

Education Update – March 2024

Prepared by Catrina Adams, BSA Education Director

Education Committee Activities:

- Bessey Award open until April 1! Feel free to [nominate](#)!
- A Symposium for Bessey Award winners, utilizing Bessey earmarked funds, was proposed in collaboration with the teaching section for Botany 2024 and accepted.
- Calling on BSA members to help update state-by-state regional botany resources on the Botany.org website.
 - Starting goal is to have the most comprehensive undergraduate student-appropriate state flora/field guides listed for each state. This would be useful for faculty who want to refer students to their local flora, or for botanists moving from one region to another...just generally a useful resource that doesn't appear to be easily found elsewhere
 - Additional information could include regional botany programs or resources
 - Google form is open: <https://forms.gle/ccteAy5EASf9Sz5dA>
 - Results available to view here: <https://docs.google.com/spreadsheets/d/14nM9c4sE9e0BjWt4SCTbhuD5-GJPgHSacdA8o1oNR9c/edit?usp=sharing>
 - Will push this heavily at the Botany Conference this June, aim to start adding submitted resources to website after the conference.
- **Sharing Video resources RE botany education:**
 - video of shoot meristem dissection from Cindi Jones added to BSA YouTube channel and linked on BSA education resources here: https://botany.org/home/resources/online_resources.html
 - Ed Committee will help vet future resources for BSA education channels/website
 - Ed Committee still looking at opportunities to encourage education use of future recorded Botany talks, etc. Will explore issues RE author permissions, copyright, etc. Not as urgent since Grand Rapids will not have a hybrid component.
 - **Joyce Onyenedum's NSF broader impacts project to launch animated plant anatomy video series is funded.** We agreed to help with data gathering on topics of community interest (BSA and PlantingScience). Plant Anatomy Self-Assessment will be going out in upcoming newsletters. Working with Molly Edwards (Science IRL) and new Ed Committee member to produce.

BSA exploring leadership role in seeking new funding to expand and refresh Life Discovery Conference/Digital Library Collaboration (BSA/SSE/ESA):

- [The Life Discovery: Doing Science](#) conference is a longstanding stand-alone Education conference cosponsored by the BSA with the Ecological Society of America and Society for the Study of Evolution. The audience is high school teachers, faculty who teach undergraduate-level botany/ecology/evolution classes, and others (education researchers, informal educators, etc.) interested in the themes. Eight conferences were held every ~18 months in different locations each year 2013-2023. Phil Gibson and Jennifer Hartley have represented BSA on the planning committee. ESA is no longer able to take the lead in coordinating these conferences due to staffing changes.
- **The BSA and SSE partners are discussing the possibility of applying for funding to support moving the Life Discovery Digital Library to the QUBES platform, and re-envisioning the Life**

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Discovery: Doing Science Conference with additional community-building activities taking place virtually year-round. Funding possibilities include IUSE: EDU Institutional/Community Transformation Type II grant (5Y, 2M) which would necessitate a slight shift in focus toward supporting dissemination and adaptation of evidence-based teaching resources. Another funding source we are considering is HHMI. ESA partners will be brought in once a proposal prospectus is prepared.

- **Any new BSA-led grants would need to be formally approved by the board prior to submission.**

Education/DEI Staffing:

- We are continuing to work with two excellent [PlantingScience Coordinators, Jin \(Ching-Yi\) Liao \(University of California-Davis\) and Shan Wong \(Texas Tech University\)](#). These coordinators are working on contract supported by the PlantingScience F2 grant to help Education Programs Supervisor Jennifer Hartley to manage the PlantingScience community. It was wonderful to have these experienced coordinators working with us this fall on the larger-than-usual PlantingScience Fall Session which included the F2 research participants.

Grant Funding Updates:

