



# **citizen science**

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## **Conference 2013**

**April 12, 2013**

**Sponsored by Innovative Instruction Technology Grant**

**Hosted by**

**STATE UNIVERSITY OF NEW YORK**  
 **EMPIRE STATE COLLEGE**

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 EMPIRE STATE COLLEGE

Welcome to SUNY Empire State College and the first ever SUNY Citizen Science Conference. Since its inception in 1971, Empire State College has worked with new and transfer students, to ensure seamless integration into our associate, bachelor's and master's programs. We serve our students by incorporating innovative, alternative and flexible approaches to higher education and have more than 35 locations across New York state where students can study onsite or online to fit their busy schedules. Over the years, we have become a world leader in open and distance education.

Engaging students and their communities is part of the Power of SUNY strategic plan and it states that "In every community or neighborhood where we have a campus, SUNY is both teacher and student." Citizen science demonstrates high impact practices important to high-quality education provided by SUNY. It is truly "open education" because it opens up boundaries, connects learners to activities outside the classroom, and engages faculty and students together in research. We feel citizen science can play a key role in the vitality of our science programs and help us weave concepts of sustainability into all areas of study. This conference is an opportunity to leverage the power of citizen science by creating opportunities for our students to be engaged in projects that reach into communities across the state.

We are proud to host this conference and know great projects will come from it that will propel our students into learning about and experiencing the environment and their community.

Regards,



Meg Benke

Acting President

SUNY Empire State College



## Welcome From the Planning Committee

Thank you for attending the SUNY Citizen Science Conference. We hope that you forge relationships with colleagues across the state and find the resources you need to create projects that engage the learner and bridge the gap between the classroom, the environment and the community. When we first began developing our citizen science project and template, we were thrilled at the opportunity to tie together all 35 locations of SUNY Empire State College with one learning experience. With one project, we can offer our colleagues a hands-on exercise to work into any course and offer our students the ability to connect to one another and learn together across the state. At the same time, we could gather data from a variety of environments making the learning experience richer and more informed. It was on this notion that we thought, why stop at Empire State College? Why not collaborate across SUNY to create enthusiasm for science and the environment? Our goal is to share projects, ideas and experiences so that we can open the possibilities for our students to engage in learning and experience their environment. We are grateful to the SUNY Office of the Provost for providing funding from the Innovative Instruction Technology Grant making this conference possible.

Sincerely,

2013 Citizen Science Conference Planning Committee  
Nikki Shrimpton, Dean, Central New York Center  
Linda Jones, Assistant Professor, Northeast Center  
Sadie Ross, Director of Environmental Sustainability

## Agenda at a Glance

8 - 9 a.m.	Breakfast
8:45 a.m.	Welcome
9 - 9:45 a.m.	Presentation I
9:50 - 10:35 a.m.	Presentation II
10:35 - 10:50 a.m.	Break
10:50 - 11:35 a.m.	Presentation III
11:40 a.m. - 12:25 p.m.	Presentation IV
12:30 - 1:30 p.m.	Lunch
1:30 - 2:10 p.m.	Presentation V
2:15 - 3 p.m.	Demonstration of Project Template
3 - 4 p.m.	Group Working Sessions
4 - 4:30 p.m.	Sharing of New Ideas

## **Presentation I**

### **Monitoring Wildlife Using Smartphones: The Role of Mobile Devices in Research and the Classroom**

*Danielle Garneau, Center for Earth and Environmental Science, SUNY Plattsburgh, Plattsburgh, N.Y.*

In June 2012, I developed two smartphone apps to collect data on wildlife sightings, both dead and alive, to be used in research and pedagogy. Using the open-source Epicollect platform and smartphone app, RoadkillGarneau and WildlifeBlitzGarneau projects were developed. As of December 2012, RoadkillGarneau has citizen scientists collecting data across the United States in 10 states (Colo., Fla., Mass., Mich., N.C., N.Y., N.H., Pa., Texas and Vt.), having logged 36 species, with 219 representative individuals. Similarly, WildlifeBlitzGarneau has participants collecting data in the United States and Quebec, Canada, in seven states (Alaska, Fla., Mass., N.C., N.Y., S.C. and Texas), having logged 73 species, with 128 representative individuals. Use of smartphone technology to streamline data collection, facilitates the process of georeferencing, photo-documenting and data organization, which encourages participation in research projects. In the Epicollect platform, data can be sent to an open-source Google AppEngine, making real-time data available on a Web page for participants to experience their scientific impact instantaneously. This project has the potential to engage audiences ranging from naturalists, to those who drive as part of their job, Department of Transportation affiliates, as well as techies.

## **Presentation II**

### **Garden-based Initiatives to Impact Climate and Water Literacy**

*Micheal Jabot, Institute for Research in Science Teaching, SUNY at Fredonia, Fredonia, N.Y.*

As we search for ideas about how to link learning to new initiatives such as the Common Cores and now the Next Generation Science Standards (NGSS), citizen science projects are playing an emerging role. While often closely mirroring the practices and protocols of scientific investigations, there also are opportunities where citizen science projects can be conducted in a way that more closely connects to ideas that are not seen by many as being “scientific.” This presentation will focus on the initial results of a garden-based learning program initiated in southwestern New York state. The results presented will focus on the impact of this program on the 14 school districts involved with particular attention given to climate and water education.

