

Presentation
9-2-15



Orange County STEM Initiative

The Orange County STEM Initiative (OC STEM) is a non-profit funders' collaborative formed in 2012 with the mission to help support, develop and grow science, technology, engineering and mathematics programs for early learners up through post-secondary students. The Children and Families Commission was the key backbone funder in creating OC STEM which has now grown a dynamic membership of the following organizations:

- Allergan Foundation
- Brandman University
- Broadcom Foundation
- Boeing Company
- Cotsen Foundation
- Children and Families Commission of OC
- Edwards Lifesciences
- JP Morgan Chase Bank
- Kay Family Foundation
- Kaiser Permanente
- OCTANe
- Orange County United Way
- PBS SoCal
- Samueli Foundation
- Tiger Woods Learning Center/ Foundation
- Time Warner Cable
- UC Irvine Henry Samueli School of Engineering

**PRESENTATION**
September 2, 2015

DATE: August 3, 2015

TO: Children and Families Commission of Orange County

FROM: Christina Altmayer, Executive Director SUBJECT: OC STEM Initiative

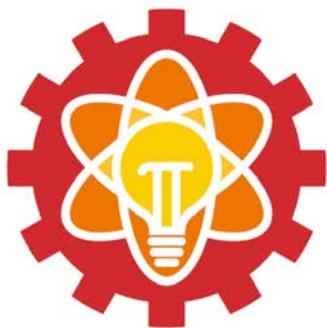
Linda Christopher began serving at the Executive of Director of the OC STEM Initiative in October 2014. In less than a year, Ms. Christopher has made an impressive impact in STEM (Science, Technology, Engineering, and Mathematics) education in Orange County with the implementation of OC STEM Ecosystem Institute, expansion of the STEM Lead Practitioners, and the AppJam program. She has also increased the OC STEM membership with a focus on fiscal sustainability.

Linda Christopher is an Orange County native, but spent much of her career in the Sacramento area as a classroom teacher, principal, and county administrator. Prior to accepting the position with the OC STEM Initiative, she was the Executive Director for NextEd, a non-profit organization serving the Capital Region. In this capacity, Linda worked with business partners from Intel, Aerojet, Rockeddyne, Associated General Contractors, UC Davis, Sutter Health, CVS, and Chevron to build partnerships and focus on fund development to implement educational STEM programs.

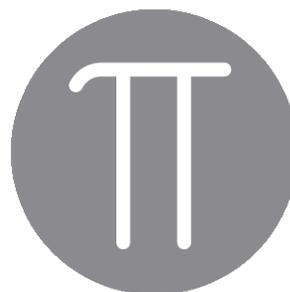
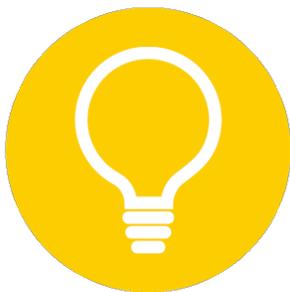
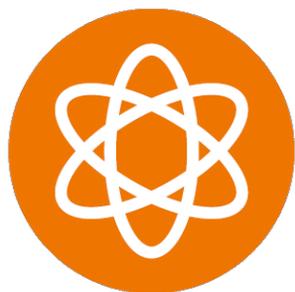
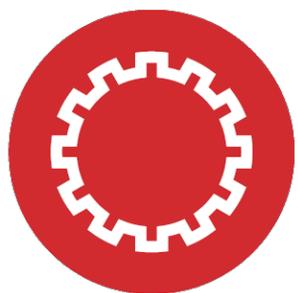
She holds a Bachelor of Science Degree in Education and English from Concordia University, A Master of Arts Degree in Education Administration from California State University Sacramento, and recently completed her Doctorate at Drexel University, focusing on Education Leadership, Policy, and College and Career Readiness.

The Commission is a founding member of the OC STEM Initiative that was developed in 2011 through a partnership with the Samueli Foundation to strengthen STEM education in Orange County. The Commission's Executive Director is a member of the Executive Committee and chairs the Professional Development Committee. The OC STEM Initiative partnered with the Commission to sponsor the Early Education STEM Conference in 2014 and 2015, and is leading the process for the Early Education STEM Symposium in 2016.

At the September meeting, Linda will present an overview of the OC STEM Initiative results over the past year and a preview of the actions for FY 2015/16.



OC STEM INITIATIVE



National Level

Current State of **STEM** Education, Training and Workforce Development

Despite the nation's record of achievement in the STEM fields, the **United States** now lags behind other nations in STEM education.



Research suggests the issue is not simply the lack of proficiency among students in the United States, but that it is also a lack of interest in STEM fields among many students

California

California is projecting a growth in STEM careers, however data suggests that the supply of graduates in these fields is shrinking.



