

Costa Mesa, California  
February 5-7, 2015

## **Stratford School 1-page ad**

# CONTENTS

Download the ECSTEM App.....	4
Highlights.....	5
Sponsors.....	6
Hall of Inquiry.....	7
Teaching Lab.....	8
Welcome Message.....	9
Conference Committee.....	10
General Information.....	11
Keynote Speakers.....	13
Thursday Evening Special Event.....	14
Panel of Experts.....	15
PBS SoCal Tour.....	16
Pretend City Children’s Museum Tour.....	17
Concurrent Workshops – Friday.....	18
Concurrent Workshops – Saturday.....	28
Map of Costa Mesa.....	37
2016 Conference Registration Information.....	INSIDE BACK COVER

**KAPLAN ¼ PAGE AD**

**SIZE: 3 ¾” x 5 1/8”**

# ECSTEM APP

Getting around the ECSTEM conference just got easier! Download the conference app to your phone or mobile device for all the information you will need this weekend - speakers, workshops, tours, maps, workshop and conference evaluations, and more!

## How do I download the ECSTEM Conference mobile app?

Download the Guidebook app in order to download the ECSTEM Conference app.

Instructions available on:

<https://guidebook.com/getit/>

<https://guidebook.com/guides/>

To download the Guidebook app, you can do **ANY** of the following:

- Open up your device's web browser and visit [guidebook.com/getit.](https://guidebook.com/getit/)
- Search for "Guidebook" in the Apple, Google, or Amazon app stores.
- Text yourself the download link by entering your phone number at [http://guidebook.com/getit/.](http://guidebook.com/getit/)
- Scan the QR code below with your phone's QR scanner:



**Scan me!**

Scan the above QR code with your phone to download Guidebook immediately. QR reader required.

Once you have the Guidebook app, you can search for the conference guide by name within the app: *ECSTEM Conference*



*Thank you to the OC STEM Initiative for sponsoring the ECSTEM Conference App!*

# HIGHLIGHTS

## THURSDAY, FEBRUARY 5

Registration/Check-in 4:00 PM - 6:00 PM

### Special Evening Event

Welcome: Susan Wood 5:00 PM

Opening Address: Assemblyman Donald P. Wagner 5:20 PM

STEM Panel Discussion facilitated by Christina Altmayer 5:30 PM

Reception 7:00 PM

## FRIDAY, FEBRUARY 6

Registration/Check-in 7:30 AM - 4:00 PM

Coffee Service & Continental Breakfast 7:30 AM

Keynote: Greg Duncan *"Early Math Achievement and Later School Success"* 8:30 AM – 10:00 AM

PBS SoCal Tour 10:30 AM – 12:00 PM

Concurrent Workshops 10:30 AM – 12:00 PM

Lunch 12:00 PM – 1:00 PM

PBS SoCal Tour 1:00 PM – 2:30 PM

Concurrent Workshops 1:00 PM – 2:30 PM

Concurrent Workshops 1:00 PM – 4:00 PM

Concurrent Workshops 3:00 PM – 4:30 PM

Workshop 5:00 PM – 6:00 PM

## SATURDAY, FEBRUARY 7

Registration/Check-in 7:30 AM - 1:00 PM

Coffee Service & Continental Breakfast 7:30 AM

Keynote: Daniel Siegel *"Resiliency and Neural Integration: Harnessing the Power of Relationships and Reflection to Cultivate and Maintain Well-being"* 8:30 AM – 10:00 AM

Concurrent Workshops 10:30 AM – 12:00 PM

Lunch 12:00 PM – 1:00 PM

Pretend City Children's Museum Tour 1:00 PM – 4:30 PM

Concurrent Workshops 1:00 PM – 2:30 PM

Concurrent Workshops 1:00 PM – 4:00 PM

Concurrent Workshops 3:00 PM – 4:30 PM

## *We Thank Our Sponsors!*



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*Silver*



*Nickel*



*Support*



# HALL OF INQUIRY

Lobby Level – Fountain Terrace/Catalina Foyer

Friday, February 6, 2015; 8:00 AM – 5:00 PM

Saturday, February 7, 2015; 8:00 AM – 1:00 PM

Explore the Hall of Inquiry, where you will find a variety of valuable resources and opportunities to network. Be sure to visit the teaching lab located in the center of the Hall. We thank the following vendors for participating and occupying our exhibit with quality resources!



