Outreach

http://xkcd.com/585/
Excited Masses: Adventures in Public Outreach

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Leadership Convocation
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Why I Do Outreach

• The average person spends only 5% of their life in school.
• Adults vote for or against science funding
• Public needs to understand what science is, what it is not, how it works, and how it impacts them.
• Learning doesn’t stop at graduation.
What is “Outreach”

Isn’t that just education only more fun? Science Communication?
\[ \nabla \cdot D = \rho \]
\[ \nabla \cdot B = 0 \]
\[ \nabla \times E = -\frac{\partial B}{\partial t} \]
\[ \nabla \times H = i + \frac{\partial D}{\partial t} \]
Toys in your kid’s room

Your kid’s favorite TV show

Your favorite TV show

Toys in your room
Our Programs

• PhysicsCentral (100,000 hits a month, Everyone!)
• Blog (1,000-5,000 hits a day, educated non-expert)
• PhysicsQuest (400,000 students a year, Middle school)
• Comics (400,000+ a year, All ages)
• Six Flags (5,000 students and teachers, High School)
• Science Festivals (15,000+ All ages)
• Activity Book (Anyone interested in the back of a Pizza Hut menu)
• Mini Grants (Membership)
• New Coloring Book (Adults)
Past Year Highlights

• PhysicsQuest: Spectra’s Current Crisis is now in the hands of 18,000 classrooms
• PhysicsQuest: Spectra’s Energetic Escape Registration is open, will be ready to ship soon
• 2 Comic Con International panels
• Addition of Awesome Con
• USASEF gearing up for this year
• Six Flags Physics Day and Professional Development
• Day of Outreach at March Meeting
• Successful mini grant submissions
PhysicsQuest

- Annual kit-based middle school science activities, built around a story and a problem to solve.
- Free and available to any group wishing to participate, including individual families, scout troops, prison education, and homeschool.
- Taken to Pakistan and will be taken to Afghanistan.
- APS is gearing up for 13th year of PQ
- Replicated by ACS for Year of Chemistry
- Grown through initial advertising, now word of mouth
PhysicsQuest: Spectra’s Energetic Escape

Experiments (Energy)

- Rebounding Ball Rocket
- Coupled Pendulum
- Friction Fun
- Potential Pinwheel

Comics:

- Competition for Five Degrees of Freedom
- Concert Tickets
- Nolan R. Gibbs (N.R.G.) makes life complicated
- Use their brains, not superpowers
- Puzzles for characters and readers.
For the Kids, a Good Story and Characters

- Wrote it "marvel style"

- Spectra is a middle school girl who develops laser superpowers and must battle "Miss Alignment"

- Created a world for her that the readers could relate to. She has annoying parents, BFFs and even a love interest.

- Started with "character sheet" describing personality, friendships, powers, basic "look"
As Spectra learns about her powers, so do the readers

Researched themes, plots and humor enjoyed by the target audience.

Wrote full plot that included physics principles in the battles as well as everyday life.

Educational comics walk a fine line. If it is too education based, no one will read it. If it is too entertainment based, no one will learn.

There will always be those that don’t approve and that’s ok. Those that say “I haven’t owned a TV in 15 years!” are not the ones you should listen to.
Comic Con International 2017

- Jorge will give a talk at March Meeting
- Panel on Comics and STEM
- New booth!
March for Science

• AAAS Home Base and pre event rally
• Worked with OSA to organize “Teach in” with Jim Kakalios
• 200 APS members registered
Sign making event
Six Flags

- Worked with AAPT to present a Professional development for high school teachers.
- Taught about physics involved in Six Flags.
- Taught how the equipment and apps work.
- 30 teachers attended.
USASEF
(You know you want to volunteer!

- 11 Societies combine to create Big Top Physics
- Collaboration has gone beyond the one event, regularly in touch and discussing possible future collaborations
Outreach at March Meeting 2018

• Worked with FOEP to ensure all outreach focused events happened on the same day.
• FOEP invited session, contributed outreach session, outreach happy hour.
• Great line up of speakers, including Jorge Cham

• Jim Kakalios is giving a public lecture Wednesday night

• Physics of Hollywood with Jim, Clifford Johnson, Sean Carrol and others.
Goals

• To fund and encourage outreach
• To experiment with outreach ideas and best practices
• To promote the value of outreach within the physics community
THANK YOU!

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