- **NSF DRK-12 PlantingScience F2 grant work is in year Y4 of 5**, a critical year for implementation and data gathering/processing for research study (NSF DRL#2010556, C. Adams PI, 3.9M, 2020-2025). Details available: https://www.nsf.gov/awardsearch/showAward?AWD_ID=2010556&HistoricalAwards=false
 - Collaborative teacher/scientist professional learning (PL) workshops took place this summer. Our first in-person workshop was held June 20-23 at BSCS Headquarters in Colorado Springs, Colorado. We then had two online professional learning workshops the weeks of June 26-July 7. The final in-person workshop took place from July 17-20 in St. Louis Missouri at the Missouri Botanical Garden.
 - **We have had significant attrition on the teacher side for the workshops and implementation this summer and fall, and so we are planning to repeat the recruitment process for a second year to get the numbers we need for the research.** We had already planned to hold online PL sessions next year for the teachers who were our control group this year. Additional recruitment and another round means adding an additional online PL session as well as at least one more in-person session (planning to hold this at the Missouri Botanical Garden in St. Louis, MO June 24-28).
 - We have just finished **recruiting for another round of F2 Fellows (early-career scientists) (deadline March 15)**. We will likely need ~15 new F2 Fellows to work with a second round of teachers. We have ~25 applications as of March 12.
 - Our new development contract with HubZero has been completed. We still meet regularly to address bugs and minor issues with the website and user interface.
 - **Thanks for helping with mentor recruitment!** We have had 137 new mentors sign up in the last 6 months, which has helped tremendously with meeting the high need for mentors given the large volume of teachers and students participating this fall (over 1000 students, ~300 project teams).
 - **19 Teachers are participating in PlantingScience this spring.** Many of our regularly participating teachers and new teachers agreed to delay participation to the spring session to save room in our fall sessions for research participants, so we have a larger-than-usual spring session this year.

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- **We plan to request an F2 grant supplement and extension (2025-2027, ~200K)** to support greater participant involvement in data interpretation/dissemination of results and an additional year of HubZero support. This is needed in part because of the need to spend more than anticipated on a second round of participants/PL/data collection to maintain or statistical power. The supplement request will likely go in sometime this summer.
- **ROOT & SHOOT RCN (NSF DBI #2134321):**
 - Brenda Molano-Flores and Catrina Adams currently represent BSA on the steering committee of the [ROOT&SHOOT RCN](#)
 - ROOT & SHOOT have scheduled two Bystander Intervention Trainings for members of the RCN again in 2024, provided by the [ADVANCEGeo partnership](#). The first training was held February 12 from 1-4PM Central (11-2 Pacific, 12-3 Mountain, 2-5 Eastern). The second is scheduled for May 22 from 10-1 Central (8-11 Pacific, 9-12 Mountain, 11-2 Eastern). Learn more and sign up: <https://forms.gle/sQ4KvU2qBAGxi9Hp9>
 - There is also an “advanced” 1-hour practice-heavy “refresher” version of the training for those who have attended before, or who are looking for more practice. The first was held Feb 15, the second is scheduled for May 28 from 3-4PM EDT.
 - ROOT&SHOOT is sharing [summer opportunities to study plants for undergraduates](#): let Catrina know if you have opportunities to add.
 - **New ROOT&SHOOT Working Group: Culturally Responsive Mentoring Certification**
 - The group includes 23 working group members, 13 of which are BSA-affiliated members.
 - Catrina Adams facilitates this group along with Mary Williams, Patricia Baldrich and Marcia Puig-Lluch (R&S Steering Committee members)
 - BSA-affiliated members: Ian Gilman, Summer Blanco, Jess Szetela, Mariana Vazquez, Jordan Argrett, Amy Faivre, Laura Gough, Janet Mansaray, Cierra Sullivan, Juliana Harden, Renee Petipas, Caitlyn Elliot, Cael Dant.
 - The working group holds a large group meeting once a month, and weekly smaller meetings with various subgroups. All working group members receive stipends. The plan is to create/compile a pilot cohort-based mentor certification program to be ready to be evaluated in Fall 2024. More info available here: <https://rootandshoot.org/working-group-on-culturally-responsive-mentoring/>

Published Papers:

Westbrook, A., C. Adams & J. A. Taylor (2023). Digging Deeper into Student-Teacher-Scientist Partnerships for Improving Student Achievement and Attitudes about Scientists. *American Biology Teacher* 85 (7): 378-389.

Presentations/Booth Recruitment:

- The PlantingScience booth at last year’s Botany conference focused on mentor recruitment, with fun prizes for those who have mentored before, who signed up to mentor for this fall, or who recruited a new mentor. We plan to offer something similar this year, making use of any PlantingScience Fellows who are able to attend the conference to help us at the booth.
- A principal and group of high school students from Grand Rapids, MI is tentatively planning to attend the Botany conference to meet with Education staff and attend the poster session.

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- The PlantingScience team attended the NABT conference, November 2-5, 2023 in Baltimore Maryland, and had a lot of interested teachers sign up for our mailing list. We are planning to host a booth at the 2024 NABT conference November 14-17 in Anaheim, CA.
- A regional St. Louis-area education symposium proposal was approved for ASPB's Plant Biology conference in Honolulu, Hawaii including PlantingScience/BSA along with the Missouri Botanical Garden and Danforth Plant Science Center. The plan is to have one of our ASPB-sponsored PlantingScience Fellows (Varsha Pathare) present on behalf of PlantingScience, as Catrina and Jen will be hosting F2 Professional Learning Workshops at that time.