JESÚS MARTÍNEZ-GÓMEZ

jm2722@cornell.edu

EDUCATION

Cornell University — Ithaca, NY 2018 - Present
Ph.D Candidate, Section of Plant Biology

University of California (UC) — Berkeley, CA 2016 - 2018
Ph.D. Student, Department of Integrative Biology

University of Washington (UW) — Seattle, WA 2012 - 2016
B.S. Molecular, Cellular, and Developmental Biology

RESEARCH EXPERIENCE

Dissertation Research: UC Berkeley/Cornell Fall 2016 - present
Advisor: Chelsea D. Specht, PhD

Undergraduate Research: University of Washington Summer 2012 - 2016
Advisor: Verónica S. Di Stilio, PhD

New York University School of Medicine Summer Undergraduate Research Program (NYU SURP) Summer 2014
Advisor: E. Jane Albert Hubbard, PhD

ACADEMIC PUBLICATIONS REVERSE CHRONOLOGICAL

* Co-first authors

1. Tribble, C.*, **Martínez-Gómez, J.***, Howard, C. C.*, Males, J., Sosa, V., Sessa, E. B., Cellinese, N., Specht, C., D. Get the Shovel: Evolutionary Complexities of Belowground Organ in Geophytes. *Accepted, American Journal of Botany* (2020)

2. Tribble, C. M., **Martínez-Gómez, J.**, Alzate-Guarin, F., Rothfels, C. J., Specht, C. D. Comparative transcriptomics of a monocotyledonous geophyte reveals shared molecular mechanisms of underground storage organ formation. bioRxiv, 845602. *Accepted, Evolution and Development* (2020).

3. **Martínez-Gómez, J.**, Galimba K.D, Coté E. Y., Sullivan A. M., and Di Stilio V.S. Spontaneous homeotic mutants and genetic control of floral organ identity in a ranunculid. *Evolution and Development* (2020)

4. Howard, C. C.*, Tribble, C.*, **Martínez-Gómez, J.***, Sessa, E. B., Cellinese, N., Specht, C., D. Ontologies in Plant Evolutionary Research. *American Journal of Botany* (2020)

5. Galimba, K. D., **Martínez-Gómez, J.**, & Di Stilio, V. S. Gene Duplication and Transference of Function in the paleoAP3 Lineage of Floral Organ Identity Genes. *Frontiers in Plant Science* 9 (2018): 334.

6. Wang, T. N., Clifford, M. R., **Martínez-Gómez, J.**, Johnson, J. C., Riffell, J. A., & Di Stilio, V. S. Scent matters: differential contribution of scent to insect response in flowers with insect vs. wind pollination traits. *Annals of Botany* 123.2 (2018): 289-301.

SUBMITTED AND PREPRINTS

1. Kruse, L.H., Weigle, A.T., **Martínez-Gómez, J.**, Chobirko, J.D., Schaffer, J.E., Bennett, A.A., Specht, C.D., Jez, J.M., Shukla, D. and Moghe, G.D., 2020. Ancestral class-promiscuity as a driver of functional diversity in the BAHD acyltransferase family in plants. bioRxiv. *In Revision, Plant Cell*

DIGEST AND BOOK REVIEWS

1. **Martínez-Gómez, J.** Digest: Phylogenetic comparative methods identify traits associated with urbanization tolerance in Anolis." *Evolution* (2020).

RESEARCH FUNDING, FELLOWSHIPS AND SCHOLARSHIPS

Graduate Fellowships

NSF Graduate Research Fellowship Program — Fall 2018
(3 years of graduate stipend + tuition)

Cornell University Diversity Fellowship — Spring 2019
(1 semester of graduate stipend + tuition)

UC Berkeley Hellman Fellowship — Spring 2017, 2018
(2 Semester of graduate stipend)

UC Berkeley Chancellor Fellowship — 2016-2018
(2 years of of graduate stipend + tuition)

Research and Travel Funding

Cornell Graduate Travel Award — 2018
($600 – Travel)

UC Berkeley Graduate Travel Award — 2018
($900 – Travel)

UC Berkeley Graduate Assembly Travel Grant — 2018
($300 Travel)

American Society of Plant Taxonomy Graduate Funding — 2018
($1000 – Research)

Pacific Bulb Society Mary Sue Ittner Grant — 2017
($500- Research)

UC Berkeley Graduate Travel Award — 2017
($900 – Travel)

UC Berkeley: Integrative Biology Travel Award — 2017
($250 – Travel)

University of Washington Ronald E. McNair Research Funding — 2015 & 2016
($2,000 - Research Funding: received twice)

