

**Jenna T. B. Ekwealor**  
CURRICULUM VITAE

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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
- 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)

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## PROFESSIONAL APPOINTMENTS

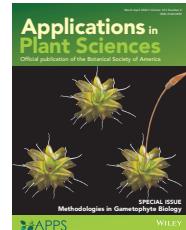
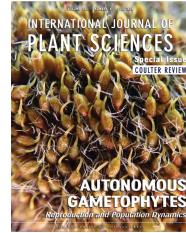
- 2024      **Assistant Professor**  
Department of Biology, San Francisco State University (SFSU)
- 2023      **Department of Biology Postdoctoral Fellow** (Advisor: Carl J. Rothfels)  
Department of Biology, Utah State University (USU)
- 2021-2023 **Biodiversity Genomics Postdoctoral Fellow** (Advisor: Rebecca B. Dikow)  
Data Science Lab, Smithsonian Institution (SI)
- 2020      **Part-time Faculty**, Merritt College Dept. of Biology  
Natural History & Sustainability Program

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## PUBLICATIONS (\*contributed equally, †undergraduate mentee)

18. Marks, RA\*, RS Abrahams\*, and **JTB Ekwealor\***. Shaped by context: evolutionary trajectories of desiccation tolerance in land plants. Under review with *American Journal of Botany*.
17. **Ekwealor, JTB**, and K Simonin. Growth-defense trade-off defines a diffusion limit: a commentary on 'Boundary-line trade-off in bryophytes between UV photoprotection and photosynthetic capacity, but not desiccation tolerance'. *Annals of Botany* (2026), 10.1093/aob/mcag012.
16. Schneider, A\*, **JTB Ekwealor\***, A Besik, N Ibrahim, I Ensminger, and S Stefanović. Photosynthetic activity in the heterotrophic plant genus *Cuscuta* (Convolvulaceae) is modulated by phylogeny and ontogeny. Accepted in *Annals of Botany* (2025).

- 15.** Coe, KK, LR Stark, ML Slate, JC Brinda, DN McLetchie, and **JTB Ekwealor**. Influence of prehydration events on revival of the dryland moss *Syntrichia caninervis* desiccated for 17 years: does water content matter? Accepted in *The Bryologist* (2025).
- 14.** Marks, RA, **JTB Ekwealor**, MAS Artur, L Bondi, TC Boothby, OMS Carmo, DC Centeno, KK Coe, HJW Dace, A Hutt, S Porembski, A Thalhammer, L van der Pas, AJ Wood, P Alpert, D Bartels, S Boeynaems, MN Datar, T Giese, W Ibrahim Seidou, SM Kirchner, J Köhler, UGVSS Kumara, J Kyung, R Lyall, BD Mishler, JBVT Ndongmo Vouffo Epse Tsopze, MS Otegui, V Reddy, J Rexroth, SM Tebele, R VanBuren, J Verdier, UC Vothknecht, MF Wittenberg, E Zokov, MK Oliver, and SY Rhee. Life on the dry side: A roadmap to understanding desiccation tolerance and accelerating translational applications. *Nature Communications* 16(3284) (2025), DOI: 10.1038/s41467-025-58656-y.
- 13.** **Ekwealor, JTB**, and KM Fisher. Reproduction and population dynamics in autonomous gametophytes. *International Journal of Plant Sciences* 185(4):309–320 (2024), DOI: 10.1086/729606.  
– 2024 Coulter Review, 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. *New Phytologist* (2024), DOI: 10.1111/nph.19620.
- 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. *Research Ideas and Outcomes* (2023), DOI: 10.3897/rio.9.e113334.
- 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, RG 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/aps.3.11467.  
– 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](#), [Sciencemag 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

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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 21 <sup>st</sup> 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

