

Mariana Cecilia Valencia Mestre, Ph. D.

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Current Position

Assistant Teaching Professor, Northeastern University 2022-current

Former Position

Lecturer, School of Environmental Sustainability, Loyola University Chicago 2018-2021

Education

PhD in Ecology and Evolutionary Biology, 2017
University of Michigan

Master in Science, Ecology and Evolutionary 2010
Biology, *University of Illinois-Chicago*

Bachelor in Biology, Emphasis in Plant 2006
Science, *University of Panama*

Research Interests

Agroecology / Sustainable Food Systems and Farming / Human-Plant Interactions / Rural
Sociology / Plant Ecology / Restoration Ecology / Political Ecology

Teaching

Undergraduate Courses – Northeastern University

Sustainable Agriculture (ENVR 3850) 2023

Sustainable Agriculture Laboratory (ENVR 3851) 2023

Plants and Society (ENVR 3800) 2022

Plants and Society Laboratory (ENVR 3801) 2022

Sustainable Development (ENVR 2515) 2022, 2023

Environmental Sciences (ENVR 1101) 2022

Independent Study Courses – Northeastern University

Directed Study (HONR 4992)

Nikhil Agarwal, *Effective Agroforestry* Spring 2023

Earth & Environmental Sciences Capstone (ENVR 4900)

Ethan St. Aubin, *Raised Bed Design and Crop Plan Design for
Sustainable Agriculture at NU* Fall 2022

Undergraduate Courses - Loyola University Chicago

Sustainable Agriculture (ENVS 325; ENVS 425)	2018, 2020, 2021
The Scientific Basis of Environmental Issues (ENVS 101)	2018, 2019, 2020, 2021
Principles of Ecology Lab (ENVS 286 for non-science majors)	2019, 2020
Principles of Ecology Lab (ENVS 286S for science majors)	2019
Soil Ecology (ENVS 223)	2020

Field Course - Loyola University Chicago

Agroecosystems (ENVS 326)	Summer 2019
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Independent Study Courses - Loyola University Chicago

Environmental Research Capstone (ENVS 391-C)

Molly Bittner, <i>Food Forest Proposal for Loyola University Lakeshore Campus</i>	Fall 2021
Isabel Hoyos Arango, <i>Spontaneous Silvo-Pastoral Systems in Colombia</i>	Spring 2020
Frankie Rafferty, <i>Evaluating Food Insecurity in Students before and after COVID-19 Coronavirus Pandemic at Loyola University Chicago</i>	Spring 2020

Individual Environmental Research (ENVS 391)

Nina Connor, <i>Food Forest Proposal for Loyola University Lakeshore Campus</i>	Fall 2021
Rachel Joyce, <i>Sustainable Agriculture: Science, Practice, and Movement</i>	Spring 2021
Jonathan Molina, <i>Diversity, Equity and Inclusion Perceptions among SES students</i>	Spring 2021

Directed Readings (ENVS 399)

Patrick Baranovskis, <i>Agriculture at the Core of Global Freedom Struggles</i>	Fall 2019
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Teaching Assistant positions – University of Michigan

Food, Energy, and the Environment	Fall Semester 2011, 2012, 2013
Practical Botany	Winter Semester 2013
Intro Ecology and Evolutionary Biology	Winter Semester 2012

Teaching Assistant positions – University of Illinois-Chicago

Population and Community Ecology	Winter Semester 2009
Organism and Cellular Biology	6 Semesters from 2007 – 2010

Description: I ran my own lab and discussion sections which lasted 1 hour 30 minutes or longer per section. I designed and facilitated active learning activities, graded assignments, and posted their final grades for the course.

