

Postgraduate Industry-Immersion Program for Master of Science Candidates – 3 awards available Office Hours Required – please check last item.

The Center for Produce Safety has embarked on a new pilot program initiative specific for postgraduate students working towards a Master of Science (M.Sc. or M.S.) This CPS program is designed to provide a unique research immersion experience built around a focused research objective of mutual interest and benefit to the student, the academic major advisor and the host produce industry firm(s). This program aims to support the continuing professional development of promising M.Sc. postgraduate students while conducting produce food safety research in a non-academic environment.

Application to this program is designed to engage advanced M.Sc. Students, across diverse disciplines with a curiosity or current strong interest to develop a career trajectory within industry. This competitive award program is designed to provide an expanded and embedded research and professional development training and mentoring experience to successful candidates. The scope of this augmented postgraduate training is not bounded regarding the specific produce sector or closely aligned service industry.

Anticipated Outcomes

For the successful applicants, an intensive and embedded experience with a mutually selected industry host(s) will provide a comprehensive awareness and skill building opportunity to develop or enhance industry-related science and technology acumen and private sector communication skills, critical for successfully leading and navigating research in a non-academic environment. Participants will emerge with a deeper understanding of the breadth of technical and related private sector career path opportunities.

For the industry at large, successful research projects will prioritize supporting clear and relevant adaptive research outcomes designed to address high-priority knowledge gaps and produce safety management questions closest to ready and broad adoption as solutions-directed practices or standards. The goal is to identify, encourage, and incentivize a new generation of technically skilled and science-oriented workforce for the produce sector. Providing a unique exposure to and experience of non-academic opportunities across the diverse and evolving career landscape has been identified as a critical need. The expectation is that this pilot program will provide the expertise and insights for the produce leadership to improve and expand the **CPS Postgraduate Industry-Immersion Program**.

The pilot program is designed to provide up to 9 months of funding support for the execution and communication of highly focused research objectives addressing critical needs or opportunities in a broad context related to food safety across the produce supply and marketing matrix. Although entirely centered on research outcomes, the form of the funding support requested is flexible and open to diverse rationale and justification based on individualized needs and academic institutional criteria and policies. One aspect of this flexibility is the direct or in-kind support committed by the private sector host(s).

Qualifying Requirements and Criteria

The following factors reflect the program expectations for success:

- Postgraduate student, working towards a M.Sc., has completed at least 75% of institutional major course work, with overall GPA of at least 3.0.
- Major Professor/Principal Investigator must provide a statement from the Sponsored Programs Office (or institutional equivalent, i.e., Graduate Student Affairs Office) of the committed programmatic, institutional, or foreign government funding support for the applicant for the duration of the CPS Postgraduate Industry-Immersion award and the basis for the incremental funding support.

- The focused proposed research may be a subset objective of an on-going thesis research program.
- Research proposals that are wholly separate activities and with unlinked objectives to on-going research assistantship obligations will likely be assigned a lower priority without clear and concise justification for the CPS Immersion Program goals of the student applicant.
- All research activities and completion of a final report must be within a single 9-month period.
- Intent to pursue a career in the fresh produce industry upon completion of the CPS-funded project and graduation from a home institution.
- Award funding is flexible. The priority criteria are, however, to support actual costs of research activities, extramural specialized research skill training or contract analytical services, fellowship training travel, and travel to the Annual CPS Research Symposium.
- Proposed research objectives have clear alignment with the CPS solutions-focused mission and strong expectation for primary targeted sector adoption and integration into food safety systems.
- Proposed research has clear individual educational and vocational objectives aligned with a career in the produce or closely aligned industries.
- Minimally, two months of research activities embedded on-site(s), anticipated to be primarily during non-academic instructional calendar period, with industry host(s). The specific timeline of immersion activities is flexible as to months that best fit the research needs.
- Clear evidence that applicant prepared the Research Proposal in semi-independent manner with guidance from the thesis committee.
- Participation in a virtual presentation on the Research Proposal with selected CPS Technical Committee members and invited potential industry participant hosts (as one of eight finalists).

Proposal Format and Requirements

The following expectations are provided as both guidance and requirements for application to this program:

- Arrange a “dialogue session” (30 min) at least 10 business days prior to the submission deadline, by contacting [CPS Proposals](#).
- Submit a one-page concept brief at least 5 business days prior to the arranged dialogue session.
 - Concept briefs should provide a clear and concise research hypothesis, a supporting objective, and anticipated outcome.
 - The anticipated outcome should be formatted as a clean *Yes or No* answer to the research hypothesis or knowledge gap question.
 - A brief description of the experimental design and desired Postgraduate Industry-Immersion career exposure opportunity must be included.
 - A request for CPS assistance in identifying an industry host may be introduced at this time or in advance.
- The final application must not exceed five pages, including the full narrative, critical supporting citations, and immersion program process flow diagram and timeline.
 - A strong justification of the industry needs and rationale for how the approach will result in a clear and defensible likelihood of immediate or short-term adoption. Research outcomes that are most likely to require more research to resolve the researchable hypothesis and question are a lower priority.
 - A thoughtful and insightful narrative on potential or likely pitfalls and mechanisms to identify and mitigate this potential.
 - *CPS fully understands the direction that adaptive research may take in limited term studies which are partially or wholly dependent on private sector activities and/or conducted outside of a well-controlled or model environment. The expectation is only*

that the applicant has a realistic and practical understanding of these dynamics and open to mentorship within the immersion experience to grow from these foreseeable challenges.

- Applications that include quantitative or qualitative narrative elements which describe, identify, or elucidate the importance of food safety and public health needs to CPS will not be reviewed.
- Research proposals that are fundamentally surveys are strongly discouraged, but revisions and redirection during dialogue sessions may resolve this for the applicant.
- Include a description of the institutional and industry host/mentor oversight and research guidance plan.
- Include a statement of the on-site embedded and immersion plan and timeline with an industry host(s) around the research project. A Process Plan Diagram or Logic Model may be used.

Additional Criteria

- Successful awardees and their major advisor may be asked to sign a non-disclosure agreement (NDA) related to the activities of the firm or entity, due to exposure to proprietary information or activities as a consequence of being embedded in an operation.
- The overall research design, execution, and outcomes may not be unnecessarily restricted, or disclosures limited by any NDA. The research accomplishments must be transparent, accessible and relevant to a broad sector of the produce industry, consistent with the CPS mission and foundation.

Award

A period of funding support of US\$25,000 will be awarded to the selected postgraduate M.Sc. students. Institutional indirect charges must not exceed 8% of salaries and benefits.

Examples of research projects of interest to an industry host:

1. Analyze industry data to better understand the relationship between time-in-use data for different cleaning assets (and interactions between them) and ATP and APC data on harvesters. Determine appropriate limits for ATP and APC levels on harvesters, and perform data trending to determine if an appropriate frequency for deep-cleaning can be determined.
2. Design and optimize an effective cleaning and sanitation program for portable toilets in the field. Determine how frequently cleaning and sanitation must be performed to reduce the likelihood of the toilets serving as a source of contamination (including preventing the toilets from becoming a source of contamination during cleaning and sanitation).
3. Packinghouse wax areas – several studies have identified *Listeria* presence/persistence in wax areas. Develop a cleaning and sanitation program optimized for the elimination of wax to prevent persistence.
4. What volume of water should be collected and what testing should be performed (e.g., generic *E. coli*, turbidity) to increase the likelihood of detecting wells in unsanitary repair?
5. Determine what measurable change in risk is associated with plant pathogen infection of leafy greens.

Office Hours

Students interested in this program should request an appointment with members of CPS Technical Committee and staff. Please check the Center for Produce Safety website for more information - https://www.centerforproducesafety.org/grant_opportunities.php.