NATIONAL  
UNIVERSITY



# THE TEACHING LAB: “THINKING OUTSIDE THE BLOCKS”

(LOCATED INSIDE HALL OF INQUIRY)

Are you uncertain about how to set up your classroom to maximize STEM instruction? Perhaps you are a veteran teacher looking for new ideas and tips to integrate STEM-related activities into your indoor and outdoor classroom space. Come discover the Teaching Lab!

The Teaching Lab is set up like a “typical” classroom with areas that will look familiar to teachers and students alike. Visitors to the Teaching Lab will be able to:

- Relate to the classroom as your own
- Expand your STEM-related experience with children using every day materials with minimal amount of additional items but with the emphasis of intentionality
- Reflect on your own teaching approach to STEM within your environment
- Talk with STEM Ambassadors to reflect, brainstorm, and prioritize your next steps
- Collect sample lesson plans mapped to the Preschool Learning Foundations and DRDP
- Get instruction sheets for how to replicate hands-on learning materials using inexpensive supplies you may already have on hand
- Engage content experts while attending conference workshops in the teaching lab
- Explore the addition of the outdoor STEM setting

## ORGANIZERS:

Cinda Muckenthaler, Muckenthaler & Associates, Inc. - ECE Consultant

Jean Barbre, Orange County Department of Education - Early Childhood Education Coordinator

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The *California Preschool Learning Foundations and Preschool Curriculum Framework (CPLPCF)* describe competencies—knowledge and skills—that most children can be expected to exhibit in a high-quality program before entering kindergarten. The *California Preschool Learning Foundations and Preschool Curriculum Framework* documents are at the center of the California Early Learning & Development System.

The Foundations and Framework are presented in three volumes. Volume 1 covers the California Early Learning and Development System, Social-emotional Development, Language and Literacy, English-Language Development, and Mathematics. Volume 2 addresses the Foundations in the Visual and Performing Arts, Physical Development, and Health. The third Volume, presents information on History-Social Science and Science. These companion documents provide valuable information and instructional strategies for early childhood educators and allow them to enrich learning and development opportunities for all California preschool children.

These documents can be downloaded from the California Department of Education:

<http://www.cde.ca.gov/sp/cd/re/documents/preschoollf.pdf>

<http://www.cde.ca.gov/sp/cd/re/psframework.asp#psframevol2>

For more information and a list of training dates regarding the California Foundations and Framework contact Jean Barbre Ed.D.- California Preschool Instructional Networks Region 9 Lead at [jbarbre@ocde.us](mailto:jbarbre@ocde.us)



# WELCOME

The Future Begins Here!

To prepare today's children for the challenges of tomorrow, it is increasingly important that they have developmentally appropriate, inclusive and culturally sensitive approaches in science, technology, engineering and mathematics (STEM). Yet meeting the needs of an economically, ethnically and socially diverse student population – especially for the youngest of learners – is challenging. And so, the Early Childhood Science, Technology, Engineering and Mathematics (ECSTEM) conference was born.

Our goal is to tackle the challenges facing early childhood educators regarding STEM curriculum and instruction; to address the implications for early childhood pedagogy; and ultimately, to initiate a national movement focusing on STEM education for children ages birth to eight. To succeed, we need you: trusted educators, practitioners, researchers, and policy leaders who understand these challenges and are motivated to act on behalf of our children.

This year, as in the past, we have brought together keynote speakers, panelists, and presenters ranging from distinguished researchers, to expert educators, to community leaders, to inform and inspire early childhood education professionals and to provide an opportunity for business partners, community leaders, educators, politicians, practitioners, and researchers to network.

We hope you enjoy your experience and grow from your participation in the ECSTEM conference. We look forward to working together to promote and increase awareness of the importance of STEM education in early childhood.

