Jenna T. B. Ekwealor

CURRICULUM VITAE

Department of Biology, Utah State University
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EDUCATION

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

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

2015 **M.S., Environmental Science**
California State University, Los Angeles (CSULA)
Advisor: Dr. Kirsten M. Fisher

2012 **B.S., Biology** and **B.A., Religious Studies**
Indiana University–Purdue University, Indianapolis (IUPUI)

PROFESSIONAL APPOINTMENTS

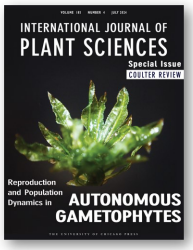
2024 **Assistant Professor**
Department of Biology, San Francisco State University (SFSU)

2023 **Department of Biology Postdoctoral Fellow** (Advisor: Carl J. Rothfels)
Department of Biology, Utah State University (USU)

2021–2023 **Biodiversity Genomics Postdoctoral Fellow** (Advisor: Rebecca B. Dikow)
Data Science Lab, Smithsonian Institution (SI)

2020 **Part-time Faculty**, Merritt College Dept. of Biology
Natural History & Sustainability Program

PUBLICATIONS (*contributed equally, †undergraduate mentee)



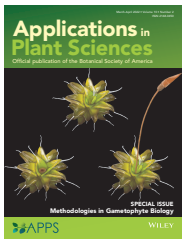
13. **Ekwealor, JTB**, and KM Fisher. Reproduction and population dynamics in autonomous gametophytes. *In press in* International Journal of Plant Sciences. *– Cover feature*

12. Zhang, X*, **JTB Ekwealor*,** AT Silva, LA Yu, AK Jones, BD Mishler, A Nelson, and MJ Oliver. *Syntrichia ruralis*: Emerging model moss genome reveals a conserved and previously unknown regulator of desiccation in flowering plants. *In press at* New Phytologist.

11. Dikow, RB, C DiPietro, M Trizna, H BredenbeckCorp, MG Bursell, **JTB Ekwealor,** R Hodel, N Lopez, WJB Mattingly, J Munro, and R Naples. Developing responsible AI practices at the Smithsonian Institution. *In press*.

10. **Ekwealor, JTB,** and S Roy. Sex chromosomes: How to make a hermaphrodite. *Current Biology* (2023), DOI: 10.1016/j.cub.2023.09.038.

9. Dikow, RB, **JTB Ekwealor,** WJB Mattingly, MG Trizna, E Harmon, T Dikow, CF Arias, RGJ Hodel, J Spillane, MTN Tsuchiya, L Villanueva, AE White, MG Bursell, T Curry, C Inema, and K Geronimo-Anctil†. Let the records show: attribution of scientific credit in natural history collections. *International Journal of Plant Sciences* (2023), DOI: 10.1086/724949.



8. **Ekwealor, JTB**, SD Benjamin, JZ Jomsky†, MA Bowker, LR Stark, DN McLetchie, BD Mishler, and KM Fisher. Genotypic confirmation of a biased phenotypic sex ratio in a dryland moss using a novel RFLP technique. *Applications in Plant Sciences* (2022), DOI: 10.1002/aps3.11467.
– Cover feature

7. **Ekwealor, JTB** and BD Mishler. The transcriptomic effects of acute ultraviolet radiation exposure on two *Syntrichia* mosses. *Frontiers in Plant Science* (2021), DOI: 10.3389/fpls.2021.752913.

6. **Ekwealor, JTB**, TA Clark, O Dautermann, A Russell, S Ebrahimi, LR Stark, KK Niyogi, and BD Mishler. 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., B Gao, KM Fisher, BD Mishler, **JTB Ekwealor**, LR Stark, X Li, D Zhang, MA Bowker, JC Brinda, KK Coe, and MJ Oliver. To dry perchance to live: insights from the genome of the desiccation-tolerant biocrust moss *Syntrichia caninervis*. *The Plant Journal* (2020), DOI: 10.1111/tpj.15116.