Teaching Assistants Supervised

Caitlin Aquila, Principles of Ecology Lab, Loyola University Chicago	Fall 2021
Kaitlin Frumento, Soil Ecology, Loyola University Chicago	Fall 2021
Cameron McCoy, Scientific Basis of Environmental Issues, Loyola University Chicago	Spring 2021
Erin Kilbane, Principles of Ecology Lab, Loyola University Chicago	Fall 2019
Olivia Niosi, Principles of Ecology Lab, Loyola University Chicago	Spring 2019

Mentorship Related to Retention

Loyola University Chicago Empowering Sisterhood (LUCES) – 2 undergraduate mentees	Fall 2019 - Current
Co-mentorship, Association for Women in Science Mentoring Circle, University of Michigan	Winter 2018
Co-mentorship, Dissertation Writing groups, Sweetland Writing Center, University of Michigan	Fall 2016- Winter 2017
Big Sister Ecology and Evolutionary Biology Program, University of Michigan	2013

Student Group Advising

Food Recovery Network at Loyola University Chicago	Fall 2020 – Spring 2021
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Additional Teaching Preparation

Preparing Future Faculty. Center for Research on Learning and Teaching, University of Michigan.	2017 (1 month)
Teaching Socio-Environmental Synthesis with Case Studies. National Socio-Environmental Synthesis Center (SESYNC).	2015 (1 week)
Graduate Student Instructor Training. University of Michigan.	2011 (Fall Semester)

Fellowship, Grants, and Award

2023	Community Engaged Teaching Fellows Program, NU	\$750
2021	Nominated for Langerbeck Faculty Research Mentor Award, LUC	n/a
2020	Searle Online Course Development Program, Loyola University Chicago	\$2000
2020	Faculty Seminar, All Things Ignatian, Loyola University Chicago	\$2000
2018	Science Communication Fellow, University of Michigan	n/a
2017	Rackham Conference Travel Grant, University of Michigan	\$800
2017	EEB Travel Grant, University of Michigan	\$250
2016	Rackham Conference Travel Grant, University of Michigan	\$618
2015	Block grant, University of Michigan	\$800
2015	EEB Travel Grant, University of Michigan	\$800

2014	Block grant, University of Michigan	\$1,770
2013	Rackham International Research Fellowship, University of Michigan	\$6,500
2013	Block Grant, University of Michigan	\$1,200
2012	Rackham Graduate Student Research Grant, University of Michigan	\$1,500
2012	Block Grant, University of Michigan	\$1,010
2012	Short – term fellowship, Smithsonian Tropical Research Institute	\$800
2012	International Individual Fellowship, University of Michigan	\$4,500
2009	Bodmer Travel Award, University of Illinois-Chicago	\$2,000
2008	UIC Teaching Assistant Colloquium Award, University of Illinois-Chicago	n/a
2007	Secretaria Nacional de Ciencia y Tecnología Graduate Fellowship, UP	<i>Declined</i>

Research Projects

Role	Collaborators	Title	Institution	Years Active
Mentor	<u>Undergraduate Mentee</u> - Frankie Rafferty	Evaluating Food Insecurity in Students before and after COVID-19 Coronavirus Pandemic at Loyola University Chicago	Loyola University Chicago	Summer 2020 – Spring 2021
Mentor	<u>Undergraduate Mentee</u> – Isabel Hoyos Arango	Contrasting Approaches to the Improvement of Cattle Ranching in Colombia	Loyola University Chicago, Loyola Undergraduate Research Program (\$2000)	Summer 2020-Spring 2021
Ph. D. Dissertation	<u>Adviser</u> - John Vandermeer <u>Undergraduate mentees</u> – Erin Figley and Tiaris Olmos	From treeless pastures to silvo-pastoral systems: the extent and drivers of tree management styles (Panama)	University of Michigan	2011-2018