Sincerely,

ECSTEM Committee

## 2015 CONFERENCE STEERING COMMITTEE

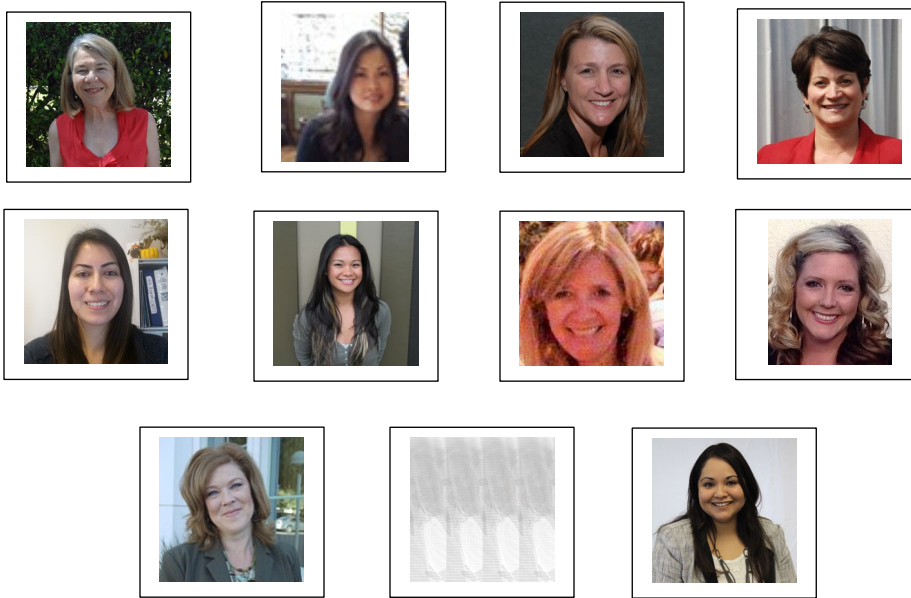
Susan Wood, Children's Center at Caltech – Executive Director  
Kheng Ly-Hoang, Children's Center at Caltech – STEM Coordinator  
Sharon De La Cruz, Children's Center at Caltech—Accountant  
Eloisa Pagsisihan, Children's Center at Caltech—Educator  
Carrie Lynne Draper, Readiness Learning Associates, STEM Director  
Kelly Pijl, Children & Families Commission of Orange County – External Affairs Director  
Lisa Burke, Burke Consulting – Principal  
Cinda Muckenthaler, Muckenthaler & Associates - Inc. – ECE Consultant  
Tiffany Alva, THINK Together – Director of Early Learning  
Marcela Suarez, THINK Together – Program Manager of Community Outreach  
Jean Barbre, Orange County Department of Education – Early Childhood Education Coordinator

## WHO WE ARE

Since 1972, The Children's Center at Caltech (CCC) has grown to become a national leader in STEM Early Education. CCC serves children ages six months through five years using a STEM based curriculum that utilizes a constructivist approach to plan, develop, and implement inquiry rich learning opportunities for our youngest learners. In addition, CCC conducts professional development workshops and shares research in STEM-based Early Childhood education.

The Children & Families Commission of Orange County supports programs for young children and their families to ensure children are healthy and ready to learn when they enter school, including an Early Literacy and Math Program that THINK Together manages.

Serving more than 100,000 students at more than 440 locations, THINK Together is a non-profit education organization that partners with public and private agencies, schools and school districts, to help close the achievement gap and is the state of California's largest provider of extended learning time programs.



# GENERAL INFORMATION

## LOCATIONS

All conference events will be held as listed below. See floor plan for location.

Registration/Check-in: Lobby Level - Catalina Foyer  
Continental Breakfast: Lobby Level - Catalina Foyer  
Hall of Inquiry: Lobby Level - Fountain Terrace/Catalina Foyer  
Teaching Lab: Lobby Level - Fountain Terrace  
Keynote Address: Lobby Level - Catalina Ballroom  
Lunch: Lobby Level - Catalina Ballroom  
Workshops: Lobby Level, Level B1, Level B2,

## REGISTRATION

Registration is required for all conference attendees. The name badge issued with the paid registration is required for admission to all conference activities. Registration does not include the Thursday Special Evening Event or tours. All attendees, presenters, and exhibitors may pick up their registration materials at the Registration/Check-in tables.

