

## Living with Resistance

### **Award Year:**

2016

### **Principal Investigator:**

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### **Associated Program:**

[Propose a Pursuit](#) <sup>[1]</sup>

The evolution of organismal resistance to human eradication, control, and harvest measures is one of the most pervasive responses of the living environment to our own species' activities. Evolved resistance to agents such as pesticides and antimicrobial drugs threatens to reverse some of the greatest advances of modern agriculture and medicine. This Pursuit will address the socio-ecological dilemmas that constrain society's response to resistance evolution, whether in pathogens that affect personal, public, and animal health, biocide resistance in food production, harvest selection in wild populations, or invasive species challenges to environmental management. The focus of the Pursuit will be three-fold:

1. To advance socio-ecological understanding of resistance governance across sectors of society, so as to build a multidisciplinary foundation for future research.
2. To identify opportunities and standards for bringing together social sciences and biology in a large-scale, data-driven synthesis of the socio-ecological dynamics of resistance emergence and governance.
3. To make this state-of-art knowledge on emergence and governance widely available to policy makers and the public via policy briefs and an interactive web-platform.

This data-driven pursuit will thus advance socio-ecological understanding of resistance governance across sectors of society beyond single case studies. To achieve this, we harmonize a recently developed cross-disciplinary framework for applied evolutionary biology with the socio-ecological systems framework created by Elinor Ostrom. The Pursuit aims to be an important stepping stone for formalizing socio-ecological strategies to address one of the most serious issues facing humanity in the 21st century: the sustainable governance of resistance evolution.

### **Participants:**

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**Source URL:** <https://www.sesync.org/project/living-with-resistance>

**Links**

[1] <https://www.sesync.org/opportunities/propose-a-pursuit>

[2] <https://www.sesync.org/users/dhawthorne>