

Education Update –July 2022

Prepared by Catrina Adams, BSA Education Director

Bessey Award - The 2023 Bessey Award goes to Stefanie Ickert-Bond

- This year the Education Committee focused on generating more nominations for this important BSA Education award, and increasing the profile of the award more broadly. We generated an online form, targeted at students and early career nominators, to make the nomination process easier. Nominators were able to solicit help in assembling letters and other materials for their candidate, aided by an ad hoc subcommittee. The committee also enlarged the award committee to include representatives from the DEI committee, a past president, and one of the Education Committee's 2 student representatives. We received several fabulous nominees and very tight scores between several nominees. **Next year we would like to add a new process by which nominators can have their nominee packet evaluated again in the following year (for a maximum of 2 years in a row) simply by submitting a short letter confirming this desire when we open nominations. They would have an opportunity to update letter or other materials if they would like.**

Botany 360: Education/Outreach online discussions

- The teaching section held a Botany 360 event to discuss section leadership in early June. The Botany and Beyond coPIs are moving some traditional PLANTS mentoring programming to the early career PD committee in order to create an updated and revised “applying to graduate school” workshop as a Botany 360 event that will be useful to the PLANTS Scholars but also broadly accessible to all BSA undergraduates (including those not able to attend BOTANY in person).

Education/DEI Staffing

- Jennifer Hartley, BSA's Education Programs Supervisor (hired 8/2022) has been taking on management of the PlantingScience community and website and is serving as the BSA staff representative on the *Life Discovery: Doing Science Education Conference* planning committee, along with representatives from ESA and SSE. Her website content management and database skills are helping us improve the PlantingScience user experience and increasing our ability to understand our teacher and mentor communities as well as more easily access information on past PlantingScience activity. As a former teacher, she has been extremely helpful in lending her experience to our teacher recruitment and support efforts and in representing the program at teacher conferences.
- We're excited to have recently hired Sarah Sims as BSA's new DEI Outreach Programs Coordinator (4/11/2022). Sarah's background is in art and history museums, and she brings a great deal of experience leading both inward and outward-facing DEAI efforts. Sarah will spend 80% FTE on the new Botany and Beyond grant and 20% on other BSA DEI initiatives. In addition to being the project manager for the Botany and Beyond grant, she is currently serving as the BSA staff representative on the “Indigenous Voices” leaps grant led by the American Indian Science and Engineering Society (AISES) the Ecological Society of America, and the Entomological Society of America. She is also working to launch DEAI-themed resources for BSA based on her prior work, including several planned Botany 360 workshops. She is working in partnership with DEI committee members and BSA staff to adapt these resources as she gets to know our community.

Grant Funding Updates:

- **NSF DRK-12 F2 grant work Y2 ongoing**, upcoming Y3 a critical year for recruiting and implementation of 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

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- Remaining Y2 Activities include securing IRB approval (anticipated July 2022), recruiting participating districts, piloting and finalizing research instruments, continued planning of online versions of collaborative teacher/scientist professional development, creating and testing online mentor training, and making website improvements to support online PD needs.
- Y3 Activities will include filming teachers in classrooms and scientists doing research tied to photosynthesis and cellular respiration, finalizing website changes and piloting the online PD framework. In summer 2023 we will be hosting our first round of in-person and virtual PD training for teachers and early-career scientist liaisons. In fall 2023 participating student/teachers scientists will be implementing the PlantingScience Power of Sunlight module as we collect data for our research study.
- **Mentors and Liaisons urgently needed for Fall 2023/Fall 2024.** We will need to make a large push for early-career scientists to be a part of the F2 research study this winter/spring and will have a large demand for online mentors to work with student teams in Fall 2023. Please help us by sharing these calls as you see them!
- **Botany and Beyond grant** (NSF DEB#2138730; Anna Monfils (PI), Catrina Adams (coPI), Muriel Poston (coPI); \$1,254,869, 2021-2026). This expanded program builds on the existing PLANTS II program, Diversity and Inclusion Initiative Conference Grant, and BLUE career exploration workshops and will include three events: a pre-conference science identity workshop in spring in same region as Botany conference for local undergraduates (***Botany and Beyond Biodiversity Careers Workshop***); the ***PLANTS III*** mentoring program for underrepresented undergraduate students; and an ***Inclusive Teaching Initiative*** that involves sponsoring CC/TCU/MSI faculty to attend a workshop and inclusive botanical education track at conference.
 - **Y1 activities included** hiring a BSA DEI programs coordinator (Sarah Sims hired as of 4/11/2022), holding an advisory board meeting (April 2022) and recruiting and planning to support CC/TCU/MSI faculty (n=7) and PLANTS scholars (n=12) with special programming at Botany 2022 Anchorage. The Botany and Beyond Biodiversity Career Workshops are planned to begin in Spring 2023 before Boise.
- Two “**Leading Cultural Change through Professional Societies**” (**LEAPS**) NSF grants involving BSA as a partner kicked off this year
 - Catrina Adams and Chelsea Specht are currently serving on the steering committee of the ASPB-led LEAPS RCN proposal [ROOT & SHOOT: Rooting Out Oppression Together & SHaring Our Outcomes Transparently](#). Chelsea is looking to involve another member of the BSA’s DEI committee in the near future to enable a smooth leadership transition. Y1 activities included hiring a program facilitator (Marcia Puig-Lluch who will be staffing the ROOT&SHOOT booth at BOTANY), putting together an expert committee, and hiring [Movement Consulting](#) to host equity training for RCN partner leadership. Twenty-one BSA members are currently attending this leadership training, which is in its second month. The RCN’s will be funding several working groups to accomplish the objectives of the grant, and are beginning to recruit members now, with the first working groups focused on 1) creating a shared “Safer Conferences” action plan, and 2) establishing an inclusive mentoring certification program. Members of working groups will receive some compensation for their contributions to the working group.
 - The AISES-led “[Indigenous Voices in Biology](#)” involves BSA along with the Ecological Society of America and the Entomological Society of America, with Anna Monfils and Sarah Sims as BSA representatives on the steering committee. Y1 activities include a

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survey of participating society membership and leadership. This grant is also sponsoring an Indigenous Botanists Gathering at BOTANY that will be led by Sky Wildcat. Anna Monfils is also helping the grant team to plan a botany/ecology career workshop at the AISES Conference in November, 2022.

Life Discovery: Doing Science Conference: We partner in hosting this education conference along with ESA and SSE. Typically a BSA staff member and/or a member of the education committee participate on the Life Discovery planning committee and BSA funds their travel to the conference (registration and sometimes hotel costs for planning committee members are covered by the conference). BSA also helps to advertise the conference to the BSA membership and helps to pick speakers that would appeal to BSA membership interests. Jennifer Hartley and Phil Gibson are representing BSA on the planning committee for LDC 2023.

- **LDC 2023 will be held March 23-25th at FAMU (Florida Agriculture and Mechanical University, an HBCU) in Tallahassee Florida. Theme: Variants in Biology Education: What can we learn from pandemics?** 1) How have pandemics influenced education and has teaching and learning evolved and/or adapted to meet this challenge? 2) How do we prepare our students for a fast-evolving scientific phenomenon and perhaps and even faster “viral” spread of divergent sources of information that resist the scientific base for evolution and science in general? 3) Where are the jobs and careers in our field headed over the next 5-10 years, considering reliance on government sources of funding? How are educators preparing our students in an evolving job market?

Publications:

Taylor, J., Westbrook, A., Adams, C., Creasap-Gee, J., Spybrook, J., Kowalski, S., Gardner, A., Bloom, M. (2022) The effect of participation in a student-scientist partnership-based online plant science mentoring community on high school students' science achievement and attitudes about scientists. *Journal of Research in Science Teaching*. 59(3): 423-457. <https://doi.org/10.1002/tea.21733>

Publications in prep:

Two additional papers on DIG results remain in draft form in preparation for submission to the *The American Biology Teacher* and *BioScience*. A third paper on career pathways of PlantingScience Master Plant Science Teams members who participated 2005-2020 (authored by Claire Hemingway, Marsh Sundberg and C. Adams) is not a good fit for *BioScience* or *CBE Life Science*, looking to either add interview/focus group data (requires IRB approval sought through Emporia State) or submit to a different journal.

Presentations/Booth Recruitment Planned:

A PlantingScience workshop was held at the National Science Teachers' Association (NSTA) Meeting March 31-April 3 in Houston, TX, presented by Jennifer Hartley. A discussion session about PlantingScience will be held at the BOTANY conference on Tuesday morning 8:00AM and will feature a Q&A with a PlantingScience teacher from Anchorage (Naomi Tomco, Service High School) and MPST members (Yanni Chen, Texas Tech University, and Ana Flores, University of Hawai'i at Manoa). PlantingScience will also have a booth in the BOTANY exhibit hall. PlantingScience is also planning to have a booth at the upcoming National Association of Biology Teachers Conference in Indianapolis, Indiana Nov. 10-13, and to deliver several webinars aimed at teacher recruitment in late August/early September.