**Registration and Check-in, located in the Lobby Level in the Catalina Foyer is open during the following hours:**

Thursday, February 5, 2015.....4:00 PM – 6:00 PM  
Friday, February 6, 2015.....7:30 AM – 4:00 PM  
Saturday, February 7, 2015.....7:30 AM – 1:00 PM

### Onsite registration fees are as follows:

2-days (Friday and Saturday).....\$310.00  
1-day (Friday or Saturday).....\$280.00  
Student 2-days.....\$80.00  
Student 1-day.....\$60.00  
Group of 10+.....\$20% off  
Hall of Inquiry only.....\$10

**\*All full day registrations allow admission to the Hall of Inquiry (exhibit hall), workshops, opening and keynote addresses and include continental breakfast and lunch.**

### Additional Opportunities:

You may purchase tickets or sign up for any of the following events at registration, if available:  
(Space is limited)

Thursday Special Evening Event.....\$50  
PBS SoCal Tour.....No Cost  
Pretend City Children's Museum Tour.....\$10

### Payment Options:

Please make checks payable to **Children's Center at Caltech**. We also accept cash, VISA, MasterCard, American Express, and Discover.

### **REFUNDS:**

A full refund of the registration fee, less a \$25 administrative fee, will be granted for all written cancellation requests received by January 9, 2015. No refunds will be made for cancellations received after this date. Refunds will be issued by check. **Refunds will NOT be processed at the conference and there are NO refunds for no-shows.**

### **PARKING:**

Self-parking for the group is at a contracted, discounted rate of \$8.00 per vehicle, per night. If attendees are parking for the day (no overnight stay), the rate is \$8.00 per vehicle, per day as well. For attendees who should decide to valet their vehicle, the rate for valet service is \$31.00 per vehicle, per day or per night.

If you are staying at the Hilton, the Front Desk will ask at registration if you are parking a vehicle on the property, and determine if it is valet, or self-parking. The charge will be automatically added to your room folios, and charges may be paid upon checkout.

If you are arriving for the day only, and parking your vehicle in the Self-Parking Garage, you will receive a ticket when entering the garage, and upon departing for the day, you will need to inform the booth attendant that you were attending the ECSTEM Conference. You will be charged the discounted contracted rate of \$8.00.

### **RECORDING OF PRESENTATIONS:**

There will not be professionally-made video or audio tapes of conference presentations. If you wish to tape a presentation, you must first obtain the speaker's permission.

### **SALES:**

No monetary exchange of any type may occur before, during, or after a presentation in any of the meeting rooms or anywhere in the hotel. Sales may take place only in booths in the Hall of Inquiry (exhibit hall). No sale of any kind may take place in the non-profit section of the exhibit hall.

### **ENDORSEMENT DISCLAIMER:**

ECSTEM is pleased to present a wide variety of learning and informational opportunities available at this conference. ECSTEM does not, however, endorse products or services promoted in any of the sessions or exhibits. Opinions expressed are those of the presenters and do not necessarily reflect the position of ECSTEM. ECSTEM shall not be responsible for loss or injury resulting from the purchase or use of goods and services offered at the conference.

### **PROGRAM CHANGES:**

Unexpected, last-minute changes to our program are inevitable. Signage of changes will be posted by the door of appropriate rooms.

### **CONFERENCE EVALUATIONS:**

We hope you will share with us your feedback and comments about this year's conference. The workshop evaluation may be found on the ECSTEM APP.

## KEYNOTE SPEAKERS



Greg Duncan, Ph.D.  
University of California, Irvine

*“Early math achievement and later school success”*

Greg Duncan is Distinguished Professor in the School of Education at the University of California, Irvine. Duncan’s research focuses on the impacts of family and neighborhood conditions, and school-readiness skills on children’s cognitive and behavioral development. Duncan was President of the Society for Research on Child Development between 2009 and 2011 and is a member of the National Academy of Sciences.



Daniel Siegel, Ph.D.  
Mindsight Institute

*“Resiliency and Neural Integration: Harnessing the power of relationships and reflection to cultivate and maintain well-being”*

Daniel J. Siegel, M.D. is currently clinical professor of psychiatry at the UCLA School of Medicine and the founding co-director of the Mindful Awareness Research Center. He is also the Executive Director of the Mindsight Institute, which offers online learning and in-person lectures that focus on how the development of mindsight in individuals, families and communities can be enhanced by examining the interface of human relationships and basic biological processes. Dr. Siegel is an author who has published extensively for the professional audience. He serves as the Founding Editor for the Norton Professional Series on Interpersonal Neurobiology which contains over three dozen textbooks. Dr. Siegel’s books include Mindsight, Pocket Guide to Interpersonal Neurobiology, The Developing Mind, Second Edition, The Mindful Therapist, The Mindful Brain, Parenting from the Inside Out (with Mary Hartzell, M.Ed.), The New York Times bestsellers The Whole-Brain Child (with Tina Payne Bryson, Ph.D.), Brainstorm, and his latest No-Drama Discipline (with Tina Payne Bryson, Ph.D.). He has been invited to lecture for the King of Thailand, Pope John Paul II, His Holiness the Dalai Lama, Google University, and TEDx.

