The Earth2Class Model for Professional Development
Presentation Overview

- Program description and format
- Goals and benefits
- Website
- Sample Workshops
- Funding
Program Description and Format

- **Description**: Unique science/math/technology program connecting classroom teachers and students with cutting-edge research at Lamont.

- **Format**: 6-hour presentation/curriculum development sessions, extensive website resources post professional development sessions, and summer institutes.

- **History**: Began as 3 informal “Saturday Workshops for Educators” in 1998. Since then, nearly 150 Workshops presented by more than 80 LDEO scientists to more than 400 teachers and students. Average audience: 12 - 25
Program Goals and Benefits

Program goals
- Broader outreach opportunities for LDEO scientists
- Excite teachers and students about current geoscience research areas that supplement standard curriculum
- Create web-based resources that are widely-used by K-12 teachers/students

Program Benefits
- Broader outreach opportunities for LDEO scientists (w/ or w/o grant support)
- Stimulate creation of lesson plans based on Next Generation Science Standards, State Standards, and Common Core
- Extend teaching and learning skills for teachers and students through networking with colleagues and scientists
- Support professional development not possible within school setting
E2C website  http://earth2class.org/site

- Access to workshop materials for students and teachers
- Access to related educational resources for Earth Science (i.e. Regents exams)
- Average of >125k hits per month. One of most-used websites in K-12 Earth Science
General Schedule for E2C Workshops

- 08:45 – 09:30: Arrival of Participants and General Announcements
- 09:30 – 10:00: Background Information on Today's Topic (presented by Dr. Passow)
- 10:15 – 12:00: Guest Scientist(s) Presentation(s)
- Noon - 1 pm: Lunch with the Scientist
- 1:00 – 3:30: Designing curriculum to meet NGSS and State Standards--Sharing potential classroom-ready materials based on LDEO & other research
Example - “Microbes in the Sea: Demonstrations and Activity Session for the Marine Science Resource Kits” with Sonya Dyrhman and Sheean Haley (2 May 2015)

Introduction to marine microbes: what they are, why they are important, and approaches our laboratory uses to study them; also availability of self-contained kits for teaching marine science lessons – Mike Passow

Overview presentation - Sheean Haley
Activity 1 – Stereomicroscope viewing
Activity 2 – Ocean acidification straw activity
Activity 3 – Air/Ocean pressure activity
Example - “GeoMapApp Middle and High School Learning Activities” with Andrew Goodwillie and Steve Kluge

Introduction : Earth Science exploration and visualization application – Mike Passow

Activity 1 – Overview of Marine Geoscience Data System

Activity 2 – Fostering datasets and analytical skills and interpreting scientific theories

Activity 3 – Activity and model development
E2C Example - “Using Graphic Novels to Enhance Science, Reading and Writing” - Carl Brenner

- Based on JOIDES Resolution scientific ocean drilling expeditions – 6 ‘Episodes’ created with ‘Comic Life’
- Illustrate discoveries from scientific drilling, life aboard the ship, careers, etc.
- Reading and writing activities connected with the Common Core and NGSS to help students develop communication skills (IODP Mini-Grant to MJP)
Current and pending support

- Registration fees paid by participants ($15/session)
- Robert and Catherine Murray Foundation: “From the Ice Age to Sea Level Rise—Connecting the Hackensack’s Past, Present, and Future”
- “Communicating About NOAA NOS Educational Resources and Programs through NESTA’s Online and Conference Presentations, and Earth2Class Workshops” (in review)
- Braitmayer Foundation: “Climate Education” (LOI)
What’s Next?

- Program expansion to provide more resources useful for educators seeking to introduce NGSS-based programs in their districts, based on LDEO & Earth Institute research
- Revise, update and expand E2C website resources
- Summer Institutes and Academic Year Courses through special arrangement with St. Thomas Aquinas College School of Education
Questions?

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