Jenna T. B. Ekwealor

CURRICULUM VITAE

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EDUCATION

2020 **Ph.D. in Integrative Biology**
Department of Integrative Biology
University of California, Berkeley (UCB)
Advisor: Dr. Brent D. Mishler
Dissertation: *Tolerance of desiccation and UV radiation in mosses of the genus* Syntrichia *(Pottiaceae), from genomes to ecology*

2020 **Certificate of Remote Instruction**
UCB
Graduate Student Instructor Teaching & Resource Center

2015 **M.S. in Environmental Science, Biology Option**
California State University, Los Angeles (CSULA)
Advisor: Dr. Kirsten M. Fisher
Thesis: *Sex or survival? The genetic impacts of environment and energetic trade-offs for the Mojave Desert moss* Syntrichia caninervis *(Pottiaceae)*

2012 **B.S. in Biology, Minor in Chemistry**
Purdue University, Indiana University—Purdue University—Indianapolis (IUPUI)

2012 **B.A. in Religious Studies**
Indiana University, IUPUI

PUBLICATIONS [ORCID 0000-0001-9014-8786]

7. Mishler, Brent D.; **Ekwealor, Jenna T. B.**; Nosratinia, Sonia; Dautermann, Oliver; Brinda, John; Jauregui Lazo, Javier; Ebrahimi, Sotodeh; Caswell-Levy, Caleb; Guill, Kate; Oliver, Melvin. A global phylogeny and classification of the dryland moss genus *Syntrichia*. (In prep.).

6. **Ekwealor, Jenna T. B.**; Clark, Theresa A.; Dautermann, Oliver; Russell, Alexander; Ebrahimi, Sotodeh; Stark, Lloyd R.; Niyogi, Krishna K.; Mishler, Brent D. Natural ultraviolet radiation exposure alters photosynthetic biology and improves recovery from desiccation in a desert moss. *Journal of Experimental Botany* (2021), DOI: 10.1093/jxb/erab051.

5. Silva, Anderson T.; Gao, Bei; Fisher, Kirsten M.; Mishler, Brent D.; **Ekwealor, Jenna T. B.**; Stark, Lloyd R.; Li, Xiaoshuang; Zhang, Daoyuan; Bowker, Matthew A.; Brinda, John C.; Deane-Coe, Kirsten K.; Oliver, Melvin J. To dry perchance to live: insights from the genome of the desiccation-tolerant biocrust moss *Syntrichia caninervis*. *The Plant Journal* (In Press) , DOI: 10.1111/tpj.15116.

4. **Ekwealor, Jenna T. B.**; Fisher, Kirsten M. Life under quartz: Hypolithic mosses in the Mojave Desert. *PLOS ONE* 15(7): e0235928 (2020), DOI: 10.1371/journal.pone.0235928.

3. **Ekwealor, Jenna T. B.**; Payton, Adam C.; Paasch, Amber E.; Fisher, Kirsten M.; McDaniel, Stuart F. Multiple factors influence population sex ratios in the Mojave Desert moss *Syntrichia caninervis*. *American Journal of Botany* 104(5):1-10 (2017), DOI: 10.3732/ajb.1700045.

2. Meijome, Tomás E.*; **Ekwealor, Jenna T. B.***; Hooker, R. Adam; Cheng, Ying-Hua; Ciovacco, Wendy A.; Balamohan, Sanjeev A.; Srinivasan, Trishya L.; Chitteti, Brahmananda R.; Eleniste, Pierre P.; Horowitz, Mark C.; Srour, Edward F.; Bruzzaniti, Angela; Fuchs, Robyn K.; Kacena, Melissa A. C-Mpl is expressed on osteoblasts and osteoclasts and is important in regulating skeletal homeostasis. *Journal of Cellular Biochemistry* 117:959-969 (2016), DOI: 10.1002/jcb.25380. *Contributed equally

1. Eleniste, Pierre P.; Patel, Vruti; Posritong, Sumana; Zero, Odette; Largura, Heather; Cheng, Ying-Hua; Himes, Evan R.; Hamilton, Matthew; **Ekwealor, Jenna T. B.**; Kacena, Melissa A.; Bruzzaniti, Angela. Pyk2 and megakaryocytes regulate osteoblast differentiation and migration via distinct and overlapping mechanisms. *Journal of Cellular Biochemistry* 9999:1-11 (2015), DOI: 10.1002/jcb.25430.

FELLOWSHIPS & TRAINEESHIPS

2020	Graduate Remote Instruction Innovation Fellowship (UCB) ($5,000)
2015-2020	Berkeley Fellowship (UCB) ($86,000 awarded over five years)
2017-2020	Pinto-Fialon Fellowship (UCB) ($25,735 awarded over three years)
2018-2019	Luso-American Education Foundation Scholarship ($1,000)
2015-2017	Environment & Society: Data Sciences for the 21st Century, An NSF Research Traineeship (UCB)
2014-2015	Minority Biomedical Research Support Research Initiative for Scientific Enhancement MS-to-Ph.D. Graduate Research Fellowship (CSULA) ($17,000)
2009-2012	Ronald E. McNair Post-Baccalaureate Achievement Scholar (IUPUI)

HONORS & AWARDS

2016	Outstanding Graduate Student Instructor, UCB
2013	Tutor of the Month, Tutor Doctor of San Gabriel Valley
2012	Rowland A. Sherrill Outstanding Religious Studies Student Award, IUPUI
2012	Christine Jakacky Mentor of the Year, IUPUI
2012	13th Annual IUPUI Top 100 Outstanding Students, IUPUI
2011	12th Annual IUPUI Top 100 Outstanding Students, IUPUI

RESEARCH GRANTS

Contributions to ongoing funded research

2016-2020	NSF Division of Environmental Biology #163856 Title: Collaborative Research: Dimensions: Desiccation and Diversity in Dryland Mosses PI: Brent Mishler, UCB

Previous

2020	Myrtle Wolf Grant (California Native Plant Society – East Bay Chapter) ($1,400)
2020	Department of Integrative Biology Dissertation Award (UCB) ($2,500)
2020	Paul Silva Student Research Grant (California Botanical Society) ($580)
2019	Department of Integrative Biology Summer Grant (UCB) ($3,500)
2019	California Native Plant Society – Bryophyte Chapter Research Grant ($200)
2019	Sigma Xi Berkeley Chapter Grants-in-Aid-of-Research (UCB) ($200)
2018	Mathias Graduate Student Research Grant (UC Natural Reserve System) ($2,000)
2018	Department of Integrative Biology Summer Research Award (UCB) ($1,750)
2017	Anderson & Crum Field Bryology Award (American Bryological and Lichenological Society) ($750)
2017	Department of Integrative Biology Summer Research Award (UCB) ($1,750)
2016-2019	Department of Integrative Biology Graduate Student Research Allocations Committee Research Award (UCB) ($1,200 over four years)
2014	Evo-Devo-Eco Research Exchange Network Grant (NSF Research Coordination Network) ($3,000)

INVITED TALKS

2021	Garden Seminars Program, UC Botanical Garden "How mosses survive and thrive in the desert"
2021	Evoluncheon, Ecology, Evolution and Conservation Biology, University of Hawai'i at Mānoa "Adaptation, acclimation, and refugia: How mosses survive and thrive in the desert"

CONFERENCE PRESENTATIONS

Oral Presentations

2021	Bryophytes, lichens, and northern ecosystems in a changing world: BL 2021, Virtual "A global phylogeny of the dryland moss genus *Syntrichia*"
2021	Southern California Academy of Sciences Annual Meeting 2021, Virtual "Moss with a suntan: The effects of natural ultraviolet radiation on the Mojave Desert moss *Syntrichia caninervis*"
2020	Botany 2020, Virtual "The effects of natural sunlight and UV radiation on photosynthesis in the Mojave Desert moss *Syntrichia caninervis*"
2019	Biocrust4, North Stradbroke Island, Australia "UV tolerance in Mojave Desert mosses"

2019 Botany 2019, Tucson, AZ, USA
"UV tolerance in Mojave Desert mosses"
Honorable Mention for A. J. Sharp Award
ABLS Student Travel Award ($400)

2019 Bryology 2019, Madrid, Spain
"UV tolerance in Mojave Desert mosses"
UCB Dept. of Integrative Biology Graduate Student Research Allocations Committee Travel Award ($250)

2018 American Bryological and Lichenological Society Meeting, Nederland, CO, USA
"UV tolerance in Mojave Desert mosses"
ABLS Student Travel Award ($600)

2017 California Botanical Society Graduate Symposium, Santa Barbara, CA, USA
"Adaptation, facilitation, and refugia in Mojave Desert mosses"
California Botanical Society Travel Award ($200)

2016 Biocrust3, Moab, UT, USA
Molecular Frontiers Symposium
"Males of the Mojave Desert moss *Syntrichia caninervis* (Pottiaceae) are rare and shy"
Biocrust3 Complimentary Registration Award

2016 Biocrust3, Moab, UT, USA
Early Career Scientists Symposium
"Natural desert terraria: Characterization of hypolithic Mojave Desert moss community"
Biocrust3 Complimentary Registration Award

2016 Botany 2016, Savannah, GA, USA
"Natural desert terraria: Characterization of hypolithic Mojave Desert moss community"
ABLS Student Travel Award ($600)

2016 Botany 2016, Savannah, GA, USA
"Males of the Mojave Desert moss *Syntrichia caninervis* (Pottiaceae) are rare and shy"
UCB Dept. of Integrative Biology Graduate Student Research Allocations Committee Travel Award ($250)

2015 California Botanical Society Graduate Symposium, Claremont, CA, USA
"Natural desert terraria: Characterization of hypolithic Mojave Desert moss community"
Best Presentation Award, Completed Research Category

Poster Presentations

2018 International Molecular Moss Science Society Meeting, St. Petersburg, FL, USA
"UV Tolerance in Mojave Desert Soil Mosses"
Best Student Poster Award
iMOSS Trainee Fellowship Award

2015 California Native Plant Society Conservation Conference, San Jose, CA, USA
"Natural desert terraria: Characterization of hypolithic Mojave Desert moss community"
Best Student Poster Award

DEPARTMENTAL TALKS

2020	Botany Lunch, University & Jepson Herbaria, UCB "The photosynthetic effects of the Mojave Desert sun on a biological soil crust moss"
2019	Guest Lecture, Ecosystems of California, UCB "Evolution of Energetic Trade-Offs in Plant Herbivory Defense"
2019	Guest Lecture, Plant Systematics, UCB "Introduction to Bryophytes"
2018	Grad Students on Parade Lightning Talk, Botany Lunch, University & Jepson Herbaria, UCB "Volunteer botanizing in the Mojave National Preserve"
2016	Botany Lunch, University & Jepson Herbaria, UCB "Sex and survival: The impacts of energetic trade-offs for the Mojave Desert moss *Syntrichia caninervis* (Pottiaceae)"
2015	MORE & LSAMP Seminar, CSULA "Sex and survival: The impacts of energetic trade-offs for the Mojave Desert moss *Syntrichia caninervis* (Pottiaceae)"

TEACHING

Teaching Appointments

Fall 2020 Part-time Faculty, Merritt College, Peralta Community College District
2019-2020 Graduate Student Instructor, UCB
2015-2016 Graduate Student Instructor, UCB
2014-2015 Teaching Assistant, CSULA
2009-2012 Undergraduate Student Instructor, IUPUI
2008-2012 Recitation Leader, IUPUI

Undergraduate Courses

Natural History of the Bay Area: Bryophytes, (Remote Field Course), Merritt College	2020
California Natural History (Remote Field Course), UCB	2020
Integrative Human Biology, UCB	2020
Thriving in Academia, UCB	2020
Introduction to California Plant Life (Field Course), UCB	2020
Ecosystems of California (Field Course), UCB	2019
Introductory Biology Laboratory, UCB	2015, 2016
Ecology Laboratory, CSULA	2014, 2015
Plant Biology Laboratory for Non-Majors, CSULA	2014
Peer-Led Team Learning Methods in Teaching Chemistry, IUPUI	2009-2012
General Chemistry I Peer-Led Team Learning Recitation, IUPUI	2008-2012
Concepts of Biology II Recitation, IUPUI	2009

Workshops

Wonders of a dryland moss: *Syntrichia* from genomes to ecosystems, University & Jepson Herbaria	2021

Biological Sciences Discipline Workshop, Teaching Conference for First-Time GSIs, UCB	2020
Biocrusts: The Living Skin of the Earth, Expanding Your Horizons Girls' Conference, UCB	2019
Introduction to R, Git, Shell, and Reproducible Analysis in R, Software Carpentry, UCB	2019
Biological Sciences Discipline Workshop, Teaching Conference for First-Time GSIs, UCB	2018
Introduction to Shell, Git, and R, Data Carpentry, UCB	2018
Introduction to Genomics Data Wrangling, Data Carpentry UCB	2018

RESEARCH EXPERIENCE

2015-2020 **Graduate Student Researcher**
Department of Integrative Biology
University of California, Berkeley
Laboratory of Dr. Brent Mishler
Eco-physiology of UV tolerance & systematics in dryland mosses

2018-2019 **Graduate Student Researcher**
Department of Integrative Biology
University of California, Berkeley
Laboratory of Dr. Brent Mishler
The 3DMoss Project: Desiccation and Diversity in Dryland Mosses

2016 **Graduate Student Researcher**
Department of Geography
University of California, Berkeley
Laboratory of Dr. Laurel Larsen
Analysis of landscape features from RASCAL, a model of Florida everglades landscape evolution

2013-2015 **Graduate Student Researcher**
Department of Integrative Biology
University of California, Berkeley
Laboratory of Dr. Kirsten Fisher
Sex or survival? The genetic impacts of environment and energetic trade-offs for the Mojave Desert moss Syntrichia caninervis (Pottiaceae)

2009-2012 **Life Health Sciences Internship**
Orthopaedic Laboratories
Indiana University School of Medicine
Laboratory of Dr. Melissa Kacena
Characterization of C-Mpl and Pyk2 in skeletal growth and development and in bone-blood interactions

2011 **Multidisciplinary Undergraduate Research Institute**
Departments of Earth Sciences & Department of Anthropology
Indiana University—Purdue University—Indianapolis
Laboratories of Dr. Gabriel Filippelli & Dr. Jeremy J. Wilson
Analysis of the ratio of carbon to nitrogen from soil cores in a Mississippian era Native American civilization site as a marker for landscape use change

SERVICE

I. Community

- Peer reviewer: *Plant and Soil*, *American Journal of Botany*, *Annals of Botany*, *Plant Biology*, and *The Bryologist*.
- Social Media Chair: California Native Plant Society, Bryophyte Chapter, 2018-2020
- Student/Post-doc Representative: International Molecular Moss Science Society, 2018-present

II. University

- Curriculum Faculty Committee, Department of Integrative Biology, UCB, 2018-2020
- Diversity, Equity, & Inclusion Faculty Committee, Department of Integrative Biology, UCB, 2018-2020
- Graduate Student Orientation Committee, Department of Integrative Biology, UCB, 2018-2019
- Women in Science at Cal, Student Organization Planning Committee, UCB, 2016-2019

MENTORSHIP

Undergraduate Students

Dean Berkowitz, Mishler Lab, UCB	2018-2020
Jordan Jomsky, Mishler Lab, UCB	2018-2020
Shloka Reddy, Mishler Lab, UCB	2018
Heloise Carion, Mishler Lab, UCB	2017-2018
Easha Sagar, Mishler Lab, UCB	2017-2018
Brittanie Rodriguez, Fisher Lab, CSULA	2015
Katelyn Millette, Fisher Lab, CSULA	2014

High School Students

José Adame Medina, Mishler Lab, Berkeley High School	2019
Angela Sacramento, Mishler Lab, Oakland Technical High School	2018

OUTREACH

I. Media & Print

Smithsonian Magazine, article here	August 2020
The Guardian, article here	August 2020
The New York Times: *Trilobites*, article here	July 2020
Berkeley News: Research Science & Environment, article here	July 2020
Cal BioSciences Annual Newsletter, article here	January 2019

II. Activities & Presentations

"10 Coolest Bryophyte Facts" presentation, Bronx Arena High School	October 2020
Networking Guest, Success Suits You! Biotech Partners, Berkeley High School	January 2020
Bay Area Science Festival: Celebrating Nature, University & Jepson Herbaria	November 2019
Supervisory Scientist, Mission Mojave, Blueprint Earth	January 2019
Cal Day, Bryophyte Station, University & Jepson Herbaria, UCB	January 2019
Interview Day, Panel Member, "Life as an IB Graduate Student," UCB	2016, 2017, 2018
Cal Day, Bryophyte Station, University & Jepson Herbaria, UCB	January 2018
Cal Day, Bryophytes & Ferns Station, University & Jepson Herbaria, UCB	2016

"Be a Scientist" Mentor, Community Resources for Science	2016
Logistics Volunteer, Expanding Your Horizons Conference	2016
Field Researcher, Mission Mojave, Blueprint Earth	2014, 2015
Naturalist, Marine Mammals, Indianapolis Zoo	January 2012
Youth Mentor "Big Sister," Big Brothers Big Sisters of Central Indiana	2010-2011

PROFESSIONAL SOCIETIES

California Native Plant Society, International Molecular Moss Society (iMOSS), American Bryological and Lichenological Society, Botanical Society of America, California Botanical Society

CODE

www.github.com/jenna-tb-ekwealor

SKILLS

Proficiency in R, Bash, Matlab, Git, & HTML. Additional experience programming in Python, Perl, & Java. Proficiency in bryophyte microscopy (dissection, sectioning, and creating permanent slides).

LANGUAGES

English (native), Spanish (limited working proficiency), Portuguese (limited working proficiency)