Mariana C. Valencia Mestre – CV

Co-Investigator	<u>P. I</u> – Trevor Caughlin	Individual decision-making complicates a conceptual model for a forest transition in western Panama (Panama)	University of Florida, University of Michigan	2015-2017
Master Thesis	<u>Adviser</u> – Henry Howe	Community development and persistence in a long-term tallgrass experimental prairie restoration	University of Illinois-Chicago	September 2009-May 2010
Masters Research	<u>Adviser</u> – Henry Howe <u>Undergraduate Mentee</u> – Nisreen Tayebjee	Restoration Ecology in Lowland Tropical Rain Forest Mexico (Los Tuxtlas Biosphere Reserve, Veracruz)	University of Illinois-Chicago	May 2008 – August 2009
Co-investigator	<u>P. I</u> – Scott Mangan	Plant-Soil Feedbacks in Tropical Forest (Barro Colorado Island, Panama)	Smithsonian Tropical Research Institute	February-July 2007
Undergraduate Thesis	<u>Adviser</u> – Sunshine Van Bael	Diversity of Foliar Endophytic Fungi in Two Angiosperm Species: <i>Cordia alliodora</i> (Ruiz y Pau.) Oken and <i>Merremia umbellata</i> (L.) Hallier f (Gamboa, Panama)	University of Panama Smithsonian Tropical Research Institute	2004-2006
Co-investigator	<u>P. I</u> – Sunshine Van Bael	Interactions Between Foliar Endophytic Fungi and Herbivores (Gamboa, Panama)	Smithsonian Tropical Research Institute	2004-2006

Publications *Undergraduate mentee

- 1.* Rafferty, F., Schusler, T., & **Valencia Mestre, M.** 2023. College student food security during the COVID-19 pandemic. *Journal of Agriculture, Food Systems, and Community Development*, 12(2), 79-96.
2. **Valencia Mestre, M. C.**, L. Hoey, and J. Vandermeer. 2020. Tree management and balancing process among Panamanian farmers. *Small-Scale Forestry*, 19(4): 541-563
3. **Valencia Mestre, M. C.**, B. G. Ferguson, and J. Vandermeer. 2019. Syndromes of production and tree-cover dynamics of Neotropical grazing land. *Agroecology and Sustainable Food Systems* 43-4: 362-385.
4. S. A. Mangan, S. A. Schnitzer, E. A. Herre, K. M. L. Mack, **M. C. Valencia**, E. Sanchez, and J. D. Bever. 2010. Variation in strengths of negative plant-soil feedback predicts relative species abundance in a tropical forest. *Nature* 466:752-756.
5. Van Bael, S. A., **M. Valencia**, E. Rojas, N. Gómez, D.M. Windsor, & E. A. Herre. 2009. Effects of foliar endophytic fungi on the preference and performance of a leaf beetle, *Chelymorpha alternans* Boheman (Chrysomelidae: Cassidinae). *Biotropica* 41:221-225.
6. Van Bael, S. A., H. Fernandez, **M. Valencia**, E. Rojas, W. Wcislo, E.A. Herre. 2009. Two fungal symbioses collide: Endophytic fungi are not welcome in leafcutting ant gardens. *Proceedings Royal Society of London – Series B*. 276: 2419- 2426.

Fieldwork Reports

1. **Valencia Mestre, M.** 2018. “Cobertura arbórea en fincas ganaderas de Panamá.” Translation: Tree cover area in cattle ranches of Panama. Delivered to Study Participants.
2. **Valencia Mestre, M.** 2013. “Los árboles de las fincas ganaderas en la Provincia de Chiriquí, República de Panamá.” Translation: The trees of the cattle ranching farms in the Chiriqui Province, Republic of Panama. Delivered to Study Participants.

