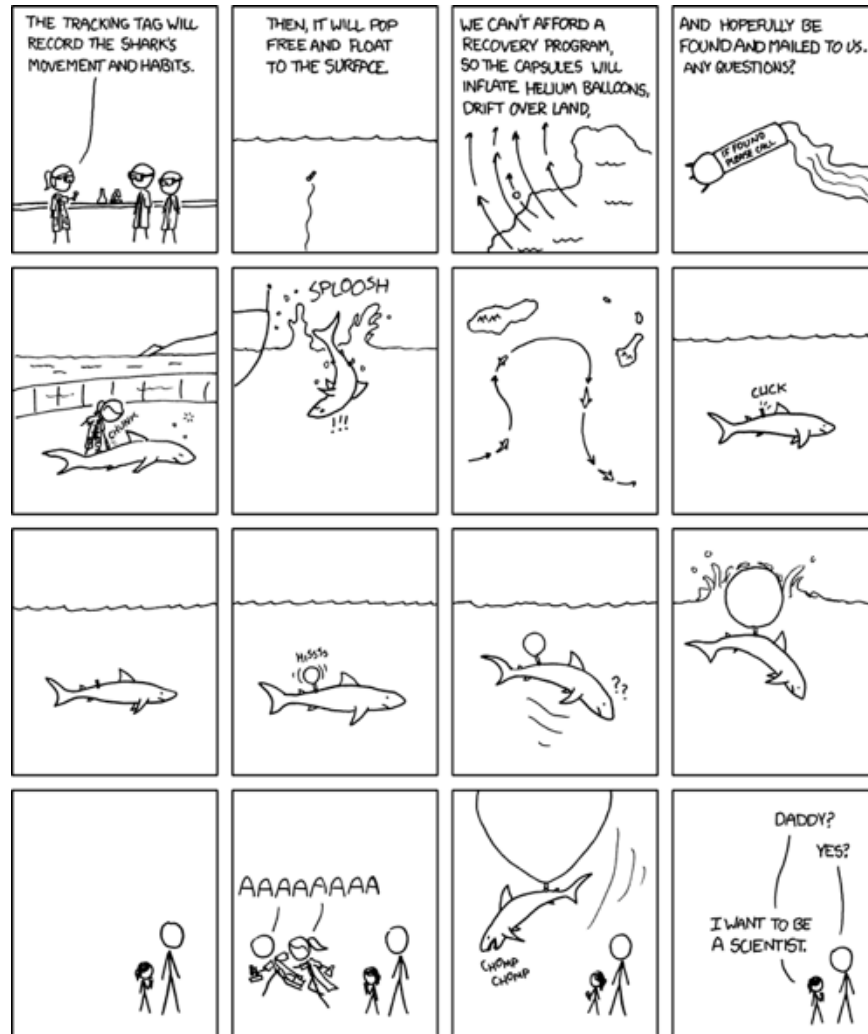


# Outreach



<http://xkcd.com/585/>

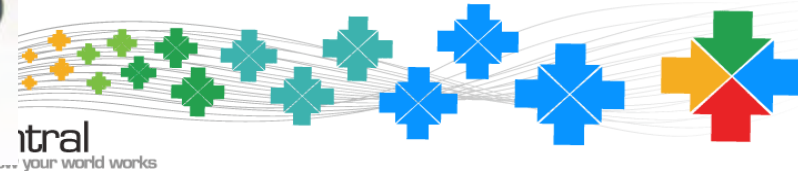
# Excited Masses: Adventures in Public Outreach

Rebecca Thompson  
Head of Public Outreach

Leadership Convocation  
February 2<sup>nd</sup>, 2018

# Why I Do Outreach

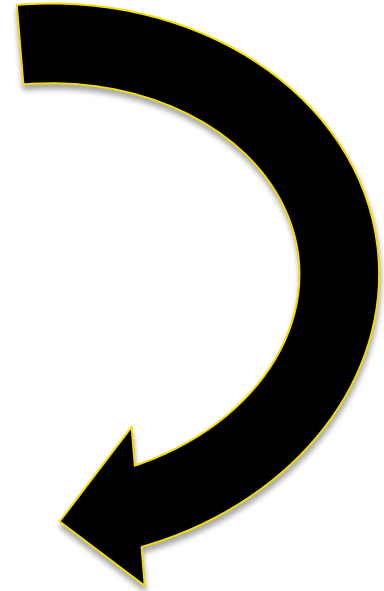
- The average person spends only 5% of their life in school.
- Adults vote for or against science funding
- Public needs to understand what science is, what it is not, how it works, and how it impacts them.
- Learning doesn't stop at graduation.



