

Ciera C. Martinez, PhD

Senior Program Manager

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APPOINTMENTS

Senior Program Manager <i>Eric and Wendy Schmidt Center for Data Science and Environment · UC Berkeley</i>	April 2023 – present
Research Lead, Biodiversity and Environmental Data Science <i>Berkeley Institute for Data Science (BIDS) · UC Berkeley</i>	July 2020 – March 2023
BIDS Postdoctoral Fellow <i>Berkeley Institute for Data Science · UC Berkeley</i>	March 2018 – June 2020
NSF Postdoctoral Fellow <i>Molecular and Cell Biology · UC Berkeley</i>	March 2016 – February 2018

EDUCATION

PhD, Plant Biology <i>Emphasis in Molecular Biology and Genomics · UC Davis</i>	March 2016
BS, Biology <i>Chemistry Minor · Northeastern Illinois University, Chicago</i>	May 2008

RESEARCH EXPERIENCE

UC Berkeley <i>Advisor: Michael Eisen</i>	March 2016 – July 2020
UC Davis <i>Advisor: Neelima Sinha</i>	January 2010 – March 2016
RIKEN, Yokohama, Japan <i>Advisor: Keiko Sugimoto</i>	December 2014 – April 2015
University of Kansas <i>Advisors: Lena Hileman & Jill Preston</i>	August 2008 – August 2009
Chicago Field Museum of Natural History <i>Advisor: Rick Ree</i>	September 2007 – August 2008
University of Colorado, Boulder <i>Advisor: Pamela Diggle</i>	April – August 2007
Northeastern Illinois University <i>Advisor: Joel Olfelt</i>	September 2006 – May 2008

PUBLICATIONS

20. Kigali Sim: Open source simulation toolkit for modeling substances and policies related to the Montreal Protocol. Pottinger AS, Natarajan B, de Bruyn M, Martinez CC. 2026. Journal of Open Source Software
19. Indigenous knowledge and community-derived counts produce robust wildlife population estimates: Roosevelt Elk in Karuk Aboriginal Territory. Connor T, Montealegre-Mora F, Saxon BJ, Camarena J, et al. including Martinez C. 2025. Ecology and Evolution

18. Pathways to reduce global plastic waste mismanagement and greenhouse gas emissions by 2050. Pottinger AS, Geyer R, Biyani N, Martinez CC, Nathan N, Morse MR, Liu C, et al. 2024. Science
17. The importance of habitat type and historical fire regimes in arthropod community response following large-scale wildfires. Holmquist A, Markelz R, Martinez C, Gillespie R. 2024. Global Change Biology
16. Ten simple rules on writing clean and reliable open-source scientific software. Hunter-Zinck H, de Siqueira A, Vásquez V, Barnes R, Martinez C. 2021. PLOS Computational Biology
15. Principles for data analysis workflows. Stoudt S*, Valeri V*, Martinez C. 2021. PLOS Computational Biology
14. Spatial transcriptional signatures define margin morphogenesis along the proximal-distal and medio-lateral axes in *Solanum lycopersicum*. Martinez C, Li S, Woodhouse M, Sugimoto K, Sinha N. 2021. Plant Cell
13. Whole genome sequences of 23 species from the *Drosophila montium* species group. Bronski M, Martinez C, Weld H, Eisen M. 2020. G3: Genes, Genomes, Genetics
12. A fungal pathogen that robustly manipulates the behavior of *Drosophila melanogaster*. Elya C, Lok T, Spencer Q, McCausland H, Martinez C, Eisen M. 2018. eLIFE
11. Morphological plant modeling: Unleashing geometric and topologic potential within the plant sciences. Bucksch A, 37 authors including Martinez C. 2017. Frontiers in Plant Science
10. Left-right leaf asymmetry in decussate and distichous phyllotactic systems. Martinez C*, Chitwood D*, Smith R, Sinha N. 2016. Proceedings of the Royal Society B
9. A Sister of PIN1 gene in tomato defines organ initiation patterns by maintaining epidermal auxin flux. Martinez C, Koenig D, Chitwood D, Sinha N. 2016. Developmental Biology
8. Light-induced indeterminacy alters shade avoiding tomato leaf morphology. Chitwood D, Kumar R, Ranjan A, et al. including Martinez C. 2015. Plant Physiology
7. Resolving distinct genetic regulators of leaf shape within a heteroblastic and ontogenetic context. Chitwood D, Ranjan A, Kumar R, et al. including Martinez C. 2014. Plant Cell
6. A modern ampelography: a genetic basis for leaf shape and venation patterning in *Vitis vinifera*. Chitwood D, Ranjan A, Martinez C, et al. 2013. Plant Physiology
5. Genetic Control of Leaf Shape. Martinez C and Sinha N. 2013. Encyclopedia of Life Science
4. trifoliolate encodes an R2R3 MYB transcription factor that modulates leaf and shoot architecture in tomato. Ahmad Naz A, Raman S, Martinez C, et al. 2013. PNAS
3. Leaf asymmetry as a developmental constraint imposed by auxin-dependent phyllotactic patterning. Chitwood D, Headland L, Ranjan A, Martinez C, et al. 2012. Plant Cell
2. Gradual disintegration of the floral symmetry gene network is implicated in the evolution of a wind-pollination syndrome. Preston J, Martinez C, Hileman L. 2011. PNAS
1. The *Populus* class III HD ZIP transcription factor POPCORONA affects cell differentiation during secondary growth of woody stems. Du J, Miura E, Robischon M, Martinez C, Groover A. 2011. PLoS ONE

