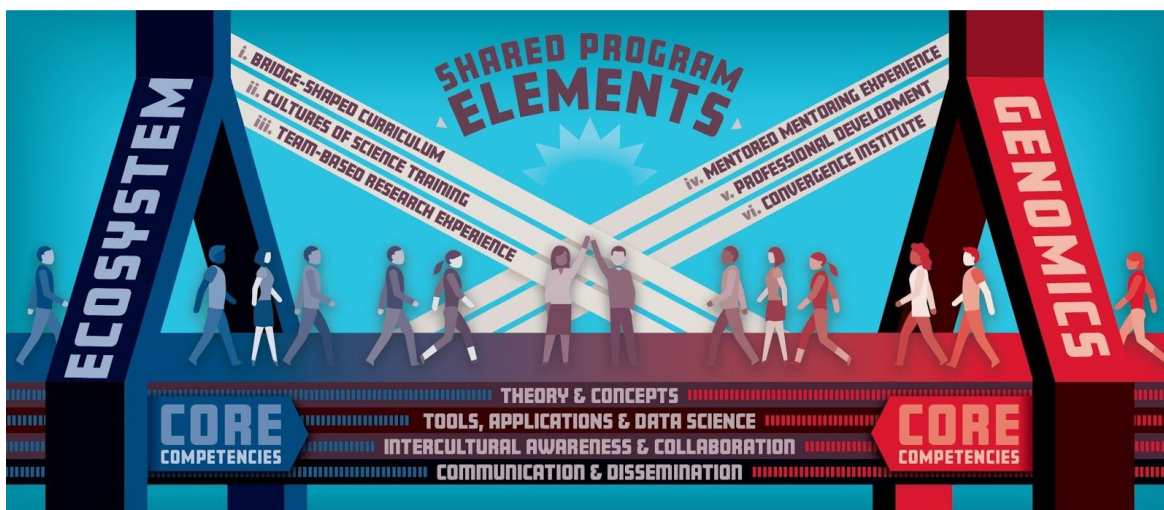


BRIDGES National Science Foundation Research Traineeship (NRT) program

Building Resources for InterDisciplinary training in Genomics and Ecosystem Sciences (**BRIDGES**) supports and trains diverse, outstanding MS and PhD graduate students in ecosystem genomics, as depicted in the figure below. The BRIDGES NRT, based at the University of Arizona (UArizona, Tucson, Arizona), aims to foster a new generation of transdisciplinary scientists to address the challenges of sustaining natural and managed ecosystems.

BRIDGES is committed to building an inclusive and equitable training and research environment that supports a diverse cohort of participants, faculty, and partners. Applications from candidates who self-identify as members of minoritized or underrepresented groups are welcome and strongly encouraged.



The BRIDGES NRT offers competitive fellowships (\$34,000 per year stipend plus tuition) and diverse training opportunities for incoming MS and PhD students applying to one of our seven constituent graduate programs on the UArizona campus: Ecology and Evolutionary Biology, Plant Sciences/Plant Pathology, Biosystems Engineering, Environmental Science, Entomology and Insect Science, Natural Resources and the Environment, and Hydrology and Atmospheric Sciences.

The NRT fellowships are awarded each year to about six new graduate students (US citizens and permanent residents), for up to two years. Applicants not eligible or selected may be invited to join the BRIDGES training program, while seeking funding through other means. BRIDGES training, as depicted by the six cables in the figure above, consists of six shared program elements:

(i) Innovative BRIDGE-shaped Curriculum

NRT trainees major in one of the core graduate programs, with mentorship or co-mentorship by NRT faculty, completing discipline-specific courses on a normal schedule that encompass foundations in both ecosystem and genomic sciences, the two pillars of the BRIDGE. Where appropriate, students will fulfill their major requirements via courses taught by NRT faculty and affiliates while completing an Ecosystem Genomics minor (PhD students, through a new Graduate Interdisciplinary Program) or certificate (MS students).

Trainees also enroll for one semester per year in our weekly 1-credit Ecosystem Genomics Seminar, which features special training sessions, invited speakers and in-class discussions.

(ii) Cultures of Science Training

Cultures of Science Training is based on the insight that truly transdisciplinary research is not just a technical challenge, but also one of bridging cultural differences among disciplines. Our Cultures of Science Research and training embraces science as a culturally infused practice with distinct and diverse ways of knowing. Each first year trainee will participate in workshops focusing on the special professional opportunities and challenges of interdisciplinary research.

(iii) Team-Based Research Experience

Research training will be fostered through 'ecosystem genomics' internship opportunities in settings such as UArizona or national labs, startup or established companies, crop research institutes in the U.S. or the Philippines, or experimental facilities such as the Ecotron in France or Biosphere2 at UArizona. NRT trainees will assemble into teams to develop their research project ideas into proposals over the course of the first year, present these for feedback at the annual Convergence Institute (see below), and then implement the research at the internship site. We aim for research teams to publish their internship results as co-first authored work in a process that develops their team-based skills to address the challenges of interdisciplinary work.

(iv) Mentored Mentoring-Teaching/Outreach Experience

Every NRT trainee will have the opportunity to mentor an undergraduate or high school researcher for at least one semester or summer, with a focus on students from thriving minority-recruiting/retention programs at UArizona and through local partners in Tucson. Trainees will gain professional skills by teaching in an undergraduate course relevant to their discipline and completing 20 hours of public engagement per year, with opportunities to serve as judges at local and regional science fairs and to present at UArizona public outreach events.

(v) Professional Development

NRT trainees will receive training in professional leadership and communication at a half-day, engagement-style workshop led each year by university and partner leaders. NRT trainees will also participate twice per semester in active-learning, 2-hr seminars led by key NRT faculty.

(vi) Convergence Institute

Each summer, our NRT community comes together for a 3.5 day summit meeting that is equal parts science, training, inclusion, professional development, and science communication. Year one NRT trainees advance proposals and receive supportive feedback. Returning trainees present results from their team-based internship experiences. Participants expand their skills in outreach, inclusion, and professional collaboration in a transdisciplinary setting. This is the flagship event of our program in which we grow and celebrate our diversity and scientific endeavors.

Contact Heather Ingram, BRIDGES Program Manager, at bridges.nrt@gmail.com with questions. To apply, visit <http://BRIDGES.arizona.edu>.