## SPECIAL EVENING EVENT

Thursday, February 5, 2015, Catalina Ballroom

**Advanced registration required (200 max) \$50**

*Welcome: Susan Wood 5:00 PM*

*Opening Address: Assemblyman Donald P. Wagner 5:20 PM*

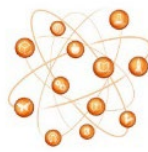
*Panel Discussion, facilitated by Christina Altmayer, 5:30 PM – 7:00 PM*

*Evening Reception, Fountain Terrace/Garden Terrace Patio 7:00 PM*

This event will be filled with influential guests from distinguished professors and practitioners to top business leaders and respected political figures. We will begin with a panel discussion followed by networking opportunities with heavy hors d'oeuvres.







ECSTEM.ORG  
2015 EARLY CHILDHOOD STEM CONFERENCE  
Science Technology Engineering Math  
**PANEL OF EXPERTS**



Greg Duncan, Ph.D.  
Professor, **University of California, Irvine, CA**

Greg Duncan is a Distinguished Professor in the School of Education at the University of California, Irvine. Duncan's research focuses on the impacts of family and neighborhood conditions, and school-readiness skills on children's cognitive and behavioral development. Duncan was President of the Society for Research on Child Development between 2009 and 2011 and is a member of the National Academy of Sciences.



Lilian Katz, Ph.D.  
Professor, **University of Illinois, Champagne-Urbana, IL**

Lilian Katz has been Professor at the University of Illinois, specializing in early childhood education for more than 40 years. She is a member of the Early Childhood and Parenting Collaborative at the University of Illinois. She is author of numerous articles, papers, chapters and books related to early childhood development, parenting, and teaching. Dr. Katz was President of the National Association for the Education of Young Children and has lectured in 56 countries.



Carrie Lynne Draper, MEd  
Executive Director, **Readiness Learning Associates, Pasadena, CA**

Carrie Lynne Draper earned her MEd at Marymount University and did STEM PhD work at the University of Toledo, OH, where she taught pre-service teachers and coordinated national STEM programs. Prior, she championed STEM education programming as a legislative staff member for the US House of Representatives, WDC. She taught for more than twenty years ranging from Pre-K through Grade 8, receiving numerous national awards and honors. Carrie works with formal and informal education partners providing STEM assessment, evaluation and training in order to better serve under represented student populations in STEM.



Ellen Khokha, MA  
Founder and former Executive Director, **The Growing Place, Santa Monica, CA**

Ellen Khokha is the founder and former Executive Director of The Growing Place, a pair of non-profit child development centers. For nearly twenty years, she led her school in a study of ideas from the schools of Reggio Emilia, Italy. She is co-founder of the Westside Collaborative and the Reggio Revisited seminar series. Currently, she teaches for UCLA Extension and Santa Monica College, where she is the coordinator for the California ECE Mentor Teacher and Director Program.



Linda Christopher, MA  
Executive Director, **Orange County Stem Initiative, Irvine, CA**

Linda Christopher is a native of Orange County but has spent much of her career in the Sacramento area as a classroom teacher, principal, county administrator and most recently as the Executive Director for NextEd, a non-profit organization serving the Capital Region. 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 is currently completing her Doctorate at Drexel University, focusing on Education Leadership and Policy.



Tamika Lang, MA  
Manager, **The Boeing Company, Seal Beach, CA**

As the Western Region Global Corporate Citizenship (GCC) Manager for The Boeing Company, Tamika Lang leads the philanthropic and corporate citizenship activities in California, Arizona, Utah, and Colorado. Prior to this role, Tamika was the Community Investor and Education Subject Matter Expert for GCC in California where she developed and implemented PreK-12 education and workforce pipeline strategies and supported multiple Boeing sites and businesses throughout the state. Tamika received her Master of Public Policy at the University of Southern California as a Housing and Urban Development Community Development Fellow. During this time, she worked with the public and private sector in community and economic development.