Conference Proceedings

- . Removing barriers to science-informed decision-making through data science and human-centered design. Layritz LS, Zomer M, le Bruyn M, et al. including Martinez C. 2026. EGU General Assembly
- . GeoJupyter and JupyterGIS: Exploring more approachable geospatial data workflows as an open source software community. Fisher M, Perez F, Renou M, et al. including Martinez C. 2025. AGU Annual Meeting
- . GeoJupyter: Streamlining the lifecycle of geospatial research with the Jupyter ecosystem. Perez F, Fisher M, Martinez C, Renou M, et al. 2025. AGU Annual Meeting

Preprints

- . Disentangling blade and vasculature shape in grapevine leaves. Yahiaoui W, Smail S, et al. including Martinez C. 2026. bioRxiv
- . Using game design to inform a plastics treaty: Fostering collaboration between science, machine learning, and policymaking. Pottinger AS, Biyani N, Geyer R, et al. 2023. arXiv
- . Challenges of doing data-intensive research in teams, labs, and groups. Gieger S, and ten other authors including Martinez C. SocArXiv

GRANTS, FELLOWSHIPS & AWARDS

Awarded over \$2.3 million in research funding across grants and fellowships.

2026	Chancellor's Excellence in Management Award
2023	Alfred P. Sloan Foundation Grant
2021	Code for Science and Society Grant
2020	Academic Data Science Alliance CDN Seed Grant
2020	The Coaching Fellowship

2018	Mozilla Open Science Fellowship
2017	BIDS Data Science Fellowship
2017	Burroughs Wellcome Postdoctoral Enrichment Grant
2016	NSF Postdoctoral Fellowship
2015	Ford Fellowship
2015	Katherine Esau Summer Graduate Fellowship
2014	NSF Graduate Research Opportunities Worldwide (GROW) Fellowship
2014	Walter R. and Roselinde H. Russell Fellowship
2013	Elsie Taylor Stocking Fellowship
2012	Excellence in Mentorship Award
2011	GFRP NSF Pre-doctoral Fellowship
2008	PREP Fellow, University of Kansas
2007	REU Fellowship, University of Colorado, Boulder