Presentations

Congress and Meetings

1. **Valencia Mestre, M.** and J. Vandermer. Tree management across cattle pastures in the Republic of Panama. *Ecological Society of America Annual Meeting, Contributed Talk.* 2019
2. **Valencia Mestre, M.**, L. Hoey, L. and J. Vandermer. A Chayanovian analysis of tree management among Panamanian farmers. *Michigan University-Wide Sustainability and Environment Conference, Ignite Talk.* 2018
3. **Valencia Mestre, M.**, B. Ferguson and J. Vandermeer. Sudden change in silvo-pastoral systems: relaxing the linear and monotonic assumptions. *American Association of Geographers Annual Meeting, Poster Presentation.* 2017
4. **Valencia Mestre, M.**, T. Caughlin and J. Vandermeer. From treeless pastures to silvo-pastoral systems: pasture syndromes across the Republic of Panama. *Association of Women in Agroecology, Poster Presentation.* 2016

5. **Valencia Mestre, M.**, J. Brown and H. Howe. Development in a six year tall grass restoration experiment: Effects of planting season and density on diversity. *Ecological Society of America Meeting, Poster Presentation.* 2010

Department Seminar

1. **Valencia Mestre, M.** and J. Vandermeer. From treeless pastures to silvo-pastoral systems: the extent and drivers of tree management styles. *Ecology and Evolutionary Biology Seminar, University of Michigan.* 2017
2. **Valencia Mestre, M.** and J. Vandermeer. Sudden change in agro-silvo pastoral systems: from linear to non-linear to non-monotonic. *Ecology and Evolutionary Biology Lunch Seminar, University of Michigan.* 2013

Guest Speaker

1. **Valencia Mestre, M.** Panelist for Leading Women in Public Service. *Leading Women of Tomorrow, Loyola University Chicago* 2020
2. **Valencia Mestre, M.** “Cobertura Arbórea en Fincas Ganaderas de Panamá” (Tree Cover in Panamanian Cattle Ranches) for the workshop entitled “Indagar, aprender y conservar, una aventura de ciencias con Smithsonian” (Inquiry, learning and conservation, a science adventure with Smithsonian). *Smithsonian Tropical Research Institute.* 2019
3. **Valencia Mestre, M.** From treeless pastures to silvo-pastoral systems: the extent and drivers of tree management styles. *STEP Food Systems Class, Loyola University Chicago* 2018
4. **Valencia Mestre, M.** Biodiversity and Restoration. *Lake Forest College, Illinois.* 2009
5. **Guest Field Ecology Instructor**, Field Biology Course. *Smithsonian Tropical Research Institute, Gamboa, Republic of Panama.* 2009
6. **Valencia Mestre, M.** Panama, more dynamic than meets the eye. *Lake Forest College, Illinois.* 2007

Undergraduate Mentee Presentations

1. Bittner, M. and N. Connor. Loyola Lakeshore Campus Food Forest Proposal. *Loyola's 2022 Undergraduate Research and Engagement Symposium. Poster Presentation.* Faculty mentor **Valencia Mestre, M.** 2022
2. Rafferty, F. and **Valencia Mestre, M.** Evaluating Food Insecurity in Students before and after COVID-19 Coronavirus Pandemic at Loyola University Chicago. *Climate Change Conference, Loyola University Chicago. Oral Presentation.* 2021
3. Rafferty, F. and **Valencia Mestre, M.** Evaluating Food Insecurity in Students before and after COVID-19 Coronavirus Pandemic at Loyola University Chicago. *National Conference on Undergraduate Research. Oral Presentation.* 2021
4. Hoyos Arango, I. and **Valencia Mestre, M.** Contrasting Approaches to the Improvement of Cattle Ranching in Colombia. *National Conference on Undergraduate Research. Poster Presentation.* 2021

5. Donaldson, A., I. Hoyos Arango, J. Molina, **M. Valencia Mestre**, and T. Schusler. 2021
Diversity, Equity, and Inclusion Within Loyola University’s School of Environmental Sustainability: Pilot Climate Survey. *Loyola's Virtual Undergraduate Research and Engagement Symposium. Poster Presentation.*
6. Hoyos Arango, I. and **Valencia Mestre, M.** Contrasting Approaches to the 2021
Improvement of Cattle Ranching in Colombia. *Loyola's Virtual Undergraduate Research and Engagement Symposium. Poster Presentation.*

