



**UC San Diego
Science Studies
Program**

Presents

Roberta Millstein

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October 10, 2011

4:00 – 6:00pm

Humanities & Social Sciences Bldg. #3027

Reception prior to talk at 3:30pm in H&SS 3005

**Exploring the Status of Population
Genetics: The Role of Ecology**

The status of population genetics, a mathematical version of evolutionary theory, has become hotly debated among biologists and philosophers. Many seem to view population genetics as unchanged since the Modern Synthesis (i.e., since the 1940s), and have argued that subjects such as development were left out of the Synthesis. Some have called for an extended evolutionary synthesis or for recognizing the insignificance of population genetics. Yet others such as Michael Lynch have defended population genetics, declaring that "nothing in evolution makes sense except in the light of population genetics" (a twist on Dobzhansky's famous slogan that "nothing in biology makes sense except in the light of evolution"). Missing from this discussion is the use of population genetics to shed light on ecology and vice versa, beginning in the 1940s and continuing until the present day. I will highlight some of that history through an overview of traditions such as ecological genetics and population biology, followed by a slightly more in-depth look at a contemporary study of the endangered California Tiger Salamander. I will argue that population genetics is a powerful and useful tool that continues to be used and modified, even if it isn't required for all evolutionary explanations or doesn't incorporate all the causal factors of evolution.

*For more information, please contact the Science Studies Program Office
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