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### RESEARCH FUNDING

- 2025 **California Species Grant**, California Institute for Biodiversity and Experiment Foundation.  
2025 **Gilead Innovation Initiative**, Summer Research Award  
2025 **California State University**, Office of Research and Sponsored Programs Affinity Group Catalyst Award  
2025 **California State University**, Climate HQ, Climate Justice Award  
2025 **California State University**, CSUBIOTECH New Investigator Award  
2016–2022 **NSF**, Division of Environmental Biology, Dimensions of Biodiversity #163856  
2020 **Myrtle Wolf Grant**, California Native Plant Society – East Bay Chapter  
2020 **Dissertation Award**, Department of Integrative Biology, UCB  
2020 **Paul Silva Student Research Grant**, California Botanical Society  
2019 **Summer Grant**, Department of Integrative Biology, UCB  
2019 **Research Grant**, California Native Plant Society – Bryophyte Chapter  
2019 Grants-in-Aid-of-Research, Sigma Xi Berkeley Chapter  
2018 **Mathias Graduate Student Research Grant**, University of California Natural Reserve System  
2018 **Summer Research Award**, Department of Integrative Biology, UCB  
2017 **Anderson & Crum Field Bryology Award**, American Bryological and Lichenological Society  
2017 **Summer Research Award**, Department of Integrative Biology, UCB  
2016–2019 **Graduate Student Research Allocations Committee Research Award**, Department of Integrative Biology, UCB, total over four years  
2014 **Evo-Devo-Eco Research Exchange Network Grant**, National Science Foundation Research Coordination Network

## INVITED SEMINARS AND CONFERENCE PRESENTATIONS

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### 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  
2024 University of California, Berkeley, University and Jepson Herbaria  
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)

- 2025 Conference of the American Society of Naturalists†  
 2023 BOTANY†  
 2022 California Native Plant Society Conference‡  
 2022 BOTANY†3AquinoTraBaj  
 2021 BL 2021†, Southern California Academy of Sciences†  
 2020 BOTANY†  
 2019 BOTANY\*†‡, Biocrust4 (The 4<sup>th</sup> International Workshop on Biological Soil Crusts)†, International Association of Bryology\*†  
 2018 International Molecular Moss Science Society‡\*, American Bryological and Lichenological Society†  
 2018 Biocrust4 (The 4<sup>th</sup> International Workshop on Biological Soil Crusts)†  
 2017 California Botanical Society\*†  
 2016 BOTANY†, Biocrust3 (The 3<sup>rd</sup> International Workshop on Biological Soil Crusts)\*†‡  
 2015 California Botanical Society\*†, California Native Plant Society\*†,

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## **TEACHING EXPERIENCE**

#### **PEDAGOGICAL TRAINING**

- 2025 **Advancing Inclusive Mentoring (AIM)**, SFSU. AIM Program, California State University, Long Beach.  
 2024 **Equity-Minded Pedagogy**, SFSU. CSU Strategic Partnerships and Student Success Initiatives, Office of the Chancellor, California State University.  
 2020 **Certificate of Remote Instruction**, UCB. Graduate Student Instructor Teaching & Resource Center

#### **COURSES**

- 2025 Assistant Professor, Advising for Success in Biology (SFSU)  
 2024,2025 Assistant Professor, Advanced Biometry (SFSU)  
 2024 Assistant Professor, Plant Ecology (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, <a href="#"><u>Wonders of a dryland moss: Syntrichia from genomes to ecosystems</u></a> , 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 19 undergraduate students and 2 high school students.

## FIELDWORK EXPERIENCE

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Lead in fieldwork on San Bruno Mountain (summer 2024)

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

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### UNIVERSITY SERVICE

- 2024–2025 Curriculum Committee, Department of Biology (SFSU)  
2024–2025 Undergraduate Affairs Committee, Department of Biology (SFSU)  
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

- 2024– President-Elect, California Native Plant Society, Bryophyte Chapter  
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

## PEER-REVIEW FOR ACADEMIC JOURNALS

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

## PUBLIC OUTREACH

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### PRESS AND INTERVIEWS

- 2025 [NPR \(NPR Environment print and Weekend Edition Sunday carried on >400 public radio stations\)](#)  
“Moss doesn’t get a lot of love. Moss Appreciation Week in Oregon aims to change that.” February 16, 2025.
- 2021 [WTF, Biology? \(podcast\)](#)  
“Living under a rock has its merits with Dr. Jenna Ekwealor.” 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](#), [Sciencemag 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)