

## **Kristel F. Sánchez, PhD**

*Post-Doctoral Researcher*

Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB)

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### **EDUCATION**

- August 2023                      *Ph.D. in Ecology and Evolutionary Biology*  
Advisor: Meghan A. Duffy  
University of Michigan, Ann Arbor, MI, USA
- April 2017                        *M.S. in Ecology and Evolutionary Biology*  
Advisors: Meghan A. Duffy & Mark D. Hunter  
University of Michigan, Ann Arbor, MI, USA
- April 2014                        *B.S. with Honors in Biological Sciences*  
*Minor in Chemistry*  
Advisors: Deron Burkepile & John Berry  
Florida International University, Miami, FL, USA

### **EMPLOYMENT**

- September 2023-                *Postdoctoral fellow.* Leibniz-Institute of Freshwater Ecology and  
Inland Fisheries, (IGB), Berlin, Germany.
- June 2023-July 2023            *Graduate Student Instructor.* University of Michigan, Ann Arbor,  
MI, USA
- June 2021-July 2021            *Graduate Student Instructor.* University of Michigan, Ann Arbor,  
MI, USA
- June 2019-December  
2019                                *Graduate Student Instructor.* University of Michigan, Ann Arbor,  
MI, USA
- September 2015-April  
2016                                *Graduate Student Instructor.* University of Michigan, Ann Arbor,  
MI, USA
- August 2014-June 2015        *Laboratory supervisor.* Florida International University, Miami,  
FL, USA
- August 2012-June 2014        *Chemical stockroom assistant.* Florida International University,  
Miami, FL, USA

## TEACHING EXPERIENCE

### *University of Michigan*

Summer 2019, 2021, 2023	<i>Lead co-instructor and organizer.</i> Introduction to Field Research (EEB500)
Summer 2022	<i>Guest instructor.</i> Introduction to Field Research (EEB500)
Fall 2019	<i>Graduate student instructor.</i> Food, Energy, and Environmental Justice (BIO101)
Fall 2015, 2016	<i>Graduate student instructor.</i> General Ecology Lab (EEB372)
Winter 2016	<i>Graduate student instructor.</i> Ecology Discussion (BIO281)

### *Florida International University*

Spring 2015	<i>Teaching assistant.</i> General Chemistry Lab (CHM1045)
Fall 2014	<i>Teaching assistant.</i> Organic Chemistry Lab (CHM2011)
Summer 2014	<i>Teacher.</i> Research and Ethics, UP Bound Math & Sciences-(UBMS) Program
Summer 2013	<i>Teacher.</i> Genetics, Geometry, & Spanish, UBMS Program

## PUBLICATIONS

**Sánchez KF**, Sehner K, Villegas V, Rajarajan A, Wolinska J (2025) Timing of nanoplastic exposure during infection impacts viability of host in an aquatic host-parasite system. *Submitted to Hydrobiologia*.

Fearon ML, **Sánchez KF**, Sun SJ, Calhoun SK, Monell KJ, Ravichandran V, Duffy MA (2025) Resource quality differentially impacts *Daphnia* interactions with two parasites. *Ecosphere*, 16(3), e70234. <https://doi.org/10.1002/ecs2.70234>

**Sánchez KF**, von Elert E, Monell K, Calhoun S, Maisha A, McCreadie P, Duffy MA (2024) Inhibition of gut digestive proteases by cyanobacterial diets decreases infection in a *Daphnia* host-parasite system. *Ecology & Evolution*. 14 (4): e11340. <https://doi.org/10.1002/ece3.11340>

**Sánchez, KF**, Zhong, B, Agudelo, JA, & Duffy, MA (2023). Infectivity of the parasite *Metschnikowia bicuspidata* is decreased by time spent as a transmission spore, but exposure to phycotoxins in the water column has no effect. *Freshwater Biology*, 68(6), 1020-1030. <https://doi.org/10.1111/fwb.14082>

Kociolek JP, Lowe RL, **Sánchez K**, Stepanek JG (2021) Benthic diatom (*Bacillariophyta*) flora of Torch Lake, Michigan, an oligotrophic, alkaline ecosystem with evident benthic diatom

production, with a consideration of some new and interesting species. *The Great Lakes Botanist*. 60(1-2): 24-55. <http://hdl.handle.net/2027/spo.0497763.0060.104>