**REGISTER NOW! February 5-7, 2015**

For more information contact [ecstem@caltech.edu](mailto:ecstem@caltech.edu) or visit [ecstem.org](http://ecstem.org)



in partnership with



Hosted by The Children's Center at Caltech, Children & Families Commission of Orange County, THINK Together in partnership with Orange County Department of Education

# PBS SoCal TOUR

Friday, February 6, 2015; 10:30 AM – 12:00 PM or 1:00 PM - 2:30 PM

***Advanced registration required (50 max) - No Cost***



PBS SoCal is dedicated to educating, entertaining, and enlightening viewers throughout the greater Los Angeles region on all media platforms. PBS SoCal Education serves parents, teachers, and students on-air, online, and through community engagement. Our major education and engagement initiatives include Ready to Learn and American Graduate, focusing on cradle to career support and resources. PBS SoCal Education engages audiences across three major platforms: in the home, in the classroom, and in the community.





# PRETEND CITY CHILDREN'S MUSEUM TOUR

Friday, February 6, 2015; 1:00 PM - 4:30 PM

**Advanced registration required (50 max) - \$10**

12:45-1:00 pm board shuttle in front of Hotel lobby.



What does STEM look like in Pretend City Children's Museum - a non-formal learning environment for early childhood? Find out when you take a tour of Pretend City and learn about their specialized STEM program offerings. The program includes a STEM scavenger hunt and Trash 4 Teaching Introduction and activity.



# WORKSHOPS FRIDAY, FEBRUARY 6

KEYNOTE 8:30-10:00 AM

“Early Math Achievement and Later School Success”

**Presenter: Greg Duncan, Ph.D.**

*Professor, University of Irvine*

**Room: Catalina Ballroom**

In his keynote, Dr. Duncan will review evidence on the role of mathematics proficiency: at school entry for later success in school; during elementary school for completing high school and attending college; and in high school for launching a successful labor market career.

## WORKSHOP INFORMATION

To support your conference experience, conference sessions have been categorized by topic area (Science, Technology, Engineering and Mathematics). Additionally, the approach and philosophy, target audience, and foundations and standards are specified for each workshop. Conference attendees may follow one topic area for an in-depth, content-rich focus on a particular subject matter, or may pick and choose among topics to sample the full complement of conference offerings. The following are the listings of session tracks and their abbreviations.

**Content:** Science – S

Technology – T

Engineering – E

Mathematics – M

**Approach/Philosophy:** Constructivism – C

Project Approach – PA

High Scope – HS

Reggio – R

Froebel – F

Montessori – M

Research – Res

**Target Audience:** Infant/Toddler Teachers – I/T

Preschool/Transitional Kindergarten Teachers – PK-K

Directors/Curriculum Coordinators – D/CC

Kindergarten/First Grade Teachers – K-1

Family Child Care Home Providers/Mixed Age – FHP

College Faculty – CF

**Foundations/Standards:** California Preschool Learning Foundations – C

Head Start Learning Framework – H

Common Core – CC

Next Generation Science Standards – N

## WORKSHOPS

10:30 AM – 12:00 PM

“All About Stencils”

**Presenter: Arlene Turner**

**Company/Affiliation/School**

**Room: Hall of Inquiry (Outdoor)**

### DESCRIPTION

*Content:*

*Approach/Philosophy:*

*Target Audience:*

“Reggio Inspired STEAM”

**Presenters: Marilee Cosgrove and Daniela Arbizzi**

*Fullerton Elementary School District*

**Room: Hall of Inquiry**

Understanding the Reggio Emilia philosophy as it pertains to the Hundred Languages of Children with the emphasis on environment and intentional facilitation. The workshop will be a combination of formal presentation, informal discussions and experiences designed to provoke natural curiosity and inquiry plus guide children through the logical steps of scientific process. Experiences in math and science with arts integration that leads to deeper probing and building upon proper knowledge.

*Content: S M*

*Approach/Philosophy: R*

*Target Audience: PK-K K-1*

“Early Childhood: A Time to Celebrate Math”

**Presenter: Kellie Evans**

*California State University, Northridge, Department of Mathematics*

**Room: Laguna Beach I**

In this hands-on session, participants will engage in activities they can use with their students. Connections will be made with language arts and visual learning. Common Core Standards of Mathematical Practice will be implemented and discussed. Further ideas about celebrating math with students and families will be shared and references will be provided.