PRESENTATIONS

2025	National Workshop on Data Science Education Panel <i>Talk (invited): GeoJupyter: An Accessible Open Source Geospatial Ecosystem</i>
2023	Lewis & Clark College, Portland, OR <i>Talk (invited): Uncovering Patterns in Nature with Data Science Tools</i>
2023	Academic Data Science Alliance (Virtual) <i>Talk / Panel (invited): Informal Training Opportunities in Data Science</i>
2022	Women in Data Science (WiDS) Berkeley, Virtual <i>Talk (invited): Designing Our World with Data</i>
2021	Data Science Coast to Coast <i>Talk (invited): Open science in the wild: a guide to train researchers to build reproducible and collaborative workflows</i>
2020	Open Science Symposium, Carnegie Mellon University, Pittsburgh, PA <i>Talk (invited): Alternative Research Products within the life cycle of data analysis workflows</i>
2020	Academic Data Science Alliance Annual Conference <i>Talk (selected abstract): Principles for data-intensive research workflows: Guidance for the classroom and the computational laboratory</i>
2020	University of Wyoming, INBRE 2020 Summer of Code <i>Talk (invited): Bird's Eye View of Reproducibility</i>
2019	Invasive Species CSI, Ljubljana, Slovenia <i>Talk (plenary): Defining the Usability of Biodiversity Databases — Lessons Learned from Tutorial Creation</i>
2019	Yale, Digital Data Conference, New Haven, CT <i>Talk (selected abstract): Designing a Synergistic Relationship Between Undergraduate Data Science Education and Usability of Biodiversity Databases</i>
2019	rOpenSci Community Call, Online <i>Talk (invited): Research Applications of rOpenSci Taxonomy and Biodiversity Tools</i>
2019	Lewis & Clark College, Portland, OR <i>Talk (invited): Unleashing the Power of Biodiversity Data with Data Science</i>
2019	OpenCon, Portland, OR <i>Talk: Empowering Computer Scientists to Build Tools and Tutorials for Biodiversity Data</i>
2018	MSDSE Summit, Park City, Utah <i>Talk: Reproducibility and Management of Data Science Teams</i>
2018	UC Berkeley Statistics and Genomics Seminar Series <i>Talk (invited): Data Science and the Evolution of Plant and Animal Morphology</i>
2018	University of San Francisco Biology Seminar Series, San Francisco, CA <i>Talk (invited): What data science can tell us about organism shape and evolution</i>
2017	University of Kansas EEB Seminar, Lawrence, KS <i>Talk (invited): Evo-Devo in the data science age</i>
2017	Berkeley Institute for Data Science, Berkeley, CA <i>Talk: How do organisms get their shape?</i>
2017	Enterprise Applications of the R Language (EARL), San Francisco, CA <i>Talk (Keynote): R-Ladies: a world-wide organization to promote gender diversity in the R community</i>
2017	58th Annual Drosophila Research Conference, San Diego, CA <i>Poster: Using comparative genomic approaches to reveal underlying constraints on enhancer sequence divergence</i>
2016	Berkeley Molecular and Cell Biology Colloquium, Asilomar, CA <i>Poster: Using comparative genomic approaches to reveal underlying constraints on enhancer sequence divergence</i>
2016	Leonardo Art Science Evening Rendezvous, University of California, Davis <i>Talk (invited): The hidden beauty of plant architecture</i>
2015	Nagoya University · RIKEN-Kobe · NAIST Institute, Nara <i>Three Talks: Using laser capture micro-dissection and characterization of a Solanum lycopersicum pin1 mutant</i>
2015	International Plant Meeting in Kyoto, Kyoto Sangyo University <i>Talk (invited): Investigating the molecular mechanisms regulating leaf initiation, morphogenesis, and cellular differentiation in Solanum lycopersicum</i>
2014	American Society of Plant Biology, Portland, OR <i>Poster: Global Gene Expression Map of a Complex Leaf</i>