**Sánchez KF**, Huntley N, Duffy MA, Hunter MD (2019) Toxins or medicines? Algal diets mediate parasitism in a freshwater host-parasite system. *Proceedings of the Royal Society B*. 286: 20182231

Jaja-Chimedza A, **Sanchez K**, Gantar M, Gibbs P, Schmale M, Berry J (2016) Carotenoid glycosides from cyanobacteria are teratogenic in the zebrafish (*Danio rerio*) embryo model of vertebrate development. *Chemosphere*. 174: 478-489. doi:10.1016/j.chemosphere.2017.01.145

Berry J, Roy U, Jaja-Chimedza A, **Sanchez K**, Matysik J, Alia A (2016) High-resolution magic angle spinning nuclear magnetic resonance of intact zebrafish embryos detects metabolic changes following exposure to teratogenic polymethoxyalkenes from algae. *Zebrafish*. 13(5): 456-465. doi:10.1089/zeb.2016.1280.

Jaja-Chimedza A, Saez C, **Sanchez K**, Berry J (2015) Identification of teratogenic polymethoxy-1-alkenes from *Cylindrospermopsis raciborskii*, and taxonomically diverse freshwater cyanobacteria and green algae. *Harmful Algae* 49:156-161. doi: 10.1016/j.hal.2015.09.010.

## PROFESSIONAL PRESENTATIONS

### INVITED

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|-------------------|--|
| April 9, 2025     | (Speaker) <i>Host-parasite interaction in a changing world</i> . IGB Visit day by KU Leuven students, IGB, Berlin, Germany   |
| June 20, 2024     | (Speaker) <i>Medicinal impacts of cyanobacterial diets in an aquatic host-parasite system</i> . IGB Brainstorm Day, IGB, Berlin, Germany   |
| June 17, 2024     | (Seminar) <i>Toxins or medicines? Exploring the mechanisms of medicinal diets in an aquatic host-parasite system</i> . Evolution and Ecology Colloquium, Freie Universität Berlin, Berlin, Germany     |
| November 15, 2023 | (Seminar) <i>Toxins or medicines? Exploring the mechanisms of medicinal diets in an aquatic host-parasite system</i> . Ecology Colloquium, Institute of Zoology, Universität zu Köln, Cologne, Germany |
| February 4, 2022  | (Panelist) <i>Diversity, Equity, and Inclusivity in EEB</i> . Recruitment weekend Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, USA                           |
| February 5, 2021  | (Panelist) <i>Diversity, Equity, and Inclusivity in EEB</i> . Recruitment weekend Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, USA                           |

- October 2, 2020 (Panelist) *Graduate Research Fellowship Program (GRFP) Information panel for EEB*. Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, USA
- February 7, 2020 (Panelist) *Frontier's Program Information Panel*. Recruitment weekend Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, USA
- September 19, 2016 (Panelist) *First Year Graduate Women in Science*. University of Michigan Women in Science and Engineering (WISE) Welcome Dinner, Ann Arbor, MI, USA

### **CONTRIBUTED**

- August 6, 2024 (Poster) *Evaluation of the potential for selective feeding and self-medication in two freshwater zooplankton with different feeding strategies*. Ecological Society of America, Long Beach, CA
- August 18, 2022 (Oral presentation) *Infectivity of the parasite Metschnikowia bicuspidata is decreased by time spent as a transmission spore, but exposure to phycotoxins in the water column has no effect*. Ecological Society of America & Canadian Society for Ecology and Evolution meeting, Montreal, QC, Canada
- December 11, 2019 (Poster) *Exposure and length of exposure to cyanotoxins decreases infectivity and virulence of transmission spores of a fungal parasite of Daphnia spp.* British Ecological Society, Belfast, Northern Ireland, UK
- August 10, 2018 (Oral presentation) *Toxins or medicines? Algal diets mediate parasitism in a freshwater host-parasite system*. Ecological Society of America Conference, New Orleans, LA, USA
- April 14, 2017 (Oral presentation) *Pick your poison: Algal resources mediate parasitism in an invertebrate system*. Benthic Ecology Meeting, Myrtle Beach, SC, USA
- August 12, 2016 (Poster) *Effects of Nutrient Composition and Source on Periphyton Blooms in Lake Torch, MI*. Ecological Society of America Conference, Fort Lauderdale, FL, USA
- April 8, 2013 (Poster) *Comparison study of volatile components extracted from Rhizophora mangle L. bark, leaves, and roots in Biscayne Bay, Florida*. American Chemistry Society Conference, New Orleans, LA, USA

