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High School Research Assistantships

Do you remember what you did over your High School summer vacation? Many of us took up seasonal positions as lifeguards, camp counselors, or landscapers. However, for some, a summer break from school is an opportunity to broaden their education. For those seeking that prospect in the field of science, Archbold Biological Station offers the perfect experience.

Since 2007, Archbold's Plant Ecology Program has annually hosted a High School Research Assistantship for two Highlands County students. "It's an experiential learning experience that focuses on a range of conservation science issues including population dynamics of rare plants, fire ecology and restoration" states Stacy Smith, who has directly supervised the program since its inception. Participants are not only involved in long-term ecological research projects, some on the order of 20+ years, but are also mentored by Archbold's post-baccalaureate interns who are conducting their own ecological research on a range of topics from plant-insect interactions to seed ecology. In addition, High School participants are guided in the design, implementation, and analysis of their own independent research, which they present to Archbold staff upon their departure.

This Research Assistantship program, initiated by Dr. Eric Menges, director of the Plant Ecology Program, aims to foster an interest in biological sciences as well as attract under-represented minorities into the field of science. Archbold hosts a range of scientific disciplines from avian ecology to insect ecology but the High School Research Assistantship is embedded within the Plant Ecology program. Funded by the National Science Foundation as a supplement to a Long-

Term Research in Environmental Biology grant, the nationally prestigious Research Assistantship program provides a variety of experiences to budding scientists in their junior or senior year of High School, ranging from observational and experimental fieldwork to data entry and analysis to ecological literature searches.

Lukas High and Amy Platt are the most recent graduates of the High School Research Assistantship program. Both students attended Sebring High School's International Baccalaureate program. Amy reflects on her experience, "At Archbold, you don't just get a few good learning experiences, you get an entirely new outlook on life and the world surrounding you". Amy is now studying physics at the University of West Florida while Lukas completes his senior year.

Many previous program participants believe that their experience at Archbold was an important stepping stone in their future success. Rachel Burnett participated in the Research Assistantship program in 2007, during its first year, and has since acquired a Master's degree from North Carolina State University in Forestry and Environmental Resources. Rachel believes her experience at Archbold combined with her undergraduate coursework were "instrumental in my training as a biologist and prepared me well for graduate work". Austin Ritenour, a 2012 program participant, will graduate this summer from the University of South Florida with a B.S. in Environmental Biology and a minor in History. Austin reflects on his time at Archbold as a place that "helped me discover my passion and led me to pursue other internships within the field of conservation to further improve my skills".

Archbold measures the effectiveness of the High School Research Assistantship program by evaluating students before and after their participation. Data from previous years shows participating students increased their scores on knowledge of basic science, averaging an improvement of 18% after program completion. Participating students also gained 2-4 skills during the course of the program, including experience with data analyses, graph making, and tools like GPS, light and soil moisture meters. Students also showed an increase in exposure and confidence about conducting ecological research and an affirmed view on the importance of conservation. Some students were more open to the field of education and had more defined ideas on how to encourage interest in our natural surroundings.

This summer, the Plant Ecology program will offer their 9th year for the High School Research Assistantship program. The 2017 participants are Alexander Bogaert and Bryan Resendiz, both are in their junior year at Lake Placid High School with interests that range from plant ecology to agriculture. Like most applicants, Alexander and Bryan discovered the opportunity through their science teachers. Each year the position is announced in science classrooms across Highlands County. If you are a student in Highlands County and interested in science, be sure look out for this opportunity in the future.

Photo 1: The 2017 High School Research Assistants, Alexander Bogaert and Bryan Resendiz, collecting leaf samples of the federally endangered Florida Ziziphus for genetic analysis. Photo by Stacy Smith.



Photo 2: The Plant Ecology Program in the summer of 2016, Program Director, Eric Menges is surrounded by interns Kaitlin Griffith and Susan Deans, High School Research Assistants Forest Ritenour and Amy Platt, visiting researcher Jenny Schafer, and Research Assistants Stacy Smith and Stephanie Koontz. Photo by Archbold Biological Station.



Photo 3: Rachel Burnett, shown here in 2007 when she was a Research Assistant, studying the effects of fire on Archbold's many oaks and palmetto species. She now has a Master's degree in Forestry and Environmental Resources. Photo by Archbold Biological Station.