- 2014 **Stanford Carnegie Institution for Science, Palo Alto, CA** *Talk (invited): Getting started on making your computational work reproducible*
- 2013 **FASEB Mechanisms in Plant Development, Saxtons River, VT** *Talk (selected abstract): Understanding the phylogenetic history and function of members of the PIN-FORMED1 clade*
- 2013 **American Society of Plant Biology, Providence, RI** *Poster: Understanding the phylogenetic history and function of members of the PIN-FORMED1 clade*
- 2012 **Plant Biology Graduate Group Fall Colloquium, Davis, CA** *Talk: Developing a Global Expression Map of a Developing Leaf*
- 2012 **American Society of Plant Biology, Austin, TX** *Poster: Exploring the Forgotten Axis of Leaf Development*
- 2011 **NAIST Global COE International Symposium, Nara, Japan** *Talk: Exploring the Forgotten Axis of Leaf Development*
- 2011 **UC Davis Plant Cell Seminar Series, Asilomar, CA** *Talk: Auxin's Influence on the trifoliolate Mutant Leaf Phenotype*
- 2008 **UC Riverside 25th Symposium in Plant Biology, CA** *Poster: Duplication and Divergence of Veronicaceae Floral Symmetry Genes*
- 2008 **NEIU Research Symposium, Chicago, IL** *Talk: Using Chloroplast Genome Regions to Assess Phylogenetic Relationships of Corydalis*
- 2007 **REU Research Symposium, Boulder, CO** *Talk: Fw2.2 Effect on Floral and Fruit Development in Tomato Plants*
- 2007 **NEIU Research Symposium, Chicago, IL** *Poster: Effects of Gibberellic Acid, Light, and Cold Stratification on Echinacea pallida and Aquilegia canadensis Germination Rates*

FACILITATION, ORGANIZING & SERVICE

- 2025 GeoJupyter Hackathon — Lead Organizer
- 2024 SEEKCommons Network Convening — Organizer
- 2023 ImageXD 2023 — Lead Organizer
- 2021–present Data Science by Design (DSxD) — Co-founder, Leadership Team
- 2018–2022 TextXD Annual Conference — Organizing Committee
- 2019–2021 ADSA CDN Executive Committee
- 2017–2021 BIDS Best Practices Working Group — Lead
- 2017–2018 R-Ladies San Francisco — Leadership Team, Organizer

TEACHING

- 2021 Reproducibility for Collaborative Science, BITSS · UC Berkeley
- 2020 INBRE 2020 Summer of Code, University of Wyoming
- 2018 Plant Development, Instructor · Mills College, CA
- 2017 Evolutionary Development Lab, Instructor · SF Institute of Art, CA
- 2017 Git and GitHub Tutorial, Instructor · Berkeley, CA
- 2016 SOM Clustering Tutorial, Instructor · Davis, CA
- 2015 Reproducible Research Bootcamp, Instructor · Gainesville, FL
- 2014 BIS 180L Genomics, Teaching Assistant · UC Davis
- 2014 Introduction to R, Instructor · Woodland Pioneer High School

MEDIA, INTERVIEWS & PUBLIC WRITING

- 2024 Global Plastics AI Policy Tool — UN Treaty Coverage — The New York Times · Also covered by The Guardian, NPR, Newsweek, and The Washington Post
- 2023 How to make your scientific data accessible, discoverable and useful — Nature
- 2022 Behind the Scenes of 'The Future of Data Science': An Interview with Ciera Martinez — Nightingale Magazine
- 2022 150 Years Celebration of Women in Computing at Berkeley — UC Berkeley
- 2021 How to approach accessibility in academic data science — Academic Data Science Alliance
- 2021 The Gateway at UC Berkeley: Lighting the Way to Prevent California Wildfires — UC Berkeley
- 2020 100 Inspiring Hispanic/Latinx Scientists in America — Cell Crosstalk
- 2019 Decoding the Secrets of Plants' Stunning Leaf Patterns — Smithsonian Magazine
- 2019 11 Ways to Avert a Data-storage Disaster — Nature
- 2018 Watch These Flies Turn Into Zombies — National Geographic
- 2018 The State of Open Science and What's Ahead — Medium
- 2018 Mozilla Announces 25 New Fellows in Openness, Science, and Tech Policy — Mozilla

2015 Rule Rewrite Aims to Clean up Scientific Software — Nature

2012 Is Your Leaf Left Handed? — Science Daily