*Content: S M*

*Target Audience: K-1*

*Foundations/Standards: CC*

“MARS: Launching Early Childhood Explorers (Math, Arts, Reading & Science)”

**Presenters: Carrie Lynne Draper, Rudo Kashiri and Stuart Scolnik**

*Readiness Learning Associates, Virginia Space Grant Consortium, and New Roads School*

**Room: Laguna Beach II & III**

Astronaut Class of 2042 (today's Kindergartners) need teachers using the STEM 5E model to prepare them to create the future! Join this team including a NASA/aerospace education specialist, STEM expert and a K-5 classroom teacher who will provide activities to engage your students for STEM discovery and missions beyond our planet!

*Content: S E M*

*Approach/Philosophy: PA R Flip Classroom*

*Target Audience: PK-K K-1*

*Foundations/Standards: CC*

**“Woodworking with Children: Engineering a Strong Image of the Child”**

**Presenters: Amy Bice and Cynthia Nelsen**

*The New School West*

**Room: Newport Beach I**

This workshop looks at wood as one of the resources for creating educational moments that extend children’s attention through a scientific and collaborative approach to learning. Woodworking with preschool children requires their engineering and mathematical skills; learn how to provide a richness of material experiences and environment that creates a foundation of resources including wood.

*Content: E M*

*Approach/Philosophy: R*

*Target Audience: PK-K*

**“Yes, You Can: Transforming Typical Pre-k Activities into Rich STEM Experiences”**

**Presenter: Betty Zan**

*University of Northern Iowa*

**Room: Newport Beach II**

STEM is everywhere, including in typical pre-k activities that teachers routinely include in their lesson plans. In this session, teachers will learn how to capitalize on opportunities to embed rich STEM experiences into activities they are already doing. Examples from Head Start classrooms will be used to illustrate how to recognize and implement STEM experiences that are developmentally appropriate, intellectually rigorous, and contextually relevant.

*Content: S M*

*Target Audience: PK-K*

**“Documentation for Beginning Teachers”**

**Presenter: Jenne Ring**

*Pasadena City College*

**Room: Newport Beach III**

This session focuses on documentation techniques for beginning Early Childhood teachers or teachers with no experience with documentation. Learn how to use documentation as a practical and beneficial part of communication with parents, children and the community to share what students are learning and experiencing in the classroom.

*Content: S*

*Approach/Philosophy: C*

*Target Audience: I/T PK-K*

**"iCan be a Scientist: Integrating Technology and Science in the Preschool Classroom"**

**Presenter: Merisa Camacho**

*California Science Center*

**Room: Huntington Beach**

In this workshop you will learn how to integrate digital and analog tools into hands-on science activities for children ages 3-5. Early exposure to meaningful use of technology builds children's capacity for in-depth inquiry, critical thinking, and effective communication. Using age-appropriate technology, preschool children can make detailed observations about the world around them, document their inquiry process, and communicate their learning to others. In short, they can be scientists!

*Content: S T*

*Approach/Philosophy: C*

*Target Audience: PK-K*

*Foundations/Standards: C N*

**"Engineering - The E in STEM"**

**Presenters: Chris Hume and Constant Hine**

*Kodo Kids*

**Room: Bristol III**

This workshop helps practitioners understand what engineering is and identifies ways engineering is already happening every day in the classroom. Participants will learn how to broaden and deepen children's learning, to intentionally facilitate children's investigation to promote engineering skills, and build on those experiences through play and investigation. Participants will explore documentation, linking experience to understanding, and how to use constraints and mistakes to deepen critical thinking and the engineering mindset in children.

*Content: E*

*Approach/Philosophy: C PA R*

*Target Audience: PK-K D/CC*

*Foundations/Standards: C H CC N*

**"Exploring Simple machines with Toddlers"**

**Presenters: Veronica Hendricks and Diana Gomez**

*The Children's Center at Caltech*

**Room: Bristol I**

Travel with us as we present our work with young toddlers (18-24 months) as they explore simple machines. We will offer ideas on how to provide your toddlers stimulating activities that expand their investigations.

