

# Experiments in Learning

## *New Research Internship Program Cultivates Careers in Science*

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In the six years since the opening of our research center at Weld Hill, science instruction and investigation opportunities for students in the life sciences have flourished at the Arnold Arboretum. Perhaps more than ever, the Arboretum plays a vital role in shaping the education and prospective careers of rising botanists, ecologists, and climate change scientists, aided by our expanded facilities for learning, accessible plant and herbarium collections, and state-of-the-art laboratories. This summer, the Arboretum began a new chapter in educating tomorrow's scientists by welcoming eight exceptional undergraduates to take part in the DaRin Butz Foundation Research Internship Program—a new comprehensive training and mentoring experience in botanical and environmental research.



Intern Asa Peters, an undergraduate at Connecticut College, collects data on wine grape phenology in the research greenhouses at Weld Hill as part of his summer investigations in the laboratory of Professor Elizabeth Wolkovich. Photo by Catherine Chamberlain.

In 2013, the DaRin Butz Foundation initiated a five-year gift to establish a research internship in plant science at the Arnold Arboretum. While contributing to the educational goals of both the Arboretum and Harvard University, the internship also provided critical laboratory assistance to the ongoing studies of our scientists. Over the first three years of our partnership, the foundation's annual gifts supported one to two students each year to assist with data collection and analysis for Arboretum investigations—particularly those focusing on climate change and the environment. This year, the Foundation increased its commitment to this effort, enabling the Arboretum to develop a full-fledged program for experiential learning. “We are so fortunate,” said Arboretum Director William (Ned) Friedman, “that the DaRin Butz Foundation shares our confidence not only in the potential for science to address many of Earth's ecological challenges, but in the incredible power of focused, one-on-one mentorship with professionals to launch exceptional talent in our field.”

Combining academic and practical training, the internship offers a rigorous, real-world experience. Arriving at the Arboretum in late May, the interns immediately began working and collaborating with their advisors to learn more about the labs they were joining and launch their projects for the summer. During ten short weeks, the interns developed an independent research project, collected and analyzed data, and presented their results. Under the guidance of Director of Research Facilitation Faye Rosin, they also participated in a number of coordinated activities to increase their familiarity with research methods and the practices of professional scientists. “We had a fantastic group of interns,” said Faye. “They jumped into the program with enthusiasm and very quickly became an important part of the Arboretum community.”

From seven universities including Harvard, the eight interns brought a diversity of experiences to the program, including a wide range of research experience (from none to much) and educational experience (freshman to graduating senior). Each week, the interns were encouraged

to share their unique viewpoint and learn from each other during weekly program activities. A journal club increased their exposure to primary scientific literature and encouraged discussion and debate, and guest speakers shared insights on their work to highlight potential career directions. Interns also sharpened their communication skills by writing a research proposal, giving an oral presentation mid-way through the experience, and taking part in a research symposium on the program's final day. "I was constantly impressed with the exciting range of research projects developed by the students during such a limited time frame," said teaching assistant Danny Schissler.

Like the Isabella Welles Hunnewell Internship Program in horticulture at the Arboretum, the experience creates a strong foundation for individuals to prepare for their future—in this case, the increasingly complex and interdisciplinary fields of climate change research, ecology, and plant biology. Importantly, the program represents a potent new channel for the Arnold Arboretum to advance its mission-related goals in both research and education. By developing and mentoring tomorrow's practitioners and leaders in investigative science, the Arboretum continues to make strides in helping society discover solutions to critical challenges facing our planet. ∞



2017 DaRin Butz Foundation Research Interns at the Arnold Arboretum: (from left) Juliet Bramante (Harvard University), Asa Peters (Connecticut College), Sruti Pandey (Boston University), Ashley Bang (Brown University), Jack Smith (Harvard University), Vivien Chen (Boston University), Jessica Leslie (UMass-Amherst), and Emily Rosa (Sonoma State University). Photo by Stephen Hill.



Intern Ashley Bang of Brown University measured soil respiration on the campus of Boston University as part of her summer research project in urban ecology with the Templer and Hutryra labs. Photo courtesy of Pamela Templer and Lucy Hutryra.