NSF Research Experience for Undergraduate (REU) Research Funding — Summer 2015
($3,300 - Research)

Frye-Hotson-Rigg Department of Biology Research Scholarship — Fall 2014
($1,200 - Research)

Undergraduate Scholarships/Internships

UW Department of Biology Excellence in Biology Scholarship — 2015
($4,800 – UW Tuition)

UW Education Opportunity Program Scholarship — 2013, 2014
($1,000 – UW Tuition: received twice)

Washington Research Foundation Distinguished Scholar — 2012-2013
($1,600 – UW Tuition)

University of Washington Costco Diversity Scholar — 2012
($40,000 – UW Tuition)

Society for Developmental Biology: Choose Development! Internship — Summers 2013-2015
(Funding for three summers ($4000 each) to work in a developmental Biology lab)

University of Washington ALVA GenOM Internship — Summer 2012
(Research experience for incoming freshmen the summer before Fall Semester.)

RESEARCH AWARDS/ DISTINCTIONS

Hispanic Scholarship Fellow 2017
Society for Developmental Biology 75th Annual Meeting 2016
***Second Place in Undergrad Poster Presentations**
UW Cultivating Discovery Undergraduate Research Video 2016
UW Ronald E. McNair Research Fellow 2014 - 2016
Louis Stokes Alliance for Minority Participation (LSAMP) Annual Conference 2014
***Best Poster Presentation**

TEACHING AND MENTORSHIP

Teaching

Cornell Co-Instructor: Phylogenetic Methods Fall 2020
Cornell Guest Lecture: Introduction to Linux and Parsimony Spring 2019
UC Berkeley Graduate Student Instructor: PMB107 Plant Morphology Fall 2017
UW Undergraduate TA: BIO355 Foundations in Cellular & Molecular Biology Fall 2015
UW Undergraduate TA: BIOL317 Plant Classification and Identification Spring 2013

Lab Mentorship

Lab Mentor: Tara Atluri Spring 2021 - Present
Assisting me in imagining developmental morphology of inflorescence

Lab Mentor: Aaliyah Holliday Fall 2019 - Present
Assisting me in data collection for comparative inflorescence evolution project.

Lab Mentor: Irving Jason Rose Fall 2018 - Present
Assisting me in data collection for Amaryllidaceae project. Has since lead his own independent project in Liliales inflorescence evolution.

Lab Mentor: Mary Swadener Summer 2015
Summer lab mentor for undergraduate. Guided her with execution and presentation of project. She won best Poster in Plant section at the 2016 Emerging Research Conference (Washington DC).

Academic Mentorship

EEB Mentorship Match: Neha Tiwari Fall 2020 - Present
Mentored in preparing application for graduate school.

PLANTS Botany 2020 Conference Mentor Summer 2020
Served as a mentor for undergraduate Juan Angulo at the Botany 2020 conference.

PLANTS Botany 2019 Conference Mentor Summer 2019
Served as a mentor for undergraduate Dannielle Waugh at the Botany 2019 conference.

Graduate Students Mentoring Undergraduates Fall 2018 - Present
Mentors undergraduate interested in graduate school, attend monthly dinner check-ins.

PLANTS Botany 2017 Conference Mentor Summer 2017
Served as a mentor for rising Master student Kasey Pham at the Botany 2017 conference.

Summer Counselor for ALVA GenOM Summer 2016
Supervised a cohort of 21 incoming freshmen as part of the GenOM research internship. Most students were either low income, first generation Americans or students of color. Helped foster an inclusive community for students and assisted with final research poster presentation.

Undergraduate Research Leader 2013-2016
Promoted research opportunities to undergraduates on campus. Participated in panels, presented at

first year interest groups and assisted students with contacting faculty for undergraduate research opportunities.

Leader Del Futuro Mentor 2014-2015
Paired with a freshmen undergraduate from a Hispanic background. Helped her navigate the University of Washington and develop habits for success.

University of Washington Mentor Power to Success Program Fall 2013
Mentored a incoming freshmen undergraduate and helped her navigate the University classes and schedules.

University of Washington ALVA GenOM Math and Chem Tutor Summer 2013
Biweekly afternoon tutoring to incoming freshmen in calculus and general chemistry.

SYNERGISTIC ACTIVITIES

Professional Service

Cornell Diversity Training and Events subcommittee Fall 2020 - Present
A focus on organizing and executing diversity and inclusion training, events and seminars at the SIPS

Cornell School of Integrative Plant Science Diversity Working Group Fall 2018 - Present
Group of faculty, staff, post-doc and students aimed to address and recommend in SIPS in regards to diversity, inclusion and gender.