*Content: S T*

*Approach/Philosophy: C M*

*Target Audience: I/T*

1:00 PM – 2:30 PM

"Books You Can Count On"

**Presenter: Jennifer Montgomery**

*El Camino College*

**Room: Laguna Beach I**

This workshop is geared toward teaching staff. The focus is on books and curriculum expansion ideas linked to math and language domains outlined in the Head Start Child Development and Early Learning Framework.

*Content: M Target Audience: PK-K D/CC K-1 FHP CF Foundations/Standards: C H*

"Math and Science in the Outdoor Classroom"

**Presenter: Ellen Veselack**

*Child Educational Center*

**Room: Newport Beach I**

The Outdoor Classroom is a place full of opportunities for children to develop math and science skills. We will identify experiences in the Outdoor Classroom that promote strong math and science skill development. Participants will practice analyzing using qualitative research tools. We also will explore math and science language and how to better articulate these skills to parents.

*Content: S M Target Audience: PK-K*

"Counting on Play: Creating a Preschool-Aged Mathematics Foundation in a Play-Based Curriculum"

**Presenter: Todd Erickson**

*Bing Nursery School, Stanford University*

**Room: Huntington Beach**

In Berkeley, California, in the fall of 2011, a meeting of prominent California educators and researchers took place. Their focus? Preschool math. These leaders were posing the same question that troubles many early childhood educators, including the presenter: how do we provide meaningful and foundational mathematics concepts to our students to best prepare them for life in primary school? The presenter's classroom, where children experience mathematics through hands-on, contextually significant play, provides a legitimate solution to this problem. The presenter and participants will inspect data created from daily classroom math activities and projects to help discern children's learning along three essential mathematics competencies: number sense, mathematical reasoning and measurement.

The presentation will examine the scaffolding of preschool mathematics through three curricular lenses: emergent curriculum, repeated play experiences and the project approach. The various roles required of the teacher in this process of discovery will also be prominently considered,

including the roles of observer and documenter.

Perhaps the most optimistic developmental insight: it is possible to evolve from a math-phobic to a math-loving teacher!

*Content: S T E M      Target Audience: PK-K      Foundations/Standards: C*

**"Extend Your Read Alouds Through Scientific Inquiry and Math Explorations!"**

**Presenter: Judy Ross**

*Norwalk-La Mirada Unified School District/Glazier Elementary*

**Room: Bristol III**

Explore innovative activities for literature and informational texts that incorporate Common Core standards and the scientific method. Encourage students to ask "What if...?" and "I wonder...?" questions as you journey into, through and beyond the text. Estimate "Melting" time for the Gingerbread Man and help save him; discover how the Little Red Hen became a scientist; analyze how peddlers balance caps; measure the longest earthworm; follow a path of dots; and more!

*Content: S T E M      Approach/Philosophy: C P A      Target Audience: PK-K K-1 FHP  
Foundations/Standards: C C C N*

**1:00 PM – 4:00 PM**

**"Engineering - The Critical Creative Thinking Process"**

**Presenters: Chris Hume and Constant Hine**

*Kodo Kids*

**Room: The Hall of Inquiry**

In this session, practice the design process through interactive hands-on experiences that are relevant to foster STEM investigations in early childhood classrooms. Learn how, like the best engineers, to use design thinking to solve practical problems. Learn how the design thinking process fosters reflective practice for both children and adults. Explore the relationship between creative and critical thinking in children and adults. Learn practical strategies to facilitate children's learning using observation and documentation skills using open-ended materials.

*Content: E      Approach/Philosophy: C P A R      Target Audience: PK-K D/CC K-1 CF  
Foundations/Standards: C H C C N*

### "Messing About with Math and Science"

**Presenters:** Alex Cruickshank and Lauren Weatherly

*Boulder Journey School*

**Room:** Laguna Beach II

Participants will experience Messing about with Math and Science through the lens of active exploration of materials. By experiencing curiosity-based learning first hand, we will weave four big ideas from the philosophy of Frances and David Hawkins (Messing About; I, Thou, It; Eolithism, and Teacher as Learner) into a comprehensive look at possibilities within the standards-based classroom.

*Content: S M*

*Approach/Philosophy: Hawkins*

*Target Audience: PK-K K-1*

### "Building a Good Foundation"

**Presenter:** Lilian Katz

*University of Illinois*

**Room:** