Postdoctoral Mentoring Plan

The postdoctoral researcher employed under this grant will play an essential, central role in the project itself, but also receive a specific mentoring program that is directly aligned with data-intensive ecology. Success in ecoinfomatics research requires not just a firm grounding ecology, but also the ability to integrate data, fields, and collaborators using a variety of digital tools. Thus, in addition to mentoring in career planning, grant writing, and drafting manuscripts, the postdoc will receive specific training in using modern, web-based technologies for project, data code and collaboration management. The goal of this mentoring program is to provide the postdoc with skills, knowledge, and philosophical background to go on to a rewarding career in transformative, integrative research. The postdoc will be based in the Bahlai Lab at Kent State University, and directly supervised by Bahlai. Specific elements of the mentoring plan include:

- An orientation period where the postdoc and Bahlai will engage in deep conversation about the postdoc's expectations, responsibilities and goals for their position, as well as the postdoc's long-term career goals. Specific topics will include safety and lab conduct expectations, productivity expectations, including specific mentorship in the preparation of data and code-based research products, reproducibility standards and scientific citizenship, and identification of skills to develop to align with the postdoc's career goals. These expectations and goals will be codified in an Individual Development Plan.

- Career counseling will include both the traditional academic mentoring in this area- CV preparation, consultation on preparing academic application packages, and interview skills- and in less-traditional approaches to network building. The postdoc will specifically be given opportunities to interact with the broader data science community, including a variety of colleagues in academic-adjacent positions, to broaden their perspectives on rewarding careers employing their specific skillsets.

- The postdoctoral researcher will develop their skills in academic and translational writing through leading preparation of scientific manuscripts, grant proposals, and documentation of data and code. They will be encouraged to participate in communication about this research in informal and non-academic settings (i.e. blogs, working with reporters when findings of note emerge) to develop skills in communicating their work across a variety of stakeholders.

- The postdoc will be given opportunities to travel (when travel is recommended again) to national scientific conferences to present their work, in addition to opportunities arising within the data science community to present methodological developments and build their network. If current travel restrictions continue, the postdoc will be encouraged to build their network through participation in online conferences, community calls, and forums such as through the Environmental Data Science Inclusion Network.

- Formal interactions with mentors will include lab meetings and one-on-one meetings to discuss progress, opportunities to learn new techniques, including quantitative skills, molecular techniques, and arthropod identification, including visits to collaborating labs. Specific training on Responsible Conduct of Research topics, delivered through lab meetings and an opportunity to help teach Bahlai's Reproducible Quantitative Methods course and the new Critical Data Science for Biologists course, will be given. Specific topics will include data management and licensing, Conflicts of interest, scientific authorship, all interpreted through the lens of data-driven, large scale ecology.

- Progress of the postdoctoral researcher and success of the mentoring plan will be assessed by tracking their progress relative to goals set in the Individual Development Plan, and adjusted as necessary.