Curriculum vitae

Jennifer B. González, PhD

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RESEARCH INTERESTS AND PROFESSIONAL GOALS

I am broadly interested in the mechanisms underlying plant-fungal interactions from the genetic and molecular levels to the ecological level. I seek to address questions involving interactions between plants and soil-borne symbiotic fungi, which have the potential to enhance agricultural sustainability as well as plant-pathogenic fungi, which cause crop loss and post-harvest disease. I am currently beginning a postdoctoral research position in the lab of Bala Chaudhary at Dartmouth College, in which I will be investigating dispersal mechanisms of arbuscular mycorrhizal fungi (AMF), applying a combination of trait-based ecology and physical laws to the study of wind dispersal. The goal of this research is to generate taxon-specific hypotheses regarding long-distance dispersal of AMF. As a transgender veteran from a background underrepresented in sciences, my professional goals include strong emphasis on mentorship and inclusion of students from marginalized and non-traditional groups in the classroom and laboratory.

EDUCATION

PhD, 2020, Cornell University, Plant Pathology and Plant-Microbe Biology (PPPMB), advised by Dr. B. Gillian Turgeon.
MSc, 2014, University of Vermont, Biology, advised by Dr. Alison K. Brody
BS, 2013, University of Vermont, Integrative Biological Science

ACADEMIC AND SERVICE-RELATED APPOINTMENTS

Jan 2023 – Present	Postdoctoral Research Associate, supervised by Bala Chaudhary, Dartmouth College
May 2022 – Dec 2022	Faculty Senator, representing Biology, Nazareth College
May 2022 – Dec 2022	Faculty Advisor for student undergoing Title IX investigation, Nazareth College
Aug 2021 – Dec 2022	Health Professions Advisory Council, representing Biology, Nazareth College
Aug 2021 – Dec 2022	Biology Department Academic Assessment Coordinator, Nazareth College
Feb 2022	Member, Biology Department Faculty Search Committee for Permanent, full-time Lecturer, Nazareth College
Jan 2022 – Feb 2022	Member, Biology Department Faculty Search Committee for Animal Biology, Nazareth College
Aug 2021 – Feb 2022	Co-Chair, Biology Department Faculty Search Committee for Anatomy and Physiology, Nazareth College
Aug 2020 – Dec 2022	Assistant Professor of Biology and Mary Soons McCarty Greenhouse and Dooley-Mittermeyer Garden Director, Nazareth College of Rochester, NY
Sep 2019 – May 2020	Member, Plant Pathology and Plant-Microbe Biology (PPPMB) Graduate Student Assembly (GSA) Professional Development Committee, Cornell Univ.
Sep 2019 – May 2020	Member, PPPMB GSA Social Committee, Cornell Univ.
Aug 2019 – May 2020	Graduate Student Mentor for Undergraduates, Office of Academic Diversity Initiatives (OADI), Cornell Univ.
Aug 2017 – May 2019	Secretary, PPPMB GSA, Cornell Univ.
Aug 2017 – May 2019	Member, PPPMB GSA Fundraising Committee, Cornell Univ.
Jan 2017 – May 2017	Vice President, Proyecto Pa'lante, Student Org with focus on development of cultural and social networks among the Latin Community, Cornell Univ.
May 2016 – May 2017	Treasurer, Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), Cornell Univ.

ACADEMIC AND SERVICE-RELATED APPOINTMENTS [CONTINUED]

Sep 2015 – May 2016	Graduate Student Mentor for Undergraduates, OADI, Cornell Univ.
Nov 2011 – May 2014	Laboratory Safety Officer, Laboratory of Dr. Alison K. Brody, University of Vermont

PUBLICATIONS

Khodadadi, F., **González, J.B**., Martin, P.L., Giroux, E., Bilodeau, G.J., Peter, K.A., Doyle, V.P., and Aćimović, S.G. 2020. Identification and characterization of *Colletotrichum* species causing apple bitter rot in New York and description of *C. noveboracense sp. nov*. Scientific Reports 10:11043

Haridas, S., Albert, R., Binder, **et al.** 2020. 101 *Dothideomycete* genomes: A test case for predicting lifestyles and emergence of pathogens. Stud Mycol 96:141-153

Zhang, X., **González, J.B.**, and B.G. Turgeon. 2020. Septins are required for reproductive propagule development and virulence of the maize pathogen *Cochliobolus heterostrophus*. Fungal Genet Biol 135:103291

Brody, A.K., Waterman, B., Ricketts, T.H., Degrassi, A.L., **González, J.B.**, Harris, J.M., Richardson, L.L. 2019. Genotype-specific effects of ericoid mycorrhizae on floral traits and reproduction in *Vaccinium corymbosum*. Am J Bot 106(11):1412-1422

Condon[#], B.J., Elliott[#], C., **González[#], J.B.**, Yun, S.H., Akagi, Y., Wiesner-Hanks, T., Kodama, M. and B.G. Turgeon. 2018. Clues to an Evolutionary Mystery: The Genes for T-Toxin, Enabler of the Devastating 1970 Southern Corn Leaf Blight Epidemic, Are Present in Ancestral Species, Suggesting an Ancient Origin. Mol Plant Microb In 31:1154-1165. [#]Equal contribution

González, J.B., Petipas, R.H., Franken, O., Kiers, E.T., Veblen, K.E. and A.K. Brody. 2018. Herbivore removal reduces influence of arbuscular mycorrhizal fungi on plant growth and tolerance in an East African savanna. Oecologia 187:123-133

Meng, D., Li, C., Park, H.J., **González, J.B.,** Wang, J., Dandekar, A.M., Turgeon, B.G. and L. Cheng. 2018. Sorbitol Modulates Resistance to Alternaria alternata by Regulating the Expression of an NLR Resistance Gene in apple. The Plant Cell 30:1562-1581

Petipas, R.H., **González, J.B**., Palmer, T.M, and A.K. Brody. 2017. Habitat-specific AMF Symbioses enhance drought tolerance of a native Kenyan grass. Acta Oecol 78:71-78

Naito, M., Desirò A., **González, J.B.,** Tao, G., Morton, J.B., Bonfante, P., and T.E. Pawlowska. 2017. '*Candidatus* Moeniiplasma glomeromycotorum', an endobacterium of arbuscular mycorrhizal fungi. Int J Syst Evol Micr 67:1177-1184

González, J.B., Clarke, G.L., and A.K. Brody. 2015. Lack of sex-specific differences in mycorrhizal associations and response to herbivory in the gynodioecious herb, *Polemonium foliosissimum*. Plant Ecol 216:951-962

PUBLICATIONS IN PRESS

Won, T.H., Bok, J.W., Nadig, N., Venkatesh, N., Nickles, G., Greco, C., Lim, F., **González, J.B.**, Turgeon, B.G., and Keller, N. Copper starvation induces antimicrobial isocyanide integrated into two distinct biosynthetic pathways in fungi. *In Press*: Nature Communications

POSTERS[+], PRESENTATIONS[#], AND INVITED TALKS[*]

[+]Haridas, S**., González, J.B.**, Rightmyer, A., Riley, R., Grigoriev, I., Baker, S.E., and Turgeon, B.G. "Arrangement of the genetically complex *Tox1* locus in *Cochliobolus heterostrophus* revealed by PacBio sequencing". Poster presentation, JGI User Meeting 2022, Berkley, CA. August 29-31.

[+]Wang T.W., Baugh E., **González J.B.**, and Hodge K.T. "Signatures of lifestyle in genomes of the Eurotiales?" Poster presentation, Asilomar Fungal Genetics 2022, Pacific Grove, CA. March 15, 2022.

[*]Transition in the time of Corona. PPPMB Seminar Series, Cornell AgriTech, Geneva NY, Nov 9, 2021.

[+]Tracing evolution of the *Cochliobolus heterostrophus* race T *Tox1* genes for T-toxin biosynthesis. Gordon Research Conference on Cellular and Molecular Fungal Biology. Holderness, NH, June 20, 2018.

POSTERS[+], PRESENTATIONS[#], AND INVITED TALKS[*] [CONTINUED]

[*]The influence of arbuscular mycorrhizal fungi from areas of differing grazing histories on plant growth and response to simulated herbivory. Cornell University Symbiosis and Cooperation Group. PPPMB, Cornell University, Ithaca, NY, November 7, 2014.

[#]Determining the function of an abscisic acid-regulated bHLH transcription factor in the plant root tip. McNair Undergraduate Research Conference. Niagara Falls, NY, July 21, 2012.

[+]The influence of ungulate grazing history and soil biota on plant tolerance to simulated herbivory. Poster presentation, University of Vermont Student Research Conference. Burlington VT, April 19, 2012.

[#]Plant size influences mycorrhizal colonization of *Polemonium foliosissimum*. RMBL Student Symposium. Gothic, CO, August 15, 2011.

[+]Grazing history impacts mycorrhizal communities and plant tolerance to simulated herbivore damage. Poster presentation, University of Vermont Student Research Conference. Burlington VT, April 26, 2011.

[*]The role of mycorrhizal fungi in mitigating plant stress in a savanna ecosystem. With Renee H. Petipas. University of Vermont Biology Department Eco-Lunch Seminar. Burlington, VT, Dec 3, 2010.

HONORS AND FELLOWSHIPS

2015 – NSF Graduate Research Fellowship
2014 – State University of NY Diversity Fellowship
2014 – UVM Opportunity Fellowship
2013 – Kurt Milton Picket Award for Research and Academic Excellence, UVM
2012 – Ronald E. McNair Scholar
2011 – Osher Foundation Reentry Scholarship for non-traditional college students
2010 – American Society for Horticulture Science Collegiate Scholars Award
2000 – 2002 Navy and Marine Corps Achievement Medal, twice awarded
1996 – 2000 Honor Graduate from military training institutions, four awards, USMC

FUNDING

2016 – GSA Travel Award. Awarded for attendance of 29th Fungal Genetics Conference
Award returned due to travel limitations of inclement weather ($400)
2015 – NSF GRFP. Awarded a three-year fellowship (Cost of Education Allowance, $34k annual stipend and institutional awarded of $12k)
2013 – SUNY Diversity Fellowship. Awarded a two-year fellowship, to include annual stipend, tuition, and health insurance waivers ($27,790 annual stipend)
2013 – UVM College of Arts and Sciences, Academic Programs for Learning and Engagement Grant. Awarded for expenses in support of undergraduate student research project. ($480)
2012 – US DOEd, Ronald E. McNair Fellowship. ($2800 stipend and $1,300 research budget)
2012 – UVM Honors College, Spring Mini Grant. Award for research supplies and expenses ($460)
2011 – NSF REU through RMBL, Gothic, CO. ($4750 stipend, $600 travel grant, $150 supply budget)
2011 – UVM College of Agriculture and Life Science, Summer Fund for Undergraduate Student Excellence. Award for research supplies and expenses ($500)
2011 – UVM Honors College, Undergraduate Research Endeavors Competitive Award. ($1,000 award and $2,680 research supply budget)
2010 – UVM Honors College, Summer Research Internship. ($3,500 stipend and $1,500 research budget)

PROFESSIONAL DEVELOPMENT

2022 – Course design workshop, Nazareth College, 19 May 2022
2021 – Implicit Bias Training, Nazareth College, 27 Sep 2021
2021 – Inclusive Awareness in Pedagogy, Nazareth College, 26 Aug 2021
2020 – Master Advisor Program, Nazareth College, Fall 2020
2019 – GET SET Teaching Conference, Center for Teaching Innovation, Cornell University, 19 Oct 2019
2019 – Graduate TA Teaching Institute, Center for Teaching Innovation, Cornell University, 27 Aug 2019
2019 – Future Professor's Institute, Cornell University, 20 June 2019

PROFESSIONAL DEVELOPMENT [CONTINUED]

2018 – Bioinformatics Course, Boyce Thompson Institute Computational Biology Center, Cornell University
2016 – Module, transition to Python
2016 – Workshop, RNA-seq and differential gene expression analysis
2013 – Colloquium, Ethics in Graduate Research
2012 – McNair Seminar on professional development and graduate school preparation
2011 – Rocky Mountain Biological Laboratory internship educational program workshops: Proposal Writing, Statistics, Experimental Design, and Responsible Conduct of Research
2010 – 2011 On-site training and consultation at the International Culture Collection of Vesicular Arbuscular Mycorrhizal Fungi (INVAM)

COLLEGE-LEVEL TEACHING EXPERIENCE [AS INSTRUCTOR OF RECORD]

Introductory Genetics lecture and lab, Nazareth College, BIO 310
Developed and presented an introductory genetics course; material included inheritance, molecular genetics, mutation, variation, and evolution. Developed all assignments, review sessions, and exams, with special emphasis on MCAT preparation for students interested in medical school. Laboratory activities centered around genetically tractable plant pathogenic fungi, and included introduction to bioinformatics, comparative genomics, phylogenetics, polymerase chain reaction, and genetic modification by way of homologous recombination.

Introductory Plant Biology lecture and lab, Nazareth College BIO 216, 216L
Developed and presented an introductory plant biology course; material included plant structure and function, classification and systematics, nutrient acquisition and transport, genetics, evolution, and ecology. Laboratory activities included plant identification and dissection, plant collection and mounting, terrarium-building, photosynthesis, and plant-symbiotic interactions.

Clinical Microbiology lecture and lab, Nazareth College, BIO 318, BIO 318L
Within the framework of the Departmental offerings for nursing and pre-medical students, developed and presented a lecture course on clinical microbiology; material included microbial cell structure and function, microscopy and staining, metabolism, microbial nutrition, genetics, control of microbial pathogens; material also included a survey of immunology and common microbial pathogens. Laboratory activities were pre-designed, to deliver a consistent experience, and included microbial culture, identification, staining, genetic transformation.

Biology I: Introductory Biology lecture and lab, Nazareth College, BIO.Q 103, BIO.Q103L
Within the framework of the Departmental offerings for biology majors and non-majors, developed and presented a lecture course on introductory biology; material covered themes of biology, scientific inquiry, the roles of carbon and water, structure and function of macromolecules, cell structure and components, metabolism, photosynthesis, reproduction, and evolution, among others. Laboratory activities were pre-designed, to deliver a consistent experience, and included spectrophotometry, enzyme kinetics, microscopy, osmosis and diffusion, respiration, and genetics.

Biology III: Ecology and Evolution, Nazareth College, BIO 105
Within the framework of the Departmental offerings for biology majors, developed and presented a lecture course covering aspects of ecology and evolution; materials included descent with modification, evolution of populations, introduction to phylogeny, plant and fungal diversity, population and community ecology.

Advanced Scientific Communication, Nazareth College, SCI 420
Within the framework of the Departmental offerings for science majors; developed and delivered a largely pre-designed course on scientific communication, consisting primarily of instructing students on the research and writing of a literature review, as well as preparing and delivering a professional scientific presentation.

COLLEGE-LEVEL TEACHING EXPERIENCE [AS TEACHING ASSISTANT]

Laboratory in Genetics and Genomics, Cornell University
Facilitated two weekly laboratory sections, one as lead TA, covering Drosophila genetics, CRISPR technology, and basic bioinformatic analysis. Advised and assessed students and facilitated review sessions. Carried out one-on-one and group tutoring sessions during regular office hours. Contributed to improvements in coursework and assessments by regular feedback with course instructor.

Introductory Mycology, Cornell University
Developed and presented lectures for weekly laboratory section covering fundamental mycology including diversity, nutritional modes, life cycles, and secondary metabolism. Facilitated laboratory section and supervised an undergraduate teaching assistant. Advised and assessed students and facilitated review sessions.

Introductory Biology for majors, University of Vermont
Developed and presented lectures for weekly laboratory section covering cell structure and function, metabolism, genetics, evolution, biological diversity, protein kinetics and photosynthesis. Facilitated laboratory section and supervised an undergraduate teaching assistant. Advised and assessed students and facilitated review sessions. Carried out one-on-one and group tutoring sessions during office hours.

Introductory Biology for non-majors, University of Vermont
Presented lectures for weekly lab section. Oversaw laboratory section covering biological diversity, cell structure, respiration, photosynthesis, and evolution. Advised and assessed students on all aspects of laboratory coursework and facilitated review sessions. Carried out one-on-one and group tutoring sessions during office hours.

Information Technology, University of Vermont
Developed and presented lectures for weekly laboratory section in computer and software technology for undergraduates. Supervised an undergraduate teaching assistant. Advised and assessed students in all aspects of coursework.

Communication Methods, University of Vermont
Developed and presented lectures for weekly section in public speaking for undergraduates. Facilitated weekly sections and advised and assessed students in all aspects of coursework.

MENTORSHIP EXPERIENCE

Mentorship of students is my highest academic priority. I have trained and mentored several undergraduate students in both research and professional development. In the lab, I have mentored students in standard protocols used in research of arbuscular mycorrhizal fungi, and plant pathogens. Among these include the use of bioinformatic and comparative genomic tools, and molecular biology protocols in the laboratory. I have conducted training in methods of fungal spore extraction, plant inoculation, and phenotypic evaluations, as well as DNA extraction, amplification, and multi-locus phylogenetic analyses. I have also trained students in the design and implementation of genetic modifications by way of homologous recombination. I have also served as a mentor for undergraduates from backgrounds underrepresented in STEM as part of the Graduate Students Mentoring Undergraduates program, via the Office of Academic Diversity Initiatives at Cornell University. During my time as the Treasurer for SACNAS, Cornell Chapter, I led and mentored undergraduate students from Hispanic and Native American backgrounds in re-establishing and promoting the Chapter, which become a very successful organization.

Undergraduate student research mentee scientific presentations[#] and posters[+], undergraduates in bold

[#]**Baugh E.D.**, Wang T.W., and J.B. González. Examining the protein repertoire of *Paecilomyces niveus*. Rochester Academy of Sciences Paper Session, Rochester, NY. Oct 29, 2022

[+]**Chappell K.M.**, and J.B. González. Progress toward determining the role of patulin in virulence of the post-harvest fungal pathogen *Paecilomyces niveus*, causal agent of Paecilomyces Rot of apple. Rochester Academy of Sciences Paper Session, Rochester, NY. Oct 29, 2022

MENTORSHIP EXPERIENCE [CONTINUED]

Undergraduate student research mentee scientific presentations[#] and posters[+], undergraduates in bold

[+]**Chappell K.M.**, Wang T.W., and J.B. González. Determining the role of patulin in virulence of the post-harvest fungal pathogen *Paecilomyces niveus*, causal agent of Paecilomyces Rot of apple. CARS, Nazareth College, Rochester, NY. Apr 19, 2022.

[+]**Baugh E.D.**, González, J.B., Wang T.W., and K.T. Hodge. Does the fungal plant pathogen *Paecilomyces niveus* share a common protein repertoire with other necrotrophs? CARS, Nazareth College, Rochester, NY. April 20, 2021

[+]**Bargabos, M.F.**, **Currie, E.**, **Reisinger, S.**, **Loewenguth, K.**, **Granchelli, J.**, **McPhail, A.**, D'Eredita, E., and J.B. González. Plant the moon challenge. CARS, Nazareth College, Rochester, NY. April 20, 2021

OUTREACH/COMMUNITY ENGAGEMENT/COLLABORATIONS

July 28, 2022, Nazareth College Science Summer Camp, Save the Planet event. Collaboration with A. Charlebois, PhD; host middle-to-high school age group in ecosystem, ecology and plant biology activity

Fall 2021 – Spring 2022, Collaboration with Nazareth College Occupational Therapy (OT) program, in which OT students gain experience working with patients with disabilities or impairments, physical or cognitive, utilizing greenhouse resources

Fall 2021, Collaboration with Nazareth College Connection, program to mentor and provide opportunities for middle- and high school students from the Rochester City School District, by preparing semesterly events in which students gain experience in plant biology.

Spring 2021 – Spring 2022, Collaboration with Nazareth College LifePrep, program to provide students with intellectual and/or developmental disabilities work placement opportunities to gain horticultural skills in preparation for employment opportunities.

Fall 2020 – Dec 2022, Nazareth College Greenhouse special event coordination for campus community building and networking opportunities, including Halloween, Valentine's Day, Earth Day, recurring plant giveaways, and campus Farmer's market events.

Spring 2018, Cornell University Graduate Student School Outreach Program (GRASSHOPR). Organized and presented a 3-class mini-course to 1st grade elementary class at Belle Sherman Elementary, Ithaca, NY. The mini-course covered the role of plants in the lives of humans, plant parts and their function, the genetic code, and plant adaptation.

Spring 2017, Cornell University Graduate Student School Outreach Program (GRASSHOPR). Organized and presented a 3-class mini-course to 4th grade elementary class at Newfield Elementary School, Newfield, NY. The mini-course covered plant form, function, and plant adaptation to environmental conditions.

October 2016, SACNAS member-recruiter for Cornell University Graduate School, SACNAS National Diversity in STEM Conference, Long Beach, CA. 13-15 October, 2016.

Spring 2016, Cornell University Graduate Student School Outreach Program (GRASSHOPR). Organized and presented a 4-class mini-course to 5th grade elementary class at Dryden Elementary School, Dryden, NY. The mini-course covered plant form, function, as well as plant adaptation to environmental conditions.

PROFESSIONAL AFFILIATIONS

2021 – 2022	Association for Faculty and Staff of Color, Nazareth College of Rochester, NY
2019 – 2020	National Center for Faculty Development and Diversity Cornell Institutional Member
2016 – 2019	Genetics Society of America, Graduate Student Member

PROFESSIONAL CONTRIBUTIONS, SCIENTIFIC ARTICLE REVIEWS

2022	Phytopathology
2022	European Journal of Plant Pathology
2018 (x2)	Fungal Genetics and Biology
2015	Symbiosis