## **Presentation III**

### **SquirrelMapper: Development of an Informal Evolution Education Opportunity for the Urban and Rural Public**

*Nikki Shrimpton, Central New York Center, SUNY Empire State College, East Syracuse, N.Y.*

**James Gibbs**, Department of Forest and Environmental Biology, SUNY College of Environmental Science and Forestry, Syracuse, N.Y.; **David N. Bonter**, Cornell Laboratory of Ornithology, Ithaca, N.Y.; **Elizabeth Folta**, Department of Forest and Environmental Biology, SUNY College of Environmental Science and Forestry, Syracuse, N.Y.; **John Robert Fraser**, New Knowledge Organization Ltd., New York, N.Y.; **Scott Andrew Kirk**, Game Gurus Co. Ltd. Natal, Brazil; **Sarah Ruth Partan**, School of Cognitive Science, Hampshire College, Amherst, Mass.; **Karen A Purcell**, Cornell Laboratory of Ornithology, Ithaca, N.Y.; **Kevin L. Woo**, Metropolitan Center, SUNY Empire State College, New York, N.Y.; **Benjamin Zuckerberg**, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison, Madison, Wis.

In the public eye, “evolution” can be a dirty word. However, its perception is often founded on a disconnection between generalized beliefs and the interpretation of scientific studies that support evolutionary theory. Here, we seek to bridge the gap, and introduce a citizen science project that involves rural and urban human populations to engage in active data collection of a mammalian counterpart in the same locale, the eastern gray squirrel (*Sciurus carolinensis*). As an abundant species in North America, gray squirrels in urban and rural areas have developed distinct and conspicuous color morphs. Common and easy to discriminate by color morphs, gray squirrels are an excellent model for studying local adaptations to dynamic environments. Hence, it allows for the collection of a wealth of data to answer important questions in ecology and evolution. SquirrelMapper is a Web-based platform that allows the general public to learn about the scientific method and participate in research. The current project builds on a squirrel mapping activity developed by James Gibbs.

## **Presentation IV**

### **An Undergraduate Citizen Science Research Experience: Using Technology to Monitor Japanese Beetles Across New York State**

*Linda S. Jones, Northeast Center, SUNY Empire State College, Saratoga Springs, N.Y.*

Nikki Shrimpton, Central New York Center, SUNY Empire State College, East Syracuse, N.Y.; Sadie Ross, SUNY Empire State College, Saratoga Springs, N.Y.; Jeremy Stone, SUNY Empire State College, Saratoga Springs, N.Y.

This project uses aspects of citizen science to get students interested in science and sustainability. Students gather data from their local environment and contribute to the development of a virtual map of Japanese beetles across the state. Accompanying curriculum encourages students to explore ways in which climate change alters local ecosystems. With assistance from the SUNY Innovative Instruction Technology Grant, the project team has been able to support this project across SUNY by opening access to the project template by packaging the project code and necessary supporting materials using open source technology.

## **Presentation V**

### **Tools of Engagement: Incorporating Citizen Science Learning Activities in Undergraduate Courses**

*Nikki Shrimpton, Central New York Center, SUNY Empire State College, East Syracuse, N.Y.*

This session will include information on some of the citizen science projects currently active across New York state, and will consider how participation in those projects might be incorporated into undergraduate course work. Sample learning activities based on some selected citizen science projects also will be presented. There will be an opportunity for session participants to share citizen science learning activities they have developed in their work with students. The session will end with a discussion of the feasibility of creating a repository of such activities that could be shared across SUNY.

### **Citizen Science Project Design: Collaborative Application of the Citizen Science Toolkit**

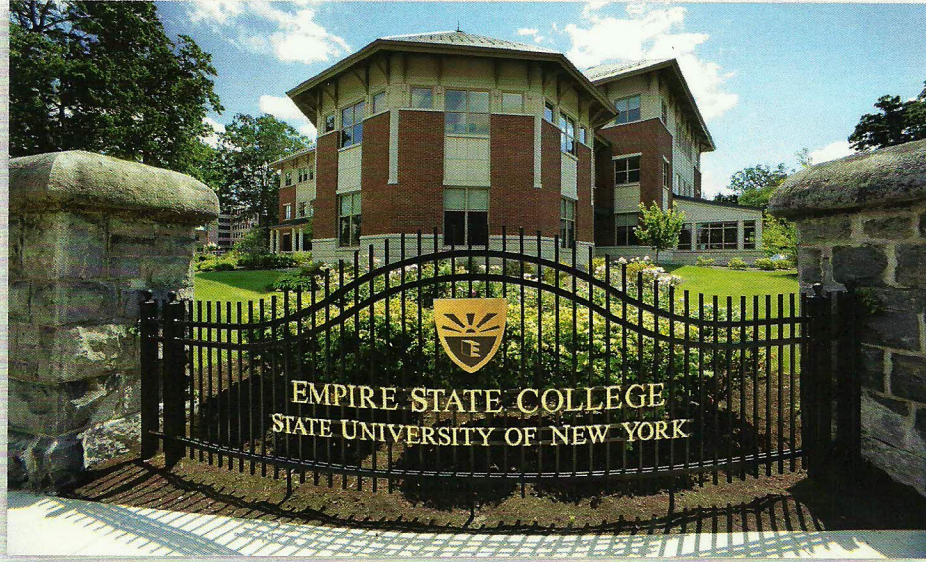
*Facilitated by Linda Jones*

During this interactive session, conference participants will have the opportunity to collaborate as they work through the process of designing a citizen science project. We will use the project ideas generated by group discussions to simulate the creation of a citizen science project using the Citizen Science Toolkit.

## About Your Host

SUNY Empire State College is a leader in providing alternatives to the classroom experience for adult learners. Students work one-to-one with faculty mentors, engage in residencies and study groups, study online or blend these ways of learning.

With more than 35 locations across New York, and online throughout the world, the college offers a flexible, affordable opportunity to earn a highly respected degree from the State University of New York.



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