4. **Ekwealor, JTB** and KM Fisher. Life under quartz: Hypolithic mosses in the Mojave Desert. *PLOS ONE* 15(7): e0235928 (2020), DOI: 10.1371/journal.pone.0235928. Press & Interviews: UCB Press Release, Smithsonian Magazine, Scientific American, The Guardian, The New York Times: Trilobites, Science Friday, WTF, Biology?, Scientific American, Scienmag Science Magazine, Phys.org, EurekAlert!, полит Pro Science, Wissenschaft.de.

3. **Ekwealor, JTB**, AC Payton, AE Paasch, KM Fisher, and SF McDaniel. 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.*, **JTB Ekwealor***, RA Hooker Y Cheng, WA Ciovacco, SA Balamohan, TL Srinivasan, BR Chitteti, PP Eleniste, MC Horowitz, EF Srour, A Bruzzaniti, RK Fuchs, and MA Kacena. 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.

1. Eleniste, Pierre P., V Patel, S Posritong, O Zero, H Largura, Y Cheng, ER Himes, M Hamilton, **JTB Ekwealor**, MA Kacena, and A Bruzzaniti. 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.

OTHER PUBLICATIONS

Ekwealor, JTB. 2020. A suntan effect in the Mojave Desert moss *Syntrichia caninervis*. Mojave National Preserve Science Newsletter. December 2020, 15-19.

AWARDS & HONORS

2020	Biodiversity Genomics Postdoctoral Fellowship, Office of the Chief Information Officer, Smithsonian Institution
2020	Graduate Remote Instruction Innovation Fellowship, UCB
2019	A.J. Sharp Award Honorable Mention, Botanical Society of America
2018	Luso-American Education Foundation Scholarship, Luso-American Education Foundation
2018	Trainee Fellowship Travel Award, International Molecular Moss Science Society
2017	Pinto-Fialon Fellowship, UCB
2017	Travel Award, California Botanical Society
2016	Outstanding Graduate Student Instructor, UCB
2016	Registration Award, International Workshop on Biological Soil Crusts
2015	Environment & Society: Data Sciences for the 21st Century, NSF Research Traineeship, UCB
2015	Berkeley Fellowship, UCB
2015	Best Presentation Award, Completed Research Category, California Botanical Society
2015	Best Student Poster Award, California Native Plant Society
2014	Minority Biomedical Research Support Research Initiative for Scientific Enhancement MS-to-PhD Graduate Research Fellowship, CSULA

GRANT SUPPORT

CONTRIBUTIONS TO ONGOING FUNDED RESEARCH

2016–2022 NSF Division of Environmental Biology #163856
Title: Collaborative Research: Dimensions: Desiccation and Diversity in Dryland Mosses
PI: Brent D. Mishler, University of California, Berkeley

RESEARCH FUNDING

2020	**Myrtle Wolf Grant**, California Native Plant Society – East Bay Chapter	$1,400
2020	**Dissertation Award**, Department of Integrative Biology, UCB	$2,500
2020	**Paul Silva Student Research Grant**, California Botanical Society	$580
2019	**Summer Grant**, Department of Integrative Biology, UCB	$3,500
2019	**Research Grant**, California Native Plant Society – Bryophyte Chapter	$200
2019	Grants-in-Aid-of-Research, Sigma Xi Berkeley Chapter	$200
2018	**Mathias Graduate Student Research Grant,** University of California Natural Reserve System	$2,000
2018	**Summer Research Award**, Department of Integrative Biology, UCB	$1,750

2017	**Anderson & Crum Field Bryology Award**, American Bryological and Lichenological Society	$750
2017	**Summer Research Award**, Department of Integrative Biology, UCB	$1,750
2016–2019	**Graduate Student Research Allocations Committee Research Award**, Department of **Integrative Biology**, UCB, total over four years	$1,200
2014	**Evo-Devo-Eco Research Exchange Network Grant**, National Science Foundation Research Coordination Network	$3,000
	Total:	***$18,830***

INVITED SEMINARS AND CONFERENCE PRESENTATIONS

ORGANIZED SYMPOSIA AND COLLOQUIA

2023 The ploid thickens: methodological developments, empirical advances, and remaining challenges in polyploid phylogenetics. BOTANY Symposium.
2022 Stress-tolerant mosses: adaptations to life on the edge, from genes to ecosystems. BOTANY Colloquium.