Furthermore, over 40 percent of all jobs vacancies in Orange County in 2014 are STEM-related, indicating a significant supply shortage of a STEM-capable workforce in Orange County



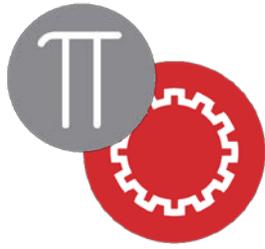


The Orange County STEM Initiative (OC STEM) is a growing network of Orange County funders who actively collaborate with community stakeholders (e.g., students, parents, teachers, business partners and funders)

to support and promote high quality **Science, Technology, Engineering and Mathematics (STEM) Education** in Orange County, CA.



OC STEM invests financially and through volunteerism to seek improvement and innovative outcomes for STEM programs in Early Childhood, PreK-12, after-school and expanded learning programs throughout the region.



Vision

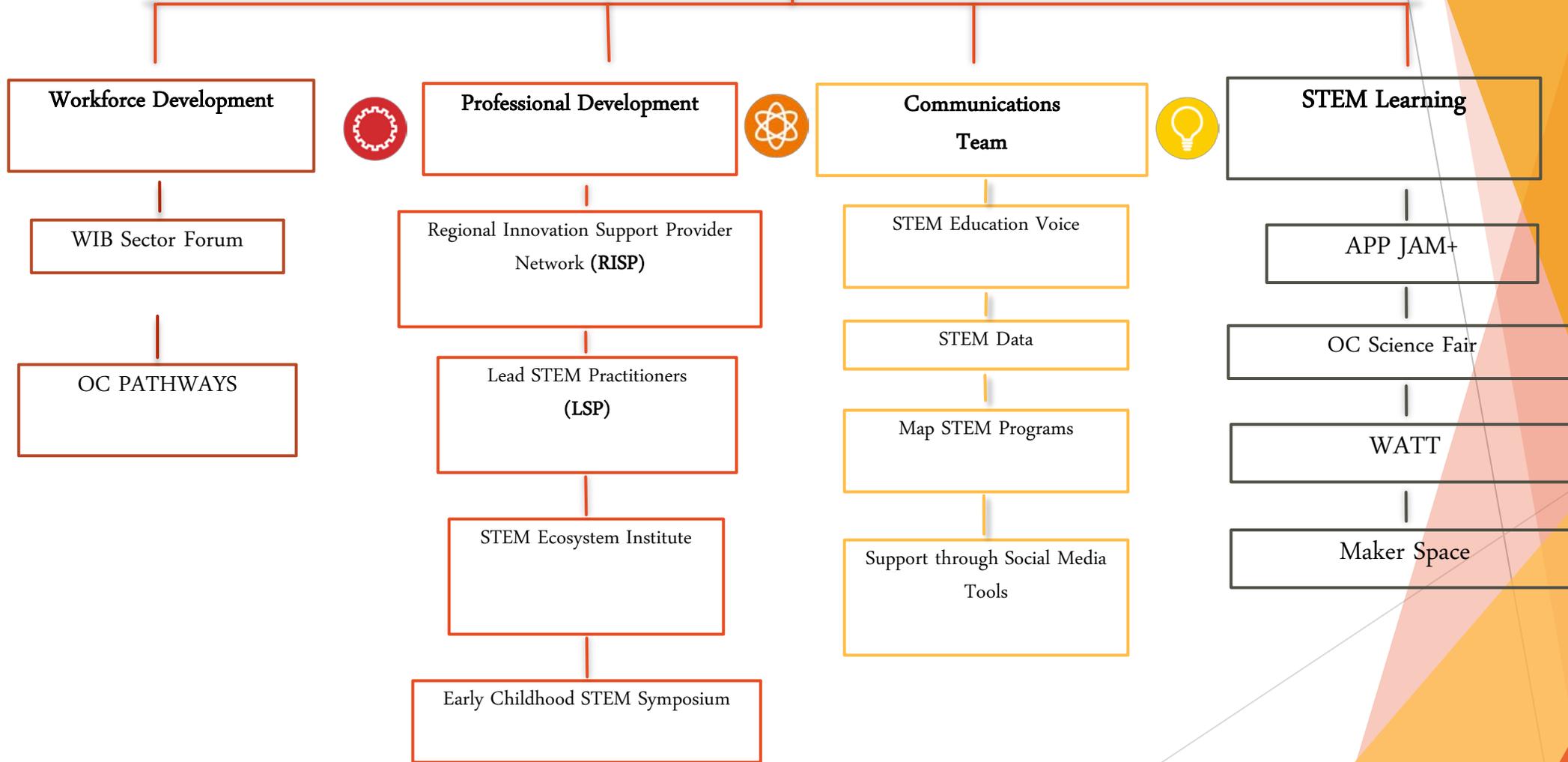


💡 All students possess the requisite STEM skills to be competitive for 21st century jobs in Orange County

🔗 All educators and teachers are provided the tools and support to ensure their students are STEM competent and STEM literate



🔗 Orange County is a leader in STEM workforce competitiveness in California and the United States





Led by the Orange County Department of Education (OCDE) and Saddleback College, OC Pathways is one of the original twelve recipients awarded a \$15 million grant from the California Career Pathways Trust.

OC Pathways is a countywide consortium comprised of fifteen Orange County school districts; nine community colleges; University of California, Irvine; California State University, Fullerton; four Regional Occupation Programs; three Workforce Investment Boards; Vital Link, and over 100 business and industry partners.



OCCPP will make middle, high school and college career pathway programs accessible to Orange County students from all academic, socio-economic, and achievement levels ranging from academically advanced students, to alternative education students, foster youth, and students with physical and learning disabilities.

These programs will provide instruction that provide real-world application of career concepts, linking the content to industry needs.

OC PATHWAYS



Regional Innovation Support Provider Network

STATEWIDE RISP

California saw a need of STEM in the field of Afterschool and developed the **Power of Discovery: STEM²** at the regional and local level by creating, empowering and guiding cross-sector partnerships among diverse stakeholders.

OC STEM is one of five RISPs in the state.

STEM Technical Assistance Team (STAT)

This team is comprised of RISP members who have been certified in the Dimensions of Success (DoS) Tool and provide T.A. to other RISP participants to ensure the STEM knowledge and practices they are receiving from the RISP are being implemented effectively with the students.

Communities of Practice

An opportunity for creating networks with like-minded individuals promoting STEM within their programs. These meetings occur five times throughout the year and are hosted by various RISP partners. Provides a time to network and gain new ideas for program sites.



I want to bring STEM into my afterschool program. How do I do that with quality?

OC STEM

Started in 2012, the OC STEM RISP began as a collaboration between the Tiger Woods Foundation/Learning Center, the Discovery Science Center, the Orange County Department of Education and THINK Together.

In 2015, OC STEM has a Steering Committee made up of 17 representatives from Orange County out-of-school time programs that lead the work that we do.

STEM Factory

Quality STEM Professional Development for Supervisors and Frontline Staff. Occur twice a year; November and April.

Training focuses this year:

Supervisor Track: *Bridging the gap between In-School and Out-of-School*

Frontline Staff: *Implementing STEM Concepts in Out-of-School Programs*

Lead STEM Practitioners (LSP)

A high quality network of district STEM Leaders who are actively supporting STEM curriculum

Disseminate professional learning opportunities in schools on:

Next Generation Science Standards

Common Core Connections to science

Project Based Learning

STEM Legislation



Orange County 5th, 8th and 10th grade students had a higher percentage of proficient and above performance on each of the Science CST's than their peers statewide.

STEM ECOSYSTEM INSTITUTE

Providing **OC Districts** with inspiration and support to enhance their STEM knowledge

Working directly with:

- ⌘ 9 OC Districts
- 🌀 Early learning education
- 🌀 K-12 education
- 💡 Early Learning education
- 🌀 Administrators
- ⌘ Informal Science Partners
- 🌀 Business Partners
- 🌀 Teachers
- 💡 Afterschool Program Providers



By making STEM education a priority, Orange County also recognizes the importance of recruiting, training and retaining great STEM teachers who possess a strong combination of deep content knowledge in STEM subject and mastery of the skills required to teach STEM subjects.

STEM ECOSYSTEM INSTITUTE





A fiscally sponsored project of OC STEM



For more information visit <http://www.appjamplus.com/>

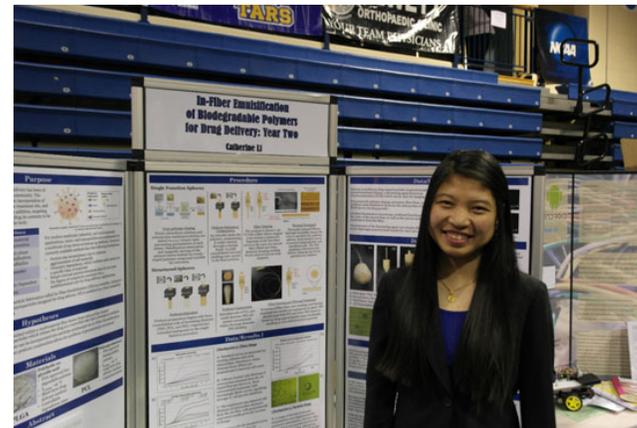
AppJam+ is a program in which the concept of building software in a short period of time is used as a tool to excite and inform middle school students about STEM fields while teaching them the creative and hands on technical process of mobile application development & exposing them to careers in STEM.

Middle school students receive mentorship from college undergraduates and learn to make Mobile apps which will be utilized by early learners.



Women Advancing Technology Together (WATT)

- 20 Women from Jamboree Housing
- 15 Hours of AutoDesk 3D Software Training
- Connection to Growth Sector's Bridges to Engineering Program
- Childcare and Chrombook Provided



OC Science Fair

The OCSEF mission is to enable students to improve their science and engineering skills and literacy while inspiring them to consider careers in STEM fields.

We are committed to challenging students to inquire, design, investigate, and present scientific and engineering concepts through hands-on experimentation.



Early Childhood STEM Symposium

February 20, 2016



Will be located at:



Featuring:

- Ⓧ Local and National Speakers
- Ⓧ Professional Dialog
- Ⓧ Interactive Presentations

In Partnership with:



Caltech



Children & Families
Commission of Orange County