# What is “Outreach”

Isn't that just  
education only  
more fun? Science  
Communication?

$$\begin{aligned}\nabla \cdot \mathbf{D} &= \rho \\ \nabla \cdot \mathbf{B} &= 0 \\ \nabla \times \mathbf{E} &= -\frac{\partial \mathbf{B}}{\partial t} \\ \nabla \times \mathbf{H} &= \mathbf{j} + \frac{\partial \mathbf{D}}{\partial t}\end{aligned}$$



## Toys in your kid's room



## Your kid's favorite TV show



## Toys in your room



## Your favorite TV show





# 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 13<sup>th</sup> 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.

# *SPECTRA*



# For the Kids, a Good Story and Characters

- ✧ Wrote it “marvel style”
- ✧ Spectra is a middle school girl who develops laser super powers 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”



KGJ / American Physical Society © 2008





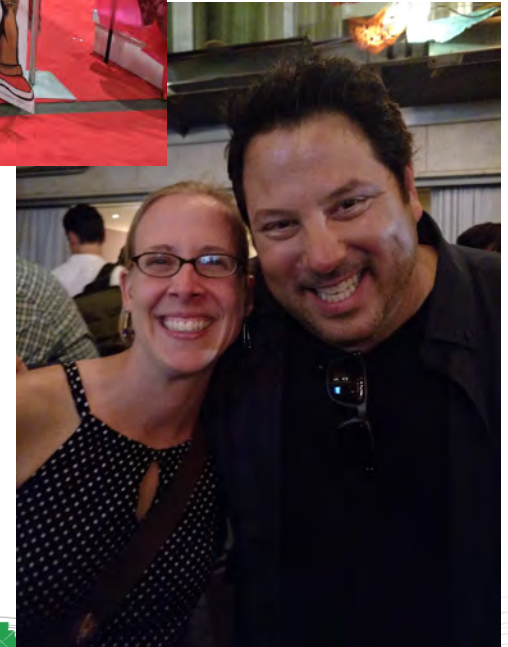
# Research Like a Scientist

- ✧ 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 every day 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 "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.





(You know you want to volunteer!)



- 11 Societies of Top Physics
- Collaboration has gone beyond the one event, regularly in touch and discussing possible future collaborations

# Outreach at March Meeting 2018

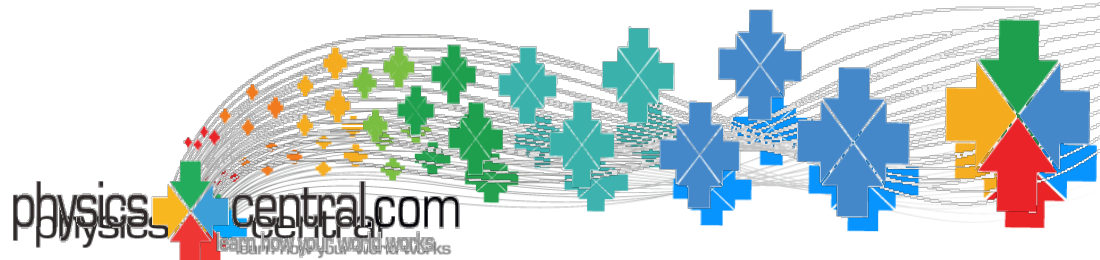
- Worked with FOEP to ensure all outreach focused events happened on the same day.
- FOEP invited session, contributed outreach session, outreach happy hour.
- Great line up of speakers, including Jorge Cham



- Jim Kakalios is giving a public lecture Wednesday night
- Physics of Hollywood with Jim, Clifford Johnson, Sean Carroll 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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