Undergraduate level Outreach

Botanical Society of America NSF GRFP Reviewer Fall 2020
Organized and provided feedback to research statement and statement of interest to Botanical Society of American Students

Cornell Diversity Preview Weekend Application Reviewer Fall 2018-2020
Served as a application reviewer for three day long preview weekend for student interested in applying to graduate school in biological science.

Cornell NSF GRFP Reviewer Fall 2018, 2019
Provided feedback to research statement and statement at Cornell University

K-12 level Outreach

Cornell Botanical Garden: Virtual Plant have Families too! Summer 2020
One month online course for 5th graders to learn about plant classification in their backyards/homes
Radio Interview

Expand your Horizon Activity Leader: Virtual Plant Spring 2020
Online version of EYH, developed website and Plant quiz for girls to explore plants virtually

Expand your Horizon Activity Leader: Adventure of the Plant Kingdom Spring 2019
One day plant based workshop for middle school aged girls. Developed plant pressing activities and presentation

Cornell Botanical Garden Judys Day - 'Plants have families too' Fall 2018
Outreach event, ran a booth "Make a Lily" to teach families about the Lily Flower

Professional Development

Cornell NextGen Professor Program Fall 2019
Mentorship program to prepare student to faculty member at a university.

Oak Spring eFlower Summer School Fall 2018
Ten day intensive course on the phylogenetic comparative methods to study flower evolution. Learned methods and collected data

CONFERENCE PRESENTATION AND INVITED LECTURES

Underline –Talk | **Bold** –Undergraduate Trainee Presenter | * –Presenting Author (if not first)

2021

Martínez-Gómez, J. On the evolution and development of the monocot inflorescence: Using models to understand this umbel-ivable diversity. National Museum of Natural History Botany Department. March 4, 2021

2020

Martínez-Gómez, J., Rose, I. J., Freyman W., Specht, C. D. Where do umbels come from? Incorporating prior information of developmental genetics in trait evolution with the threshold model to generate more realistic models of morphological evolution. Botany 2020; July 27-31, Online.

Martínez-Gómez, J., Song, M., Tribble, C., S., Rothfels, Freyman, W., Hohna, R., Specht, C.D. Commonly used inference methods result in significantly different diversification rate estimates. Botany 2020; July 27-31, Online.

Holliday, A. I., Martínez-Gómez, J., Rose, I. J., Specht, C. D. The evolution of the monocot inflorescence using a phylogenetic framework. Botany 2020; July 27-31, Online.

Rose, I. J., Martínez-Gómez, J., Specht, C. D. Inflorescence Structure and Development in Liliales: What is the Ancestral State of the Liliales order?. Botany 2020; July 27-31, Online.

2019

Martínez-Gómez, J., Galimba K., Sullivan A., Coté E., Di Stilio V. Natural homeotic mutants and genetic control of floral organ identity in a ranunculid. Botany 2019; July 27-31, Tucson, AZ 2019.

Howard, C. C., Tribble C., Martínez-Gómez, J*., Males J., Sosa V., Sessa E., Specht C. D., Cellinese N. Ontologies as a framework to clarify Geophyte Terminology. Botany 2019; July 27-31, Tucson, AZ 2019.

Martínez-Gómez, J., Song, M*., Tribble, C., Freyman, W., Hohna, S., Rothfels, R., Specht, C.D. Diversification rates across lineages: how does biological meaning differ across model-based approaches? Botany 2019; July 27-31, Tucson, AZ 2019.

Tribble, C., Rothfels, R., Martínez-Gómez, J. Alzate, F., Specht, C.D. Differential gene expression in tuberous vs. non-tuberous roots of the tropical monocotyledonous geophyte Bomarea multiflora (Alstroemeriaceae). Botany 2019; July 27-31, Tucson, AZ 2019.

Martínez-Gómez, J., Rose, I. J., Specht, C. D. Incorporating prior information of developmental genetics in trait evolution with the Threshold Model: The Umbel-ivable Amaryllis Umbel as a case study. Evolution 2019; July 27-31, Providence, RI 2019.

2018

Martínez-Gómez, J., Specht C. D. Evolution of Monocot Reproductive Branches: An Evo-Devo approach to investigating the origin of the Amaryllidaceae 'umbel'. Ecology and Evolutionary biology Graduate Symposium; December 6-7th. Ithaca, New York 2018

Martínez-Gómez, J., Specht C. D. Evolution of Monocot Reproductive Branches: An Evo-Devo approach to investigating the origin of the Amaryllidaceae 'umbel.' Monocots VI 2018; October 7-12th. Natal, Brazil 2018

Martínez-Gómez, J., Specht C. D. Phylogenetic Comparative Method illuminates Macroevolutionary origin of the Amaryllidaceae Umbel. Botany 2018; ; July 21-15, Rochester, MN 2018.

Di Stilio V, Hartogs S, Martínez-Gómez, J., Tank, D. Characterizing wind pollination syndrome, its tempo and mode of evolution in *Thalictrum* (Ranunculaceae). Botany 2018. July 21-15, Rochester, MN 2018.

2017

Martínez-Gómez, J., Specht D. C. Early Inflorescence Development in *Allium*: Its Umbel-ievably. Botany 2017; June 24-28, Fort Worth, TX 2017.

As an Undergraduate: 2012-2016

Martínez-Gómez, J., Galimba K, Di Stilio V, Galimba K. Divergence of Gene Function Following Gene Duplication and its effect on Flower Development; Society for Developmental Biology 75th Annual Meeting and International Society of Differentiation 19th International Conference; Aug 4-8; Boston, MA, 2016. **Second Place in Undergrad Poster Presentations*

Swadener M, Martínez-Gómez, J., Di Stilio V,. Uncovering the Mechanism Underlying Polyploidy in Flowering Plants using Single Copy Gene Phylogenies; Emerging Research National Conference; Feb 25-27; Washington DC, 2017 **Best Place in Poster Presentation in Environmental/Ecological Category*

Martínez-Gómez, J., Di Stilio V, Galimba K. Evolution of UFO: Testing the Conservation of Floral Gene Regulatory Networks; 19th Annual Undergraduate Research Symposium; May 20; Seattle, WA: University of Washington; 2016

Martínez-Gómez, J., Galimba K, Di Stilio V, Galimba K. Divergence of Gene Function Following Gene Duplication and its effect on Flower Development; 24th Annual National Ronald E. McNair Research Conference; Oct 31; Delavan, WI: University of Wisconsin-Milkaee; 2015

Martínez-Gómez, J., Di Stilio V, Galimba K,. Divergence of protein-protein interactions following gene duplication and its effect on flower development. 18th Annual Undergraduate Research Symposium; May 15; Seattle, WA: University of Washington; 2015.

Martínez-Gómez, J., Pekar O, Hubbard EJA. Potential link between TGFb signaling and notch signaling in *C. elegans* germ line development. Society for Developmental Biology 74th Annual Meeting; July 9-13; Snowbird, UT, 2015. p. 377.

Martínez-Gómez, J., Pekar O, Hubbard EJA. Potential link between TGFb signaling and notch signaling in *C. elegans* germ line development. The Leadership Alliance National Symposium; July 25-27; Stamford, CT, 2014.

Martínez-Gómez, J., Galimba K, Di Stilio V. The effect of gene duplication on protein interaction affecting flower development. Society for Developmental Biology 73rd Annual Meeting; July 17-21; Seattle, WA: Society for Developmental Biology; 2014.

Martínez-Gómez, J., Di Stilio V, Galimba K. Evolution of genetic pathways affecting petal and stamen development. 17th Annual Undergraduate Research Symposium; May 16; Seattle, WA: University of Washington; 2014.

Galimba K, Martínez-Gómez, J., Di Stilio V. Gene duplication and neo-functionalization in the APETALA3 lineage of floral organ identity genes in a non-core eudicot. Society for Developmental Biology 73rd Annual Meeting; July 17-21; Seattle, WA: Society for Developmental Biology; 2014.

Martínez-Gómez, J., Di Stilio V. Characterizing flower organ identity genes in a homeotic mutant. Pacific Northwest LSAMP Conference; February 14; Portland, OR: University of Washington; 2014. **Best Poster Presentation*

Martínez-Gómez, J., Di Stilio V. Characterizing flower organ identity genes in a homeotic mutant. 16th Annual Undergraduate Research Symposium; May 17; Seattle, WA: University of Washington; 2013.

Martínez-Gómez, J., Galimba K. Characterizing the role of the B-class gene APETALA3 in a rue-anemone mutant. Society for the Advancement of Chicanos and Native Americans in Science (SACNAS); October; Seattle, WA, 2012.

SOCIETY MEMBERSHIP

American Society of Plant Taxonomist
Society of Systematic Biology
Botanical Society of America
Society for the Study of Evolution

PEER REVIEW FOR FOLLOWING JOURNALS

Trends in Ecology and Evolution
Annals of Botany
PLOS One
The Plant Cell
Molecular Phylogenetics and Evolution