

# STEAM Conference

## Poster Session Descriptions and Presenters Info

### Science

Andy  
Poster Description

### Virginia Guhin

Poster Description:  
Elkhorn Slough description coming

### Bio:

Virginia Guhin is the Education Coordinator at the Elkhorn Slough Reserve and an Interpreter II with the Department of Fish and Wildlife. Virginia's work at the Reserve focuses on K-College education curriculum design, developing new teacher professional development workshops, managing an afterschool program, overseeing the annual Reserve Open House and other outreach events, and developing partnerships with other informal education organizations. Virginia is committed to developing exciting and engaging education programs for all students and teachers, which ignite curiosity and inspire caring for the environment.

Virginia has 20 years of coastal and marine science education and outreach experience in the Monterey Bay area, developing and presenting programs that use science as a foundation of the learning experience. Virginia received a Biology degree from the University of California at Santa Cruz and received her teaching credential from San Jose State University. Virginia taught

Biology at Aptos High, worked with the Seymour Marine Discovery Center and developed a Marine Science Program for the Santa Cruz Beach Boardwalk. Additionally, Virginia's work with the National Estuarine Research Reserve System involved developing and facilitating workshops for environmental consultants around pressing conservation issues. Her background in both formal and informal science education and her interest in the social science behind science communication is one of the strengths that enable her to engage diverse audiences around coastal conservation issues.

## Deanna Falge and Steve Mandel

### Poster Description:

Oceans 360, through its highly immersive virtual reality content, filmed in oceans around the globe and delivered via VR headsets, helps students understand the importance of ocean conservation in three areas:

1. Eliminating plastics from the oceans
2. Overfishing/marine sustainability
3. Effects of global warming on coral reefs

Come to our table in the poster section and look through the VR headsets at our underwater 3D videos!

### Bio:

**Deanna Falge:** Deanna is the founder of Thrive, a teen coaching program and an environmental educator for Wild Child Freeschool. She is an experienced conservation educator; SCUBA diver and surfer and she has a degree in biological psychology.

**Steve Mandel:** Steve is the Executive Director of Oceans 360. He has an extensive background in wildlife conservation, photography and related sciences. He is the designer of the Oceans 360 UW K1 camera that is used to film underwater high-resolution 3D video images for use in virtual reality headsets. The camera is used by National Geographic, scientific institutions like the Carnegie Institute for Science, and underwater filmmakers.

## Andy Kreyche

### Poster Description:

Do you want a portable planetarium to visit your school? This poster session will give you all the info to accomplish this.

### Bio:

Andy has worked extensively in astronomy education and outreach, first as a volunteer, and then for the past 20 years in the planetarium world. After working at community colleges out of the area (De Anza and Hartnell) Andy started a business with his own portable planetarium to bring the experience to his own community.

## Kevin Condon

### Poster Description:

Science, Natural history of birds, and how birding can be used to help students develop key practices in science and deepen their connection with the natural world.

### Audience:

4, 5, 6, Middle School, High School

# Technology

## Sukh Singh

### Poster Description:

What is computer science in the context of STEAM? How can it be utilized to change student perceptions of math in 3rd-8th grade? Examples of how teachers in PV and Santa Cruz are already utilizing coding to create blended lessons that bring together science and computer science, history and computer science, and of course art and computer science. The session would be interactive for participants and would give them an opportunity to experience what it's like to be a student learning to code today.

### Bio:

Sukh Singh has worked with local schools for the last 3 years to teach students how to create artifacts they love through programming. He's had the honor of personally teaching over 2000 students in Santa Cruz County how to code with the Code Naturally App. The app was developed by Sukh and fellow UCSC grad - Alfred Young. It's currently in use at over 20 schools within 50 miles of Santa Cruz and has had a 100% renewal rate at every school over the last 3 years. The curriculum for the app is aligned with common core math standards for 3rd-8th grade and was based on K-12 CS framework released by K12CS.org

# Math

## UCSC Cal Teach Students

### Poster Description:

UCSC Cal Teach Students will present several math games from the MBAMP Website ([List](#)). You can take a few minutes to play a games and get information about other free games downloadable from the MBAMP website.

## Sam Hickey

### Poster Description:

The topic will be a Logic Puzzle (like KenKen or Sudoku) that I invented and it compares fractions. Here is a link you can go to try some out:

<https://drive.google.com/drive/folders/16kKulX0Ijd528ffxeic9-2pFSH5HazV?usp=sharing> I use them with students to help them make sense of fractions. I think that having students work with comparing fractions in the structure of a puzzle allows them to grow their agency since they know the goal (compare the fractions) and it is their own goal, since the puzzle is pretty fun and students want to complete it. Since they know the goal and it's their own goal, it puts them in control and they can figure out whatever way they want to compare the fractions, they don't have to copy the teacher's method.

### Bio:

Sam taught 9th grade math in Los Angeles for 5 years. Now he lives in the Bay Area, where he is creating an after school math program that he teaches at under-resourced schools. He is currently developing a fractions unit that takes a non-traditional approach to teaching fractions to middle and high schoolers who've repeatedly struggled to gain confidence with fractions.

## Hannah Stanford and Sumita Jaggar

### Poster presentation:

Stand and Talks: Learn about an effective strategy for getting every one of your students talking about any academic subject any day. This strategy can be used to introduce a new topic, consider the most effective strategies or talk about social justice issues. Get your students to SEE IT before you SHOW THEM and SAY IT before you TELL THEM.

### Bio:

**Hannah Stanford** is a teacher in Santa Cruz County at the middle and high school levels. She is excited to share this strategy widely as she has seen huge benefits in her own classrooms.

**Sumita Jagg**ar is a Santa Cruz County Math and Science teachers. She loves problem solving and working collaboratively.

## Jordan Johnson and Sumita Jagg

### Poster Description:

MathsJams -- MathsJam is a monthly opportunity for like-minded self-confessed maths enthusiasts to get together in a pub and share stuff they like. Puzzles, games, problems, or just anything they think is cool or interesting.

We meet on the second-to-last Tuesday of every month, from around 7pm in the evening, in locations around the world.

### Bio:

Sumita Jagg

ar and Jordan Johnson are both Santa Cruz County Math and Science teachers. They share a love for problem solving and working collaboratively.