



About the College

Biology Graduate Student Rebecca Duncan Wins NSF Fellowship



Rebecca Duncan, a graduate student in assistant professor of biology

Alexandra Wilson's lab, has won a 2011 National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) Fellowship.

Duncan wrote and submitted the grant proposing a study of mealybugs and their bacteria in biology department chair and professor Kathryn Tosney's graduate course, Professional Writing and Grantsmanship in Biology. "This win reflects the excellence of the student and her mentor, and is a good harbinger of things to come in our revamped graduate program," notes Tosney.

Duncan's research project focuses on the citrus mealybug, a plant sap-feeding insect that has evolved an intimate, mutually beneficial relationship with two unrelated bacterial species that live inside specialized mealybug cells. She explains: "Although countless other organisms rely on one or more species of intracellular bacteria to compensate for a nutrient-poor diet, mealybugs are remarkable in being the only organism we know of in which one of the bacteria lives inside of the other. These bacteria are crucial for mealybug survival because they synthesize amino acids and other nutrients absent from the mealybug plant sap diet. I study the

molecules that mediate the intimate interactions by which mealybugs and their bacteria share nutrients.”

According to the NSF, Duncan’s selection for the NSF Fellowship was based on her outstanding abilities and accomplishments, as well as her potential to contribute to strengthening the vitality of the US science and engineering enterprise. The stipend for the 2011-2012 Fellowship Year is \$30,000.

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