## **HONORS, AWARDS, AND RECOGNITIONS:**

### ***Fellowships***

2026-	National Science Foundation Post-Doctoral Fellowship Program in Biology
2023-2024	IGB Promising Early Career Post-Doctoral Fellowship Program
2020-2023	Rackham Merit Fellowship, University of Michigan
2017-2020	National Science Foundation Graduate Research Fellowship Program
2017	Honorable Mention, Ford Fellowship

### ***Grants***

2025	IGB 2025 Strategic Program Area Seed Grant for “Toward an improved forecasting of the effects of cyanobacteria blooms on host–parasite interactions using phylogenetics, traits, and statistics” (39,422.69 €)
2022	University of Michigan Rackham Graduate Student Research Grant (\$3,000)
2022	EEB Department Block Grant (\$2,298)
2020	CRLT Faculty Development Fund Grant for “Coloring Science” (\$10,000)
2019	EEB Department Block Grant (\$1,862)
2018	EEB Department Block Grant (\$1,993)
2017	EEB Department Block Grant (\$2,287)
2016	University of Michigan Rackham Graduate Student Research Grant. (\$1,500)
2016	EEB Department Block Grant. (\$2,192)
2012	National Institutes of Health (NIH) Minority Health and Health Disparities Research Training (MHRT) program at Cornell University (REU; \$5,000)

### ***Other awards***

2023	Michigan Botanical Society Isobel Dickinson Memorial Award, given to the best student-authored paper published in a given volume of The Great Lakes Botanist (\$250)
2022	Ecology and Evolutionary Biology (EEB) Department Justice, Equity, Diversity and Inclusion (JEDI) Award, for general contributions in advancing JEDI in the field of Ecology and Evolutionary Biology (\$500)
2021	EEEB Department JEDI Award for BioBlitz (\$500)
2021	Honorable Mention, EEB Department JEDI Award
2019	Rackham Graduate School Scholar-Activist Award

### ***Travel Grants***

2022	University of Michigan Rackham International Travel Grant (\$1,050)
2019	University of Michigan Rackham International Travel Grant (\$1,050)
2017	University of Michigan Rackham International Travel Grant (\$1,050)

## OUTREACH/VOLUNTEER ACTIVITIES

March 2025	<i>Organizer &amp; Panelist.</i> How to find a postdoc position seminar. IGB, Berlin, Germany
November 2023	<i>Volunteer.</i> Berlin Science Week. Freshwater scientist gallery speaker. Berlin, Germany.
March 2023	<i>Organizer.</i> Feria de Ciencia at En Nuestra Lengua. Ann Arbor, MI, USA
April 2022	<i>Volunteer.</i> Friends of the Rouge. Benthic macroinvertebrate monitoring field scientist. Canton, MI, USA
March 2022	<i>Organizer.</i> Feria de Ciencia at En Nuestra Lengua. Ann Arbor, MI, USA
November 2021	<i>Organizer.</i> Graduate School Application Feedback grad student-undergrad match program for STEM students. Ann Arbor, MI, USA
October 2021	<i>Organizer.</i> Project Inspire Workshop. Ann Arbor, MI, USA
March 2021	<i>Organizer.</i> Virtual Feria de Ciencias at En Nuestra Lengua. Ann Arbor, MI, USA
June 2020	<i>Booklet editor.</i> EcoDia at Finca Irlanda. Chiapas, Mexico
March 2020	<i>Organizer.</i> Feria de Ciencia at En Nuestra Lengua. Ann Arbor, MI, USA
June 2019	<i>Organizer.</i> EcoDia at Finca Irlanda. Chiapas, Mexico
May 2019	<i>Organizer.</i> BioBlitz biodiversity survey at D-Town Farm. Detroit, MI, USA
March 2019	<i>Organizer.</i> Feria de Ciencias at En Nuestra Lengua. Ann Arbor, MI, USA
June 2018	<i>Organizer.</i> Feria de Ciencias at En Nuestra Lengua. Ann Arbor, MI, USA
May 2018	<i>Organizer.</i> BioBlitz biodiversity survey at D-Town Farm. Detroit, MI, USA
October 2017	<i>Organizer.</i> MC <sup>2</sup> Michigan and the Climate Crisis University of Michigan Bicentennial celebration event. Ann Arbor, MI, USA
June 2017	<i>Organizer.</i> EcoDia at Finca Irlanda. Chiapas, Mexico
May 2017	<i>Volunteer.</i> BioBlitz biodiversity survey at D-Town Farm. Field scientist. Detroit, MI, USA
September 2016-May 2019	<i>Volunteer.</i> En Nuestra Lengua. Teacher assistant. Ann Arbor, MI, USA
May 2016	<i>Volunteer.</i> BioBlitz biodiversity survey at D-Town Farm. Field scientist. Detroit, MI, USA
May 2013-June 2013	<i>Volunteer.</i> FIU Peer Lead Team Learning (PLTL) Leader. Tutor. Florida International University, Miami, FL, USA
October 2012-June 2014	<i>Volunteer.</i> FIU Biscayne Bay Campus (BBC) Science Club Nano-Einstein Program. Mentor for 1 <sup>st</sup> grade class. Florida International University, Miami, FL, USA

### *Selected Popular press*

2022	<a href="#">Article</a> on Early Career Scientist Symposium: Racial Justice and Anti-Racist Research in EEB, University of Michigan EEB News
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- 2021 [Article](#) on Feria de Ciencias during the COVID pandemic, University of Michigan EEB News
- 2020 [Article](#) on Coloring Scientist grant, University of Michigan EEB News  
[Article](#) on EcoDia at Finca Irlanda, University of Michigan EEB News
- 2019 [Blog post](#) on the Feria the Ciencias at En Nuestra Lengua, University of Michigan EEBLOG  
[Press release](#) on article on medicinal cyanobacterial diets (ProcB 2019), Michigan News  
[Article](#) on EEB diversity library, University of Michigan EEB News

## ACADEMIC SERVICE

- July 2024- *Representative.* IGB Post-Doctoral Society
- September 2024 *Committee member.* IGB Plankton and Microbial Ecology Department Chair hiring committee
- 2021-2022 *President.* Graduate Researchers of Ecology and Evolutionary Biology (GREEBs)
- 2021-2022 *Outreach co-chair.* SACNAS Chapter University of Michigan
- Winter 2022 *Organizing committee member.* Ecology and Evolutionary Biology Department 17<sup>th</sup> Annual Early Career Scientist Symposium. Topic: Racial justice and anti-racist research in ecology and evolutionary biology - University of Michigan
- 2020-2021 *Executive committee member.* Ecology and Evolutionary Biology Department – University of Michigan
- Fall 2020 *Committee member.* President’s Postdoctoral Fellowship Program (PPFP) search committee
- Winter 2020 *Committee member.* LSA Collegiate Fellows Program search committee
- 2018-2020 *Committee member.* Justice, Equity, Diversity and Inclusion committee, Ecology and Evolutionary Biology Department – University of Michigan
- Winter 2018 *Committee member.* LSA Collegiate Fellows Program search.
- 2017-2018 *Coordinator.* Tuesday Lunch Seminar, Ecology and Evolutionary Biology Department – University of Michigan

## PEER-REVIEWING

Manuscript reviewer for:

*Freshwater Biology,*  
*Hydrobiologia*  
*Harmful Algae*  
*Ecological Research*

## MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Chemistry Society  
Association for Tropical Biology and Conservation  
British Ecological Society  
Ecological Society of America

## MASTERS STUDENTS MENTORED

Name	College & Year
Fabian Flücken	University of Regensburg, Current
Sarah Lauck	University of Postdam, Current

## UNDERGRADUATE STUDENTS MENTORED

REU: Research Undergraduate Experience program

Name	College & Year
Kendall Ash	University of Michigan, 2023
Jenna Petri	University of Michigan, 2023
Anna Zhao	University of Michigan, 2022
Aniqa Maisha	University of Michigan, 2022
Morgan Bates	University of Michigan, 2021
Kathryn Sullivan	University of Michigan, 2020
Baili Zhong	Pomona College, 2019 (REU)
Jorge Agudelo	Florida International University, 2019 (REU)
Seeta Goyal	University of Michigan, 2019
Mia McPherson	Michigan State University, 2018 (REU)
Alliyah Lusuegro	Swarthmore College, 2018 (REU)
Karana Wickens	University of Michigan, 2017
Gabby Vargas	Wesleyan University, 2016 (REU)
Naomi Huntley	University of Michigan, 2016
Felipe Akihiro Otsuka	Arizona State University, 2015 (REU)