Public Outreach

1. **Scientist Spotlight at Forsythe Middle School**, Ann Arbor, MI. 2018 (one day event)
Description: In door demonstration of the social-ecological processes that lead to the observed trees on cattle ranches.
2. **Scientist Spotlight at Ypsilanti District Library**, Ypsilanti, MI 2018. 2018 (one day event)
Description: In door demonstration of the social-ecological processes that lead to the observed trees on cattle ranches. For General Public.
3. **D-Town Farm Bio-Blitz**, Detroit, MI. Description: Science 2015, 2018
demonstrations for children from Age 8-13. (one day event)
4. **ID Day**, Museum of Natural History, University of Michigan. 2014, 2016
Description: In door demonstration of Great Lakes fishes to the General (one day event)
Public.
5. **Ecology Workshop at Peace Community Center**, Ann Arbor, MI. 2015 (one day event)
Description: In door science activities for an after-school program with elementary school students.
6. **Belle Isle Bio-Blitz**, Detroit, MI. 2013. Description: Outdoor science 2013 (one day event)
activity with students 13–14-year-old. (event)

Service - Committees

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1. Undergraduate Curriculum Committee, Marine and Environmental Science Department, Northeastern University Fall 2022-current
 2. Award Committee, School of Environmental Sustainability, Loyola University Chicago Fall 2020-Fall 2021
 3. Steering Committee Member of Module Development. Training Undergraduate Biologists through Urban Agriculture (TUBA). Program: NSF-Undergraduate Biology Education-Research Collaboration Network Spring 2020-Fall 2021
 4. Search Committee for Assistant Professor in Environmental Policy, School of Environmental Sustainability, Loyola University Chicago Fall 2020 – Spring 2021
 5. Diversity, Equity, and Inclusion Committee, Institute of Environmental Sustainability, Loyola University Chicago Fall 2019- Summer 2020

Service - Manuscript Reviewer

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- Agroecology and Sustainable Food Systems 2018

Service - Community Outreach

1. Peterson Garden Project Volunteer, Chicago IL 2019 and 2021
2. Moderator at the Good Food Expo, Chicago, IL 2019 (one day event)
3. Translator at the Local Food Summit, Ypsilanti, MI 2017 (one day event)
4. Canvassing for Flint Rising, Flint, MI. Description: Canvassing of individuals in Flint Michigan during the water crisis. 2016 (one day event)
5. Driver and host for Ecology and Evolutionary Biology graduate recruitment weekends at the University of Michigan 2013, 2015, 2016 (week wide event)
6. Volunteer for Teach-in +50 at University of Michigan. Description: Assist in the promotion and implementation of the university wide event. 2015 (week wide event)

Additional Professional Paid Work Experience

1. **Graduate Student Curatorial Assistantships (GSCAs) in the Fish Division**, Museum of Zoology. University of Michigan. Description: digitize fish images employing Photoshop software, catalog images in the Museum of Zoology database. 2014-2017
2. **Research Field Director, Smithsonian Tropical Research Institute.** 2011
Benefits of silvo-pastoral systems for biodiversity. Description: Execute a bird diversity survey across the Panama Canal Watershed.
3. **Project Launch Coordinator for ecoReserve and Earth Train.** Description: development of the conservation scheme of the Mamoni Reserve employing remote sensing and ground assessments of household needs. 2010
4. **Naturalist Guide at the Barro Colorado Nature Monument**, Smithsonian Tropical Research Institute, Republic of Panama 2004-2007 (recurring)
5. **Naturalist Guide at the Marine Exhibition Center**, Smithsonian Tropical Research Institute, Republic of Panama 2004 (recurring)

Professional Affiliations

New World Agriculture and Environmental Group, University of Michigan / Ecological Society of America / Association for Women in Science / Association of Women in Agroecology – Asociación de Mujeres in la Agroecología