SCWIBLES

GK-12

Santa Cruz-Watsonville
Inquiry-Based Learning in Environmental Sciences

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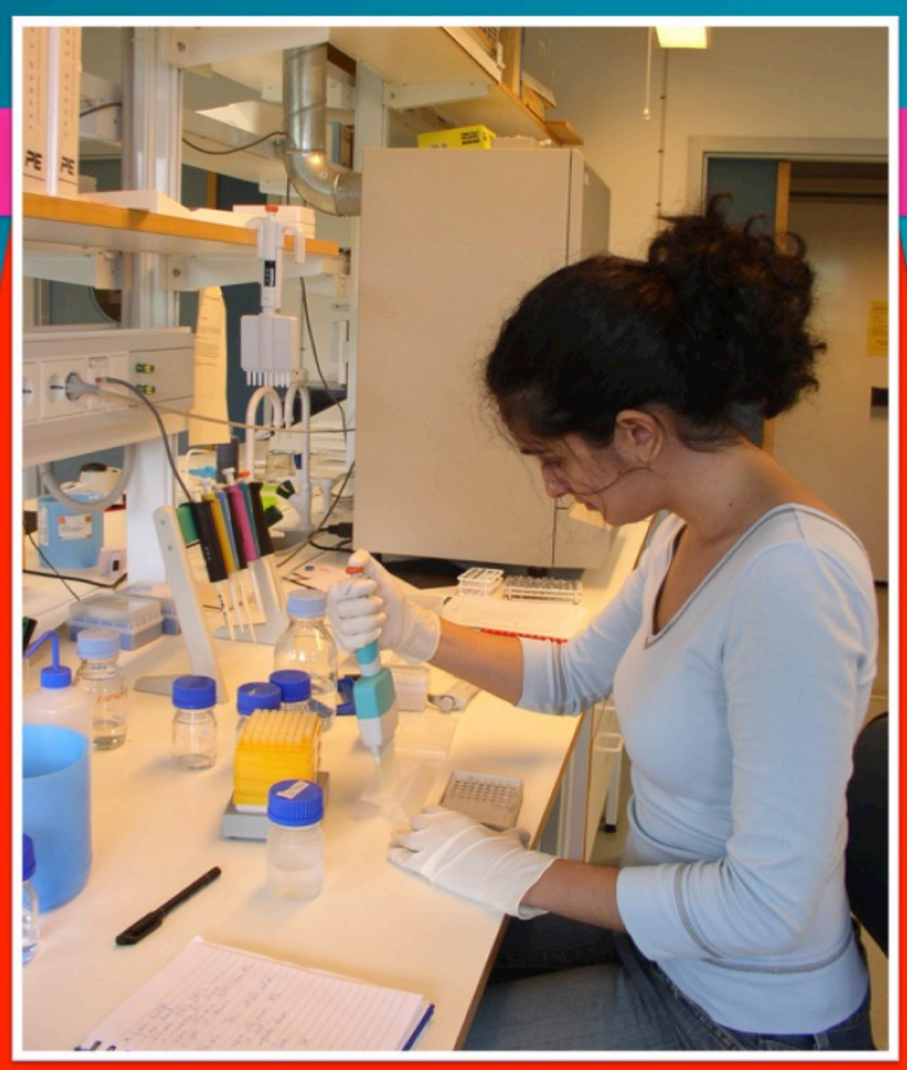
ESNR SCIENTIST IN RESIDENCE, 2010-2011

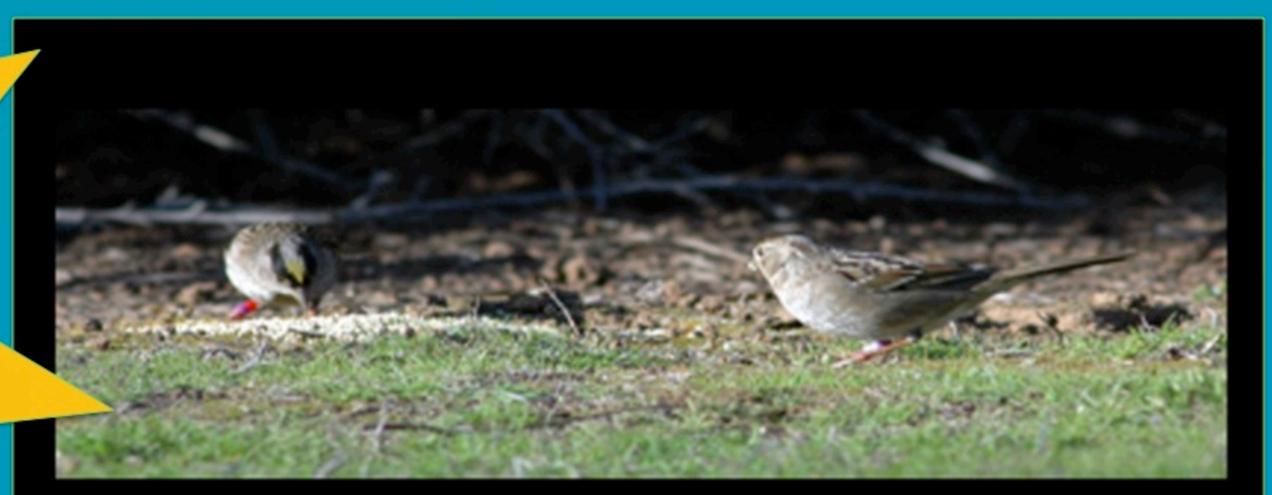


Using DNA to study why some animals live in groups

Some stuff about me:

- **Age:** 27
- **Where I grew up:** Born outside of Cleveland, Ohio then moved to Fairfield, CA when I was 12 years old
- **High school:** Armijo High School, Fairfield, CA
- **Favorite subjects in high school:** Calculus
- **College (undergraduate):** UC Davis; Lund University, Sweden
- **Some of my favorite things:** Traveling, sailing, mushroom hunting, spending time with my family
- **Something weird about me:** I tend to plan every trip I take down to the smallest of details. Sometimes I do so much research about what I'm going to do that I feel like I've already taken the trip when I get there!
- **What I think or do when I get frustrated:** I feel overwhelmed but I have taught myself to see the positive in whatever I'm doing and break down the problem I am experiencing into manageable tasks

Here is a picture of three Golden-Crowned Sparrows (*Zonotrichia atricapilla)*. The colors vary a lot from individual to individual. You can see that the one on the left has a dark yellow crown surrounded by a very dark patch while the other two have lighter coloration.



We observe the birds' behavior in the field after we catch them in bird traps. To keep track of the birds, we tag their legs with colored bands so we can identify them from afar.

What I study

Why do some animals live in groups while others don't?

Golden-crowned sparrows spend the winter in California and seem to live in groups while here. I am working with other scientists to investigate why these birds live together instead of each bird living on its own, like they do during the summer months when mating and raising their young. In addition to spending time in the field observing bird behavior, we use DNA from their blood to study how related each bird is to others in the group.

We want to know if the birds that live together are family members because it could help us understand evolution. Family members living together and helping each other is an important strategy because it helps particular members of a species survive.

I am also interested in learning how people learn, in how people teach science, and in how to make the classroom fun. I have been working with several organizations at UCSC that involve students of all ages in the science fields and I enjoy mentoring students. SCWIBLES is a great opportunity for me as a student and researcher to learn from WHS students by working on science projects together.

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http://scwibles.ucsc.edu