

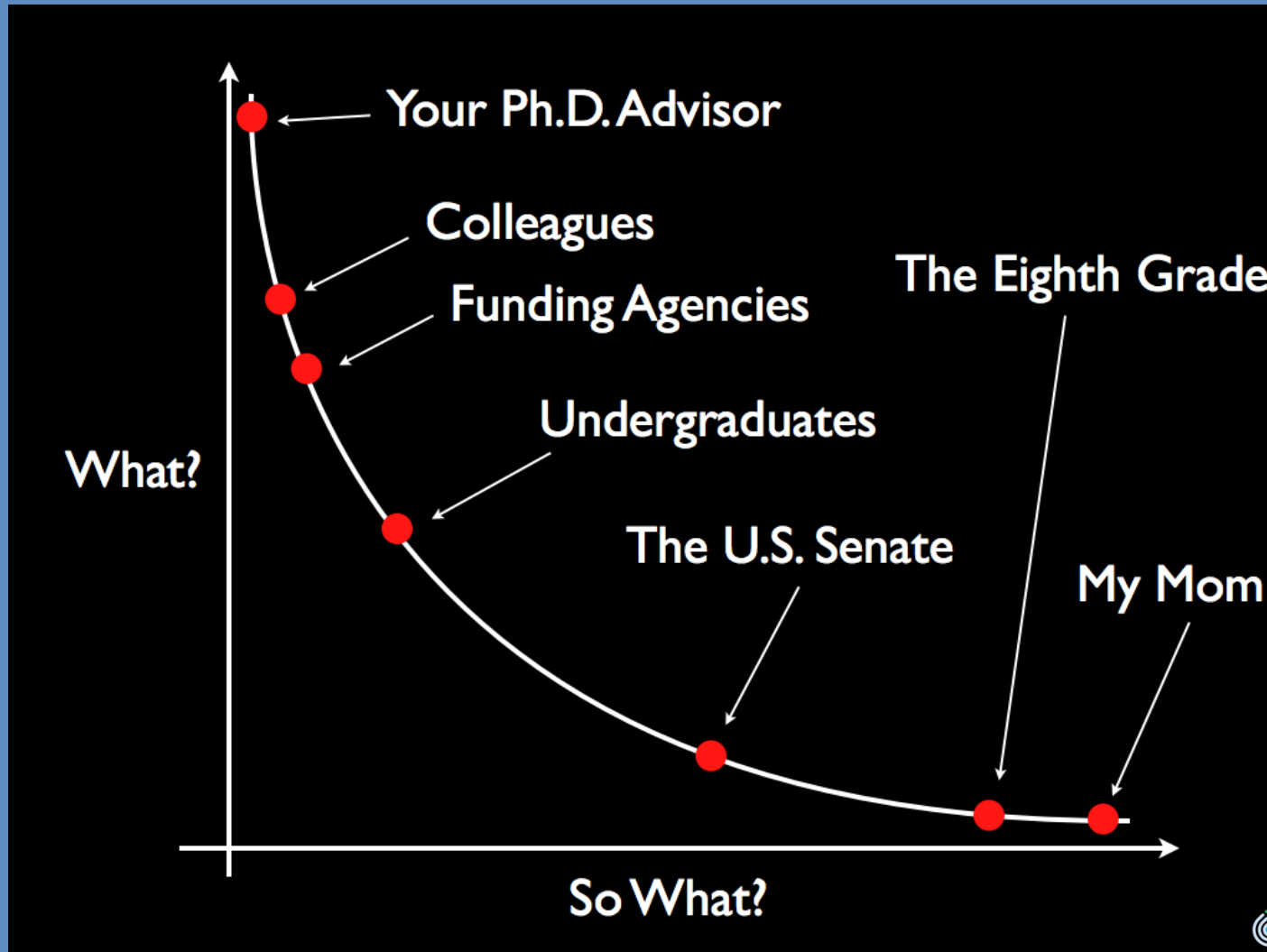
Communicating Science: University & Science Center Collaboration

Linda Bowden, Lifelong Learning Coordinator
ECHO Lake Aquarium and Science Center at the
Leahy Center for Lake Champlain

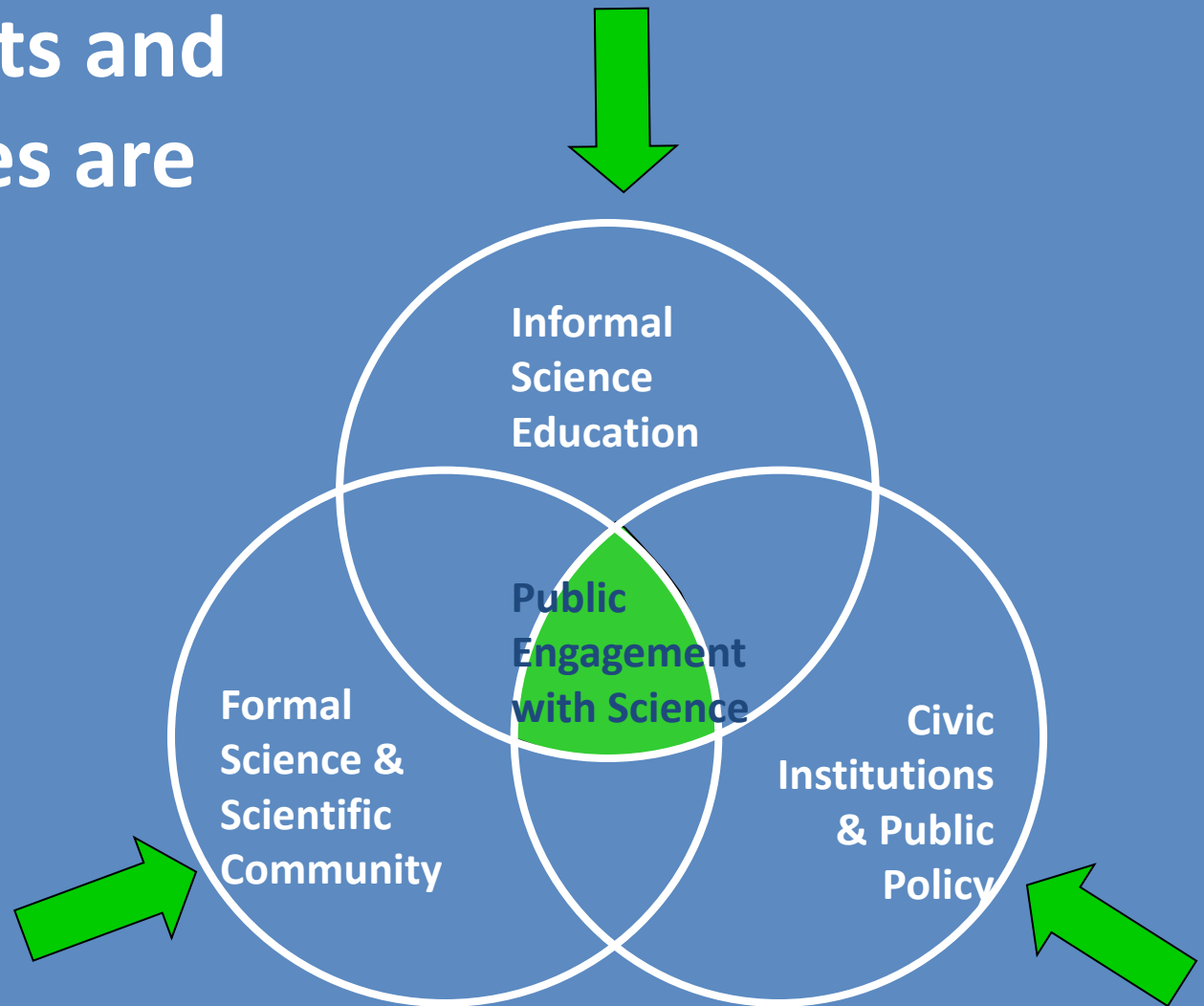
2 June 2011

DoubleTree by Hilton Hotel, Burlington, VT

Communicating Science to an Public Audience



Ideally, Researchers, Governments and Communities are Partners



NSF CAISE: Center for advancement of
informal science education

Science Centers Provide Public Learning Experiences



Multiple Strategies for Engaging the Public



ECHO/UVM Green Chemistry Partnership Case Study

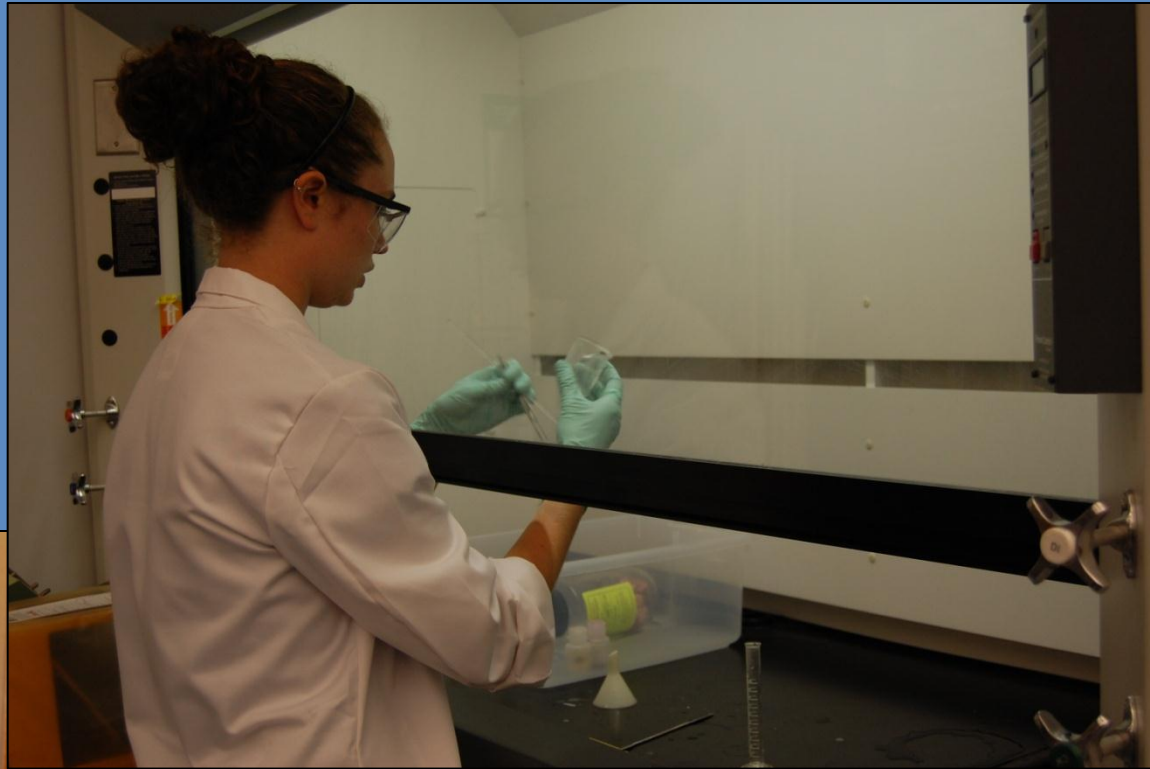


NSF Proposal?

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We Train Your Interns



Training Syllabus

- The Green Chemistry topic will have three components plus an extra research project.
- Develop a visually appealing workbench that gets the point across for Green Chemistry.
- Prepare two encounters that will be performed by the workbench demonstrating the chemistry. Incorporate a nanoscience encounter.
- Prepare 2- 20-minute demonstration where the tools used by a scientist might be used. Meet the Scientist. Also, engage Matthias in this program.

Week 1 – June 6 - 12

- Orientation
- Introduction

Week 2 – June 13 - 19

- Define projects; begin research on Green Chemistry workbench panels
- Establish schedules and trajectories for encounters/demonstrations

Week 3 – June 20 - 26

- Develop outlines/pull together materials for encounters
- Complete the workbench panels
- Have a critiqued run-through of encounter(s)
- Have Matthias give a Meet the Scientist program

Week 4 – June 27 – July 3

- Begin encounter programming on the floor between 10-12
- Modify Matthias's program for a 2 p.m. demonstration; have a critiqued run-through of demo

Week 5 – July 4 - 10

- Incorporate demo and encounters into the daily schedule

Week 6 – July 11 - 17

- Potentially begin research on second workbench topic or add in the Nanoscience demos.

Week 7 – July 18 – 24

- Deliver a buckyballs nano encounter
- Begin learning the “Nano in Nature” demo

Week 8 – July 25 – 31

- Deliver a liquid crystals nano encounter
- Deliver the “Nano in Nature” demonstration

Week 9 – Aug 1 – 7

- Deliver a ferrofluid nano encounter
- Deliver a “Nano in Nature” demonstration

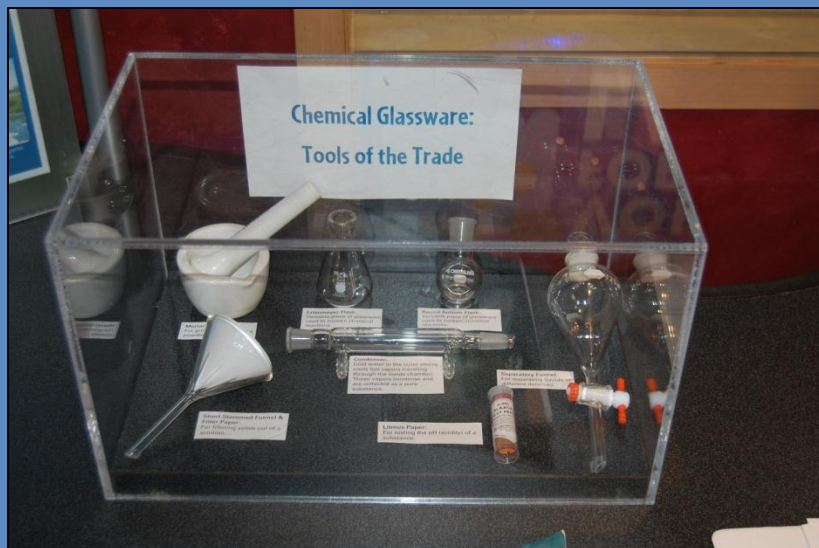
Week 10 – Aug 8 – 14

- Demos and encounters of choice

Week 11 – Aug 15 – 21

- Wrap up of encounters and evaluation

Create Current Science Display



Experience Delivering Programs and Presentations



ECHO Blog Reaches Another Audience

The screenshot shows a Mozilla Firefox browser window with the address bar displaying <http://blog.echovermont.org/2010/08/whats-green-about-chemistry.html>. The browser's menu bar includes File, Edit, View, History, Bookmarks, Tools, and Help. The toolbar contains various icons for navigation and search. The main content area features the article title "What's Green About Chemistry?" and the following text:

This week our blog was done by **Michelle Borsavage**, an ECHO "Green Team" Intern! Read on to learn what it is she does, and what she has learned while working at ECHO!

This is the beginning of my third month as a summer intern at ECHO. My internship was organized under a grant through the University of Vermont (UVM) provided by the National Science Foundation (NSF). The aim of this grant is providing adult patrons with opportunities for education and awareness about current trends in the chemical industry. My colleague Eliza and I are appointed members of the "Green Team", a small team of ECHO and UVM staff whose goal is to educate our visitors about the basics of green chemistry and how the field of chemistry affects our daily lives. A main focus of my time at ECHO has been developing and staffing an exhibit on biodegradable plastics. Biodegradable plastics are made specifically to mimic **polymers** (long chains of repeating sub-units, i.e. DNA strands and silk) that are naturally occurring. Starches and other organic materials are incorporated into the strands of these polymers so they will biodegrade after disposal. Degradation occurs as bacteria and other microorganisms seek the starch in the polymer chain as food.

On an ordinary day at ECHO, I sit at my exhibit and talk to waves of people including school-aged campers, families and meandering adults. I try to adapt my speech and props based on my audience however best I can so my two underlying messages are clear to all: 1. chemistry is not scary, but actually really awesome; and 2. biodegradable plastics can be an environmentally friendly alternative for traditional plastic.

One particular day at the exhibit, I was interacting with a group of young girls

The right sidebar contains a navigation menu with the following structure:

- ▶ 2011 (20)
- ▼ 2010 (20)
 - ▶ December (2)
 - ▶ November (2)
 - ▶ October (1)
 - ▶ September (1)
 - ▼ August (4)
 - [Life Saving Caterpillar Guts](#)
 - [What's Green About Chemistry?](#)
 - [Why Some Frogs Cruise and Some Frogs Crash](#)
 - [Lake Sturgeon Veterinary Care](#)
 - ▶ July (7)
 - ▶ June (2)
 - ▶ January (1)
- ▶ 2009 (6)

At the bottom of the page, there is a section titled "ECHO Lake Aquarium & Science Center's Fan Box".

The Windows taskbar at the bottom shows the Start button and several open applications: "Below The Surface...", "Inbox in lbowden@...", "IMLS Grant 2010", "Document1 - Micros...", and "Microsoft PowerPoi...". The system tray on the right shows the time as 3:03 PM.

Put the Spotlight on your Interns On-Line Article

University Communications : University of Vermont - Mozilla Firefox

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UNIVERSITY COMMUNICATIONS

Chemistry for Teaching

Release Date: 09-08-2010

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Share this article



Senior Eliza Arsenault delivers her presentation on green chemistry — and takes questions from adults and children — at Burlington's Echo Lake Aquarium and Science Center. (Photo: Sally McCay)

Seniors Michelle Borsavage and Eliza Arsenault didn't mind changing their summer plans when Matthias Brewer, assistant professor of chemistry, asked them if they'd be interested in developing a multimedia program on "Green Chemistry" to present to the 500-plus daily visitors at the ECHO Lake Aquarium and Science Center.

The summer internship offer -- part of a major National Science Foundation (NSF) grant landed by Brewer -- started with a four-day training at ECHO that focused on the development of a hands-on green "chemistry encounter" to be conducted daily on the exhibit floor. Borsavage and Arsenault also created an outreach display in the main lobby that included a DVD on the principles of green chemistry; a notebook with applicable research and articles; and a display case with tools typically found in a green chemistry laboratory.

The opportunity was tailor-made for Borsavage, an education

Done

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We Deliver the Audience



Collaboration is a Win-Win

For You

- Proposal funded
- Students Trained
- Public Engages with your Research Topic
- Broad Public Communication

For ECHO

- Salary Support
- Content Specialists
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Thank you!

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