

Education Update –February 2022

Prepared by Catrina Adams, BSA Education Director

Education Report

February 25, 2022

Submitted by Catrina Adams

Bessey Award

- Education Committee will be focusing 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 can solicit help in assembling letters and other materials for their candidate, aided by an ad hoc subcommittee.** The committee is also pursuing enlarging the award committee to include representatives from the DEI committee, a past president, and one of the Education Committee's 2 student representatives.

Botany 360: Education/Outreach online discussions

- The BSA Education Committee and Teaching section are aware of this new opportunity to host virtual events beyond the Botany meeting, and are exploring ideas for events of interest to the membership. One suggestion made was to host sessions intended to inform membership about the long history and bright future of several of our long-running Education/DEI grants, PLANTS and PlantingScience. In addition, the Botany and Beyond coPIs are working with the early career PD committee to make some of the PLANTS student preparation more accessible to all undergraduates planning to attend Botany via Botany 360 events, and to integrate PD-related activities with the work of that committee.

Education/DEI Staffing

- Jennifer Hartley serving as Education Programs Supervisor since 8/9/2021. Jennifer is a former middle school teacher and School Programs Manager at MOBOT. She will spend over 80% FTE on the F2 grant/PlantingScience and up to 20% on other BSA education initiatives.
- We are currently evaluating candidates for BSA DEI Programs Coordinator who will spend 80% FTE on PLANTS III grant and 20% on other BSA DEI initiatives.

Grant Funding Updates:

- **Finished/Closed out** NSF RCN-UBE grant: Conference: Educating for a Diverse and Inclusive Community in Botany for the 21st Century (C. Adams PI, Kyra Krakos coPI, \$63,599). We are collaboratively preparing a PSB article with several program participants to report grant outcomes. This grant funded CC/TCU student and faculty participation and D&I programming at Botany 2019, Botany 2020, and Botany 2021. Events will continue as part of the expanded PLANTS III: Botany and Beyond grant.
- **Closed out** existing Digging Deeper (DIG) grant (NSF DRL#1502892, C. Adams PI, \$2.9M, 2015-2021) Spending complete, final report and outcomes report complete and accepted.
- **Finalized spending** on PLANTS II grant (NSF DEB#1549708, A. Sakai (PI), A. Monfils (coPI), Evaluation report by contracted evaluator Kathi Beyer complete, included survey and interview data from program alumni and mentors.
- **NSF DRK-12 F2 grant work Y1 complete, Y2 ongoing** (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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- Y2 Activities include a second advisory board meeting, securing IRB approval, recruiting participating districts, finalizing research instruments, planning online version of collaborative teacher/scientist professional development, creating and testing online mentor training, making website improvements to support online PD needs, filming teachers in classrooms and scientists doing research tied to photosynthesis and cellular respiration.
- **Botany and Beyond (Plants III) grant** (NSF DEB#2138730; Anna Monfils (PI), Catrina Adams (coPI), Muriel Poston (coPI); \$1,254,869, 2021-2026). Grant activity period started 11/21. Expanded program builds on existing PLANTS II program, Diversity and Inclusion Initiative Conference Grant, and BLUE career exploration workshops and will include three events: pre-conference science identity workshop in spring in same region as Botany conference for local undergraduates; PLANTS pathway mentoring program for underrepresented undergraduate students; CC/TCU/MSI faculty workshop and inclusive botanical education track at conference. **Please note: A decision was made to focus on using “Botany and Beyond” when we talk about the new grant to emphasize the broader scope and to refer to “Plants III” as just one of three sets of activities funded. It will be very helpful if the board can help us reduce confusion by referring to the overall grant as Botany and Beyond (B&B) and the undergraduate mentoring program as PLANTS III (one of three parts of B&B).**
 - **Y1 activities include** hiring BSA DEI programs coordinator, an advisory board meeting (~April), revising materials, putting evaluation plan in place with IRB approval, and supporting CC/TCU/MSI faculty PD and the PLANTS pathway mentoring program at Botany 2022 Anchorage (Science Identity Workshops will begin in 2023)
- **“Leading Cultural Change through Professional Societies” (LEAPS)** NSF grants involving BSA as a partner kicked off this fall. Catrina Adams with Chelsea Specht serving on the steering committee of the ASPB-led LEAPS RCN proposal [ROOT & SHOOT: Rooting Out Oppression Together & SHaring Our Outcomes Transparently](#). Y1 activities include hiring a program facilitator and equity consultants and trainers, hosting equity training for RCN partner leadership, creating a shared conference code of conduct, and establishing an inclusive mentoring certification program. AISES-led [“Indigenous Voices in Biology”](#) involves BSA along with the Ecological Society of America and the Entomological Society of America, with Anna Monfils as a member of the steering committee. C. Adams will serve as a temporary additional representative, with the new BSA DEI Programs Coordinator soon taking over that role. Y1 activities include a survey of participating society membership, leadership, and staff, and sponsored networking events at conferences.

PlantingScience Updates:

- Fall 2021 wrapped up just after Thanksgiving. Despite the fact that teachers and students had big adjustments to make as many returned to in-person school after spending a year teaching remote, we saw a quick return to pre-pandemic numbers. The program engaged 1,022 students across 23 schools. Roughly 36% of the students explored different factors affecting seed germination, and studies around plant tissues and photosynthesis were also popular. The Spring 2022 session began on February 14, 2022 and is off to a strong start!
- We plan to push back our timeline for the F2 research plan by 1 year (implement summer/fall 2023 vs. 2022) to allow for COVID disruptions on K-12 teachers to ease, and to hopefully allow time to record in-classroom video from experienced PlantingScience teachers for reflection and discussion during the professional development.

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Life Discovery: Doing Science Virtual Conference was held in-person in Estes Park, CO, SEPT 30-OCT 2 2021: 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. The October 2020 conference was moved online due to COVID. To avoid cancellation fees we rebooked for October, 2021 at the same location (YMCA at Estes Park, Colorado). The LDC planning committee (including Phil Gibson and Catrina Adams representing BSA) hosted the in-person meeting in Estes Park. The conference followed ESA's COVID policies requiring attendees to be vaccinated. The conference typically includes about 100 attendees, and this year's in-person conference was slightly smaller with 75 attendees: 58 faculty, 6 K-12 teachers and 11 others. The conference was highly rated by attendees. Jennifer Hartley will be joining Phil Gibson on the planning committee for LDC 2022, which will be held in Spring 2023. Locations in the Southwest and at an HBCU in the Southeast are under consideration, with a tentative theme that may relate to virus evolution and value of incorporating current events and civic engagement in undergraduate biology teaching.

Publications:

Taylor, J., Westbrook, A., Adams, C., Creasap-Gee, J. (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>

(A press release and visual summary of the DIG study will be forthcoming in BSA newsletter/PSB).

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*.

Presentations/Booth Recruitment Planned:

PlantingScience had a booth at the National Biology Teachers Association meeting Nov. 11-14 in Atlanta Georgia staffed by Catrina Adams and Jennifer Hartley. A PlantingScience workshop has been approved for the National Science Teachers' Association (NSTA) Meeting to be held March 31-April 3 in Houston, TX, presented by Jennifer Hartley. We are looking for a local PlantingScience teacher to co-present that workshop.

Education Committee/Director-at-Large Transition.

Rachel Jabaily is now serving as the Director-at-Large for Education and the Education Committee Chair. Committee members who have rotated off as of summer 2021 are Dori Contreras, Karolina Heyduk and graduate student representative Ben Stone. New committee members who have joined us are Karen Wellner, Helen Holmlund, and undergraduate (now graduate student) representative Kiana Lee. Rachel hosted a midyear Education Committee meeting on 1/27/22, where the main topics of discussion were the Bessey Award and Botany 360 efforts.