STEM Journey: From Spacelab to Zero G

Scout Patch from STEM Journey

1. Introduction
    a. The first ***"STEM Journey"*** was held at Cape Cod Community College in Barnstable, MA on Saturday March 29, 2014, as a stand-alone event, to demonstrate to students from K-12 that the fields of science, technology, engineering and math can be both fun and interesting. This was a follow-up event to the award-winning National Chemistry Week event that was hosted by the Boy Scouts in collaboration with the American Chemical Society Northeastern Local Section and the Environmental Chemistry Division.
    b. The organizing committee for this event included professional affiliations: Eben Franks, Event Chair, Dr. Jack Driscoll (Northeastern Section of the American Chemical Society NESACS/Cape Cod Science Cafe and PID Analyzers), Nancy Gifford (Board Member, Cape & Islands Boy Scouts of America) , Kristina Ieardi (Cape Cod Community College), Jennifer Maclachlan (ENVR/NESACS/Cape Cod Science Café and PID Analyzers), Michael Riley (Cape & Islands Boy Scouts of America) , Dennis Walczewski (Board Member: Cape & Islands Boy Scouts and Suffolk University, & Amy Zahn, (Executive Director, Cape & Islands Boy Scouts)

    We were fortunate to have two very capable Astronauts, Dr. Byron Lichtenberg and Captain Dan Burbank (Coast Guard) as keynote speakers. Dr. Lichtenberg was introduced by the President of the College, John Cox, to start the event.

Astronaut Presentation

    c. The program for the event was: http://www.scribd.com/doc/218359422/STEM-Journey-Program-Spacelab-to-Zero-G.

Cape Cod Community College- March 29, 2014 from 12-4 pm

d. That afternoon, the campus was bubbling with enthusiastic young students rushing to hear the Astronauts, experience the Planetarium, interactive Science Café or even shoot rockets.

Here's some coverage from the Wicked Local photo gallery:
http://barnstable.wickedlocal.com/photogallery/WL/20140401/PHOTOGALLERY/331009992/PH/169_404_412_434_442_475_517_558_629?refresh=true

2. Organizing Organizations & Committee
    a. Boy Scout Council of Cape Cod
    b. Cape Cod Community College
    c. NESACS-Cape Cod Science Café
    d. PID Analyzers, LLC
    e. Committee: Eben Franks, Chair, Dr. Jack Driscoll, Nancy Gifford, Kristina Ierardi, Jennifer Maclachlan, Michael Riley, Dennis Walczewski, & Amy Zahn
3. Speakers: Astronauts: Dr. Byron Lichtenberg and Coast Guard Captain Dan Burbank each gave two talks. Wristbands were handed out at registration for each of the four talks with the understanding that the 1pm and 3pm and 2pm and 4pm would be duplicate talks. The room was

cleared between talks during which the astronauts signed autographs and interacted with the attendees.

4. Participating Organizations and ACS member engagement
    a. Boy Scout Council of Cape Cod gave out merit Badges in Chemistry Paul Reibach, a NESACS member, ran the chemistry badge program) and Space Exploration badges. More than 125 scouts participated. Astronaut Byron congratulated the new Space Exploration badge holders.

Boy Scout Space Exploration Badges with Astronauts

    b. Cape Cod Community College- There were four separate areas with interactive activities plus the rocket launch area. These are shown in Fig. 1 below.
    c. LEGO Laboratory- The younger students loved the LEGO education lab and it was difficult to get them to move to another exhibit.

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d. Cambridge Science Festival-(Under the

banner **Science on the Street**, we are beginning to deliver our hallmark product—inspiring researchers and innovators engaging audiences with their love of science, technology, engineering and math—to kids, families and adults attending cultural and community events throughout Massachusetts. Stay curious and prepare to have fun at a festival, after school program, or event near you!(http://www.cambridgesciencefestival.org/ScienceOnTheStreet/About.aspx)Under the banner **Science on the Street**, the Cambridge Science Festival is beginning to deliver their hallmark product—inspiring researchers and innovators engaging audiences with their love of science, technology, engineering and math—to kids, families and adults attending cultural and community events throughout Massachusetts. Stay curious and prepare to have fun at a festival, after school program, or event near you! hands on experiments, rockets

e. Indoor Planetarium –EDU Tarium- a Blow up planetarium, climb-in, all encompassing experience, that can handle 15-20 students at a time (http://www.edutarium.com/bpp/)

f. Cape Cod Science Café Exhibitors/NESACS- hands on chemistry and other experiments conducted by Dennis-Yarmouth High School Students-

ACS Table	PID Table with Astronaut Lichtenberg

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i. Cape Light Compact- energy conservation - reduction of energy bills- http://www.capelightcompact.org/
ii. Suffolk University- Electrical Engineering Dept.-Prof. Craig Christiansen
iii. Demonstrated devices that can create electricity such as: Mendicino generator, hand cranked spark generator …

	Suffolk Univ. Table with electricity generation devices

iv. MA Maritime-
v. One Giant Leap- development of off shore wind projects

5. Comments from Participants

A 3rd grade teacher from Barnstable, West Villages Elementary School, Ms. Cannistraro

said that " this was the best science event that I have ever been to".

Nancy Gifford, a 7th grade science teacher from Harwich, said "My students said they loved the event and learned a lot. As a teacher, I am excited that we were able to host such a high caliber event for our kids. Meeting an astronaut and other scientists from their hometowns helps them see that the sky is the limit (or maybe not! :)) many Cape Cod kids don't know what jobs are available in STEM because they don't see big companies or know people who work in those fields. Giving them a chance to talk to scientists is huge because they can see them as real people, not just men in lab coats."

A Boy Scout parent remarked that "this kind of event makes you wish you were in 7th grade again, with a blank slate, where you feel like anything is possible and you can BE anything that you want".

Many parents said that they were happy to see the extensive facilities at the College.

Several parents asked if Cape Cod Community College was becoming *the STEM Center* for Cape Cod and the Islands.

Astronaut, Byron Lichtenberg said that it was a very impressive STEM program for the students and that he enjoyed himself.

6. Summary

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We would like to make this an annual event for Cape Cod. The College has sufficient room to house an event that is 2-3 times the size of the present event and we have to do a better job publicizing this event. The College is a Great Place for this size or even a much larger event. The resources were superior. We need additional events/exhibits to attract people to the events in the Gym. We should have a laptop(s) at registration to collect names of all attendees. We need more exhibitors and sponsors for next year.

Special thanks to all exhibitors and volunteers who participated

7. Next STEM Journey- March 28, 2015 at Cape Cod Community College

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NESACS Public Relations Committee
Dr. Jack Driscoll & Jennifer Maclachlan
Photos by Jennifer Maclachlan

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STEM Journey: Space Lab to Zero G

Experience the Possibilities!

JOIN US FOR AN AFTERNOON OF STEM ACTIVITIES FOR MIDDLE AND HIGH SCHOOL AGE STUDENTS! THIS EVENT IS OPEN TO ALL AND IS FREE OF CHARGE!
(Refreshments available for purchase.)

Feature Presentations by

Astronauts

Dr. Byron Lichtenberg

and

Capt. Daniel Burbank!

Dr. Byron Lichtenberg

Capt. Daniel Burbank

Saturday, March 29, 2014

Cape Cod Community College

Noon—4:00 PM

Experience an indoor planetarium!

Visit the Interactive Science Café!

For more information:

508-362-4322

scoutscapecod.org

Presented by:

BOY SCOUTS OF AMERICA
CAPE COD AND ISLANDS COUNCIL

CAPE COD COMMUNITY COLLEGE
LIGHT LIBERTY AND LEARNING 1961

PID ANALYZERS

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