**To: Faculty and students participating in the *Plant Biotechnology for Health and Sustainability* Predoctoral Training Grant**

**From: Danny Ducat and Rob Last: PBHS Program Directors**

**Date: April 7th, 2025**

**Subject: Call for T32 Program Trainee Applications**

On behalf of the Executive Committee, ***we ask that you encourage qualified students to apply*** to the 'Plant Biotechnology for Health and Sustainability' training program, entering its twelfth year of funding on July 1st, 2025. We plan to award three full time fellowships with NIH funds and 2-3 half- or full-time fellowships with MSU funds. For additional program information see: <http://plantmetabolism.natsci.msu.edu/>.

***Eligibility:***First-year PhD students who recently completed their second semester of study at MSU and are doing fundamental research in a trainer’s lab are eligible to apply. Highly qualified students will be considered for predoctoral fellowships starting in Fall Semester 2025. **Students who have funding for the coming Fall or Spring Semesters or need to complete their TA assignments can start their fellowships in the first half of 2025.** The fellowships will cover NIH-mandated level of stipend along with tuition and health insurance for up to four semesters and two summers. Fellowship awardees must conduct fundamental research on photosynthetic organisms (*e.g.*, plants, algae), or other relevant microorganisms in a manner that is broadly aligned with NIH NIGMS research priorities. For brief descriptions of prior PBHS trainee research foci, see <https://plantmetabolism.natsci.msu.edu/program-outcomes/career-outcomes.aspx>.

 ***All interested students must submit a completed application by 9 AM ET on Monday, June 2nd, 2025***. Please submit these materials by email to Jessica Lawrence ([jesslaw@msu.edu](file:///C%3A%5CUsers%5CRob%20Last%5CDropbox%5CGrad%20Training%20Grant%5CAnnual%20Competitions%5C2020%20Competition%5Cjesslaw%40msu.edu)).

The application includes submission of a 1-2 page Individual Development Plan (IDP) summary. To complete this requirement each applicant will go through a formal IDP self-evaluation process using AAAS myIDP (see: <https://myidp.sciencecareers.org/>), followed by an in-depth discussion of topics arising from this process **with their advisor**. The application should include a 1-2 page summary of the IDP discussion and outcomes.

Applicants should consult their mentors about the program. It is recommended that students have a formal advisor/advisee discussion of training expectations. See the list of attached discussion prompts for both students and faculty mentors (*this is not a requirement, but is a valuable exercise for many trainees)*.

Accepted students are expected to participate in activities associated with the program, as described below:

***Obligations of trainees:*For all trainees:**1. All trainees of the program will complete BMB 960-301 ‘Plant Biotechnology Research Forum on Plants for Health and Sustainability’ seminar course in Fall 2025 and the Spring 2026 BMB 864 ‘Biotechnology and Plant Biochemistry’ course coordinated by Bjoern Hamberger. Trainees will also complete three credits of quantitative skills-building coursework (typically HRT 841 ‘Foundations in Plant Computational and Data Sciences or three CMSE 960-30X modules, or comparable courses approved by your advisory committee and Rob Last or Danny Ducat).

2. All program trainees are expected to attend and actively participate in the annual symposium each year. While not finalized, **the next PBHS Retreat will be held at the Kellogg Biological Station from October 17th to the 19th**, **2025.**

3. All program trainees will participate in the annual PBHS-specific Responsible Conduct of Research training.

**Additional requirements for funded fellows:**1. Fellows will show consistent signs of success in coursework and research for continued funding.

2. Active participation in each annual symposium or retreat. Importantly, students in their 3rd year are expected to organize and take active leadership roles in running the event in year 3 of their graduate training. Students beyond their 3rd year frequently continue in some organization/leadership of the annual symposium or retreat.

3. Each **NIH-funded fellow** will work with their mentor and the Executive Committee (EC) members to identify and organize an 8-12 week industrial internship. In addition to being an excellent career development opportunity, this is a requirement of the NIH T32 Biotechnology Training Program. Funded fellows will receive their stipends, health insurance and tuition during this period. Industrial internships are typically completed before the end of the trainee’s 3rd year of graduate studies.

4. Fellows will be responsive to requests for information and descriptions of activities that are requested by the PBHS Program Directors. This information is required for annual Progress Reports to the NIH (RPPR reports).

5. In addition to their primary mentor, the fellows are expected to have another PBHS trainer or EC member on their advisory committee.

6. Fellows will submit a follow up IDP summary in Summer/Fall 2026, typically at the start of their fifth semester of graduate studies. This summary will be the result of a follow-up conversation of fellows with their faculty advisor(s). In addition to discussion of trainee goals and professional development, the IDP should specifically include mention of the trainee’s exposure to their scientific discipline through such lectures as well as any plans to further enrich training through participation in local, national, or international scientific lectures/conferences. Fellows will be expected to attend ≥20 seminars annually, including talks within and outside of their field of interest. Students are expected to keep track of their seminar attendance and to discuss their seminar participation in years 2 and 3 as part of an Individual Development Plan (IDP) discussion with their primary advisor(s).

**Faculty responsibilities:**

1. It is expected that faculty trainers whose students have been supported financially will actively participate in multiple aspects of the program, including retreats, symposia, seminar classes, and RCR training events.

2. Faculty trainers of funded fellows are required to participate fully in the program events listed in 'obligations of trainees, funded fellows' above. This includes annual career development discussions with your trainee.

3. Executive Committee will rotate out of their positions following a period of service and Faculty trainers whose students have participated should be willing to serve on the Executive Committee in future years.

4. PBHS is in the process of integrating a “Mentoring the Mentor” program for faculty trainers in cooperation with other T32 programs on campus (IPSTP). Faculty trainers will be expected to participate in this programming as a condition of acceptance of the PBHS fellowship for their trainees.