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EDUCATION and POSITIONS HELD:

NSF Postdoctoral Fellow in Biology, *University of Connecticut; Storrs, CT* 2024- Present

Postdoctoral Research Associate, *University of Connecticut; Storrs, CT* 2023-2024

Doctorate in Plant Biology, *Cornell University;* Ithaca, NY 2018 - 2023

Master of Science in Biology, *Wichita State University;* Wichita, KS 2013 - 2015

Bachelor of Science in Biology, *Wichita State University;* Wichita, KS 2008 - 2013

FUNDING:

NSF 23-620: Postdoctoral Research Fellowship in Biology (PRFB), $240,000 2024-2027
The power of plasticity: aquatic plants' response to an ever-changing environment

PUBLICATIONS:

Wickell, D.A., R. Field, K. Weitz, R. Chu, *et al.* 2024. Integrative analysis of CAM photosynthesis reveals its impact on primary metabolism in *Yucca*. *bioRxiv.* https://doi.org/10.1101/2024.11.01.621533

Suissa, J.S., G.Y. De La Cerda, L.C. Graber, C. Jelley, **D.A. Wickell**, *et al.* 2024. Comparative phylogenomic analyses of SNP versus full locus datasets: insights and recommendations for researchers. *Applications in Plant Science*: e11611. https://doi.org/10.1002/aps3.11611

Wickell, D.A., J.B. Landis, E.A. Zimmer, F.W. Li. 2024. Population genomics of the *Isoetes appalachiana* (Isoetaceae) complex supports a 'diploids-first' approach to conservation. *Annals of Botany*, mcad180. https://doi.org/10.1093/aob/mcad180

Li*, C., **D.A. Wickell***, L-Y. Kuo, X. Chen, *et al.* 2024. Extraordinary preservation of gene collinearity over three hundred million years revealed in homosporous lycophytes. *PNAS*, 121(4): e2312607121. https://doi.org/10.1073/pnas.2312607121
*Equally contributed.

Huang*, X., W. Wang*, T. Gong*, **D.A. Wickell***, *et al.* 2022. The flying spider-monkey tree fern genome: Insights into fern evolution and arborescence. *Nature Plants*, 8(5): 500-512. https://doi.org/10.1038/s41477-022-01146-6
*Equally contributed; Featured in New York Times and Scientific American

Wickell, D.A., L.Y. Kuo, H.P. Yang, A.D. Ashok. et al. 2021. Underwater CAM photosynthesis elucidated by *Isoetes* genome. *Nature Communications,* 12(1): 1-3. https://doi.org/10.1038/s41467-021-26644-7

Wickell, D.A. and F.W. Li. 2020. On the evolutionary significance of horizontal gene transfers in plants. *New Phytologist*. 225(1):113-117 https://doi.org/10.1111/nph.16022

Wickell, D.A., M.D. Windham, X. Wang and J.B. Beck. 2017. Can asexuality confer a short term advantage? Investigating apparent biogeographic success in the apomictic triploid fern *Myriopteris gracilis* (Pteridaceae). *American Journal of Botany*. 104.8: 1254-1265. https://doi.org/10.3732/ajb.1700126

Moore, M.R., C.F. Beza Beza, **D.A. Wickell**, J.B. Beck and M. Jameson. 2015. Molecules, morphology, and *Mimeoma Scarabs*: evolutionary implications for a palm-associated scarab group. *Systematic Entomology*. 40: 891-900. https://doi.org/10.1111/syen.12139

AWARDS and ACHIEVEMENTS:

Cornell - CALS Outstanding Teaching Assistant (2023)

Cornell - SIPS Barbara McClintock Award (2023)

Washington Biologists Field Club - Research Award (2022)

American Fern Society - Edgar T. Wherry Award – Honorable Mention (2021)

Smithsonian Institution 10-week Graduate Student Fellowship (PI: Liz Zimmer; 2021)

Schmittau-Novak Integrative Plant Science Grant (2021)

American Society of Plant Taxonomists Graduate Student Research Grant (2014)

PRESENTATIONS:

Multi-omics analysis in *Yucca* reveals downstream effects of CAM on nitrogen metabolism. **Botany 2024**, Grand Rapids Michigan, June 2024.

Seed-free Synteny: A history of genomic stasis in homosporous ferns and lycophytes. **Botany 2023**, Boise, ID, July 2023.

Syntenic Analysis of Seed-Free Plant Genomes Reveals Evolutionary Stasis over Hundreds of Millions of Years. **PAG 30,** San Diego, CA, January 2023.

Allopolyploid speciation in the enigmatic quillworts of the Appalachian plateau. **Botany 2022**, Anchorage, AK, July 2022.

The convergent evolution of aquatic CAM in *Isoetes*. **LUOMUS seminar series**, invited speaker, presented remotely at the Finnish Museum of Natural History for the University of Helsinki, April 2022

Gene fractionation and differential expression of homoeologues following whole genome duplication in the tree fern *Alsophila spinulosa*. **Botany 2021**, virtual meeting July 2021

The life aquatic: Genomic and transcriptomic insights into crassulacean acid metabolism in *Isoetes.* **Botany 2020**, virtual meeting, July 2020.

CAM photosynthesis in the aquatic lycophyte *Isoetes taiwanensis*. **Botany 2019**, Tucson AZ, July 2019.

Does asexuality confer a short term evolutionary advantage?: a case study of the asexual fern *Myriopteris gracilis.* - Presented at "Next Generation Pteridology" the **13th Smithsonian Botanical Symposium**, Smithsonian Institution, June 2015 *and* **Kansas Academy of Science**, Pittsburg KS, March 2015

Molecules, morphology, and *Mimeoma scarabs*: evolutionary implications for a palm-associated scarab group. **89th Kansas (Central States) Entomological Society meeting**, Pittsburg KS, April 2013 *and* **Wichita State Undergraduate Research and Creative Activities Forum**, Wichita KS, March 2013.

TEACHING EXPERIENCE:

Plant structural Diversity – *University of Connecticut;* Fall 2023
Invited guest instructor for aquatic plants section

Concepts and Techniques in Computational Biology – *Cornell University;* Graduate TA — Spring 2022 & 2023

Vascular Plant Systematics (lab) – *Cornell University;* Graduate TA (2020), Invited guest instructor for pteridophyte lab (2022) — Spring 2020 & Fall 2022

Introductory Plant Diversity and Evolution (lab) – *Cornell University;* Graduate TA — Fall 2019

Introduction to Biology I & II (lab) – *Wichita State University;* Adjunct instructor — Fall 2017

Human Anatomy and Physiology – *Wichita State University;* Graduate TA — Spring 2015

General Ecology – *Wichita State University;* Graduate TA — Spring 2014

Introduction to Biology I – *Wichita State University;* Graduate TA — Fall 2013 & 2014

VOLUNTEER/OUTREACH EXPERIENCE:

Free Science Workshop; Ithaca, NY (2019 - Present)
Physics Bus STEM outreach program; Ithaca, NY (2019 - 2023)
Big Red Barn Kid's Science Day – Pollination Station; Cornell University (2023)
In Defense of Plants Podcast – Invited guest, Episode 331 Unraveling Quillwort Mysteries (2021)
Diversity Preview Weekend; Cornell University (2019)
Judy's Day Family Learning Festival: Lycophyte booth; Cornell University (2018)
Expanding Your Horizons, STEM careers workshop; Wichita State University (2015)
Science Olympiad State Competition: Heredity; Wichita State University (2014)
Exploration Place: Insect exhibit in Kansas Pavilion; Wichita, KS (2012)

SERVICE and TRAINING:

Botanical Society of America – Early Career Professional Development Committee (2024-2027)
CIMER Mentorship Training – UCONN RaMP program (2024)
Botanical Society of America – PLANTS mentor (2024)
Botanical Society of America – Cornell Student Chapter President (2022-2023)
Cornell Plant Biology Graduate Student Association – President (2019-2020)

MEMBERSHIP in PROFESSIONAL SOCIETIES:

Botanical Society of America
American Fern Society