexico State University (2007 – 2009)
 10. Juanita Aldaba, Business, New Mexico State University ASSURED Program (2008)

- Academic mentoring for 13 horticulture and agronomy students (Fall 2016 – Present)

Northern New Mexico College

1. Justin Salazar, Biology (Fall 2013 – Fall 2014)
 - Current position: Geneticist at Pioneer Seeds
2. Leorrie Atencio, Biology (Fall 2013 – Fall 2014)
 - Current position: Clinical Research Coordinator at University of New Mexico Cancer Center
3. Lorina Gallegos, Biology (Fall 2013 – Fall 2014)
 - Current Position: Espanola Public School High School Biology Teacher
4. Joel Martinez, Biology (Fall 2013 – Fall 2014)
5. Gladys Rimkus, Biology (Spring 2014)

North Carolina State University

1. Robert Byrd, Biology, University of North Carolina at Charlotte (2011 – 2013)
2. Kamilla Korsvold, Visiting undergraduate student, North Carolina State University (2012 – 2013)

INVITED LECTURES

- High Tunnel Microclimates – Winter 2016 & 2017. Winter Greens Field Day, Alcalde Sustainable Agriculture Science Center, Alcalde, NM. January 2018.
- Better Crops for Better Health. Biology Department Seminar at NMSU. March 2017.
- Chile Pepper – It's Nutritious and Delicious. 40th Annual New Mexico Chile Conference, Las Cruces. February 2017.

- Pepper Improvement Efforts at New Mexico State University. Hubei Academy of Agricultural Sciences, Vegetable Research Institute, Wuhan, Hubei Province, China. September 2016.
- Spice, Flavor and More: Why Chile Peppers Should be a Staple Food. Blogger – Dallas Arboretum <http://blog.dallasarboretum.org> Dallas, TX. September 2015
- Plant Biochemistry: From Research to Industry. Biology Department, California State University Northridge, Northridge, CA. October 2014.
- Phytoactives: The Language of Plants. Native Plants Society of New Mexico, Albuquerque, NM. May 2014.
- Phytoactives: The Language of Plants. Native Plants Society of New Mexico (Santa Fe Chapter). Santa Fe, NM. January 2014.
- Carotenogenesis of Orange Color in *Capsicum* spp. Vegetable Improvement Center. Texas A&M University, College Station, TX. April 2009.
- Vitamin A in Chile Peppers; Those That Have It and Those That Don't. New Mexico Chile Conference. Las Cruces, NM. February 2009.

PROFESSIONAL DEVELOPMENT

- Linton-Poodry SACNAS Leadership Institute, AAAS and SACNAS, Washington, D.C. July 16 – 20, 2018.
- Teaching Academy, NMSU.
- Building Future Faculty Program. North Carolina State University – Raleigh, NC. April 2013.
- Interactive Online Workshop Series about Communicating Science. Center for Ocean Sciences Education Excellence (COSEE) California at UC Berkeley's Lawrence Hall of Science. March – April 2012
- Teacher Training Courses – Classroom Management and Effective Questioning Strategies. North Carolina State University, Spring 2011.

ACADEMIC AND PROFESSIONAL SERVICE

- *Board Member*, La Semilla Food Center Non-Profit, Anthony, NM, USA, (August 2017 - Present).
- *Grant Proposal Reviewer*, USDA National Institute of Food and Agriculture, Washington, D.C. (September 1, 2017 - September 14, 2017).
- *Faculty Advisor*, PES Graduate Student Organization, NMSU (June 2017 – Present).
- *Faculty Advisor*, Skeen Compost Club, NMSU (2018 – Present).
- *Committee Member*, Curriculum Committee, NMSU (August 4, 2017 - Present).
- *Committee Member*, Scholarship Committee, NMSU (August 4, 2017 - Present).
- *Committee Member*, Skeen Building Greenhouse, NMSU (Dec. 2016 – Present).
- *Peer Reviewer for the following scientific journals.*
 - *HortScience*
 - *HortTechnology*
 - *Crop Science*
 - *Journal of Food Science*
 - *Journal of the American Society for Horticultural Science*
 - *International Journal of Analytical Techniques*
 - *Journal of the Science of Food and Agriculture*
 - *Current Bioactive Compounds*
- *Committee Member*, Arts and Research Undergraduate Research Symposium, NNMC (May 2014)
- *Committee Member*, Undergraduate Curriculum, NNMC (Aug. 2013 – June 2014)
- *Co-chair*, North Carolina Research Campus Catalysts Group, NNMC (2012-2013)
- *Organizer*, NCRC Annual Research Symposium. Kannapolis, NC., NCSU (April 2013)
- *Volunteer*, Medicinal Plants of the Southwest Workshop, NCSU (June 2008)

PROFESSIONAL MEMBERSHIPS

- Sigma Xi
- American Society of Plant Biologists (ASPB)
- Phytochemical Society of North America (PSNA)
- American Society of Horticultural Sciences (ASHS)
- Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)