INVITED RESEARCH SEMINARS

2024 University of Middlebury College, Department of Biology (forthcoming)
2024 University of California, Berkeley, University and Jepson Herbaria (forthcoming)
2024 Lewis & Clark College, Natural History Club Moss Appreciation Week Keynote
2022 San Francisco State University, Department of Biology
2022 Smithsonian Institution, Smithsonian Botanical Symposium
2022 University of Tennessee, Knoxville, Department of Ecology and Evolutionary Biology
2021 University of Colorado, Boulder, Department of Ecology and Evolution
2021 California Botanical Society, Botany Speaker Series
2021 University of Hawai'i at Mānoa, Evoluncheon, Ecology, Evolution and Conservation Biology Group
2021 University of California Botanical Garden, Garden Seminars Program

CONFERENCE PRESENTATIONS (†oral; ‡poster; *award received—see Awards section)

2023 BOTANY†
2022 California Native Plant Society Conference‡
2022 BOTANY†
2021 BL 2021†, Southern California Academy of Sciences†
2020 BOTANY†
2019 BOTANY*†‡, Biocrust4 (The 4th International Workshop on Biological Soil Crusts)†, International Association of Bryology*†
2018 International Molecular Moss Science Society‡*, American Bryological and Lichenological Society†
2018 Biocrust4 (The 4th International Workshop on Biological Soil Crusts)†
2017 California Botanical Society*†
2016 BOTANY†, Biocrust3 (The 3rd International Workshop on Biological Soil Crusts)*††
2015 California Botanical Society*†, California Native Plant Society*†,

TEACHING EXPERIENCE

COURSES

2024	Assistant Professor, Advanced Biometry (SFSU)
2024	Assistant Professor, Skills for Scientific Writing (SFSU)
2020	Instructor, Natural History of the Bay Area: Bryophytes (Merritt College, California)
2020	Graduate Student Instructor, California Natural History (UCB)
	Graduate Student Instructor, Integrative Human Biology (UCB)
	Graduate Student Instructor, Introduction to California Plant Life (UCB)
	Graduate Student Instructor, Thriving in Academia (UCB)
2019	Graduate Student Instructor, Ecosystems of California (UCB)
2015,2016	Graduate Student Instructor, Introductory Biology Laboratory (UCB)
2015	Teaching Assistant, Plant Biology Laboratory for Non-Majors (CSULA)
2014, 2015	Teaching Assistant, Ecology Laboratory (CSULA)

WORKSHOPS

2023	Co-Instructor, Using deep learning with digitized herbarium specimen image data, BOTANY 2023 Conference.
2023	Certified Instructor, Collaborating and sharing using GitHub without command line, The Carpentries: Data Carpentry, National Museum of Natural History (SI)
2021	Co-Instructor, Wonders of a dryland moss: *Syntrichia* from genomes to ecosystems, University & Jepson Herbaria (UCB)
2021	Certified Instructor, The Unix Shell, The Carpentries: Software Carpentry
2020, 2021, 2018	Instructor, Biological Sciences Discipline Workshop, Teaching Conference for First-Time GSIs (UCB)
2019	Co-Instructor, Biocrusts: The Living Skin of the Earth, Expanding Your Horizons Girls' Conference (UCB)
2018	Helper, Introduction to R, Git, Shell, and Reproducible Analysis in R, The Carpentries: Software Carpentry (UCB)
2018	Helper, Introduction to Shell, Git, and R, The Carpentries: Data Carpentry (UCB)
2018	Helper, Genomics Data Wrangling, The Carpentries: Data Carpentry (UCB)

MENTORING

Mentored a total of 10 undergraduate students and 2 high school students.

2024	Ashley Meinke
2022	Kayla Geronimo-Anctil
2021	Dalila Lara
2018–2021	Dean Berkowitz
2018–2021	Jordan Jomsky
2019	José Adame Medina (high school researcher)
2019	Angela Sacramento (high school researcher)
2018	Shloka Reddy
2017–2018	Heloise Carion
2017–2018	Easha Sagar
2015	Brittanie Rodriguez
2014	Katelyn Millette

FIELDWORK EXPERIENCE

Lead and contributor in fieldwork in the deserts of SW Utah (spring 2023)

Lead and contributor in fieldwork in the Mojave Desert, California (multiple field trips, 2014-2020)
- experience in remote environments with extreme desert conditions
- collaborative and multidisciplinary fieldwork with non-profits (Blueprint Earth)

SERVICE AND SYNERGISTIC ACTIVITIES

UNIVERSITY SERVICE

2022	Top 100 Outstanding Students Judge, Office of Alumni Relations (IUPUI)
2018–2021	Graduate Student Representative, Department of Integrative Biology Diversity, Equity, & Inclusion Faculty Committee (UCB)
2018–2020	Graduate Student Representative, Department of Integrative Biology Curriculum Faculty Committee (UCB)
2018–2019	Graduate Student Representative, Department of Integrative Biology Graduate Student Orientation Committee (UCB)
2016–2019	Women in Science at Cal Organization Planning Committee (UCB)

PROFESSIONAL SOCIETY LEADERSHIP

2018–	Student/Post-doc Representative, International Molecular Moss Science Society
2018–2020	Social Media Chair, California Native Plant Society, Bryophyte Chapter

SOCIETY MEMBERSHIP

Botanical Society of America, American Bryological and Lichenological Society, International Association of Bryologists, International Molecular Moss Science Society, California Native Plant Society, California Botanical Society, Southern California Academy of Sciences, Idaho Native Plant Society

PEER-REVIEW FOR ACADEMIC JOURNALS

Functional Ecology, American Journal of Botany, Plant and Soil, Annals of Botany, The Bryologist, Plant Biology, Microbial Ecology

PUBLIC OUTREACH

PRESS AND INTERVIEWS

2021	**WTF, Biology?** (podcast) "These moss are living their best life–under rocks." May 19, 2021.
2020	**Science Friday** (WNYC Studios radio, carried on >400 public radio stations) "These moss are living their best life–under rocks." September 11, 2020.
2020	**The New York Times** (newspaper article) "This moss uses quartz as a parasol." July 29, 2020.
2020	**Berkeley News: Research, Science & Environment** (press release) "Desert mosses use quartz rocks as sun shades." July 23, 2020. Several news articles were published based on this press release, including those published by: The Guardian, Smithsonian Magazine, Scientific American, Scienmag Science

Magazine, Phys.org, EurekAlert!, and was also translated into Russian for полит Pro Science and into German for Wissenschaft.de.

K-16 OUTREACH

2020 **Invited speaker**, "10 Coolest Bryophyte Facts," Speculative Fiction, Bronx Arena High School. I gave an overview presentation of what I deem to be the coolest things about bryophytes and then had a conversation with students about ideas the presentation sparked. Students were later assigned to imagine a speculative world based on the presentation. Inspired by desiccation tolerance of mosses, one student designed with Sleeper Pods where humans could go into suspended animation to wait out the effects of climate change.

2020 **Networking Guest**, "Success Suits You!", Biotech Partners, Berkeley High School. I met with high school juniors and seniors interested in biotechnology to discuss their goals for internships and college.

2019 **Invited speaker**, Bay Area Science Festival: Celebrating Nature, University & Jepson Herbaria. I led a tour through the Herbaria and presented my research with example specimens from the collections.

2019 **Invited speaker**, "Introduction to Bryophytes," Plant Systematics, Department of Integrative Biology (UCB)

2019 **Supervisory scientist**, Mission Mojave Educational Field Expedition, Blueprint Earth. I led a team of undergraduate researchers on a field plant survey.

2016 **Scientist mentor**, "Be a Scientist," Community Resources for Science, Willard Middle School, Berkeley, California. I led a group of four seventh graders through their own independent research projects over a period of six weeks.

2016 **Logistics volunteer**, Expanding Your Horizons Conference (UCB). I helped guide middle school girls through a full-day STEM conference.

OTHER

2016, 2018, 2019 **Cal Day**, University & Jepson Herbaria (UCB)

2016-2018 **Interview Day panel member**, Department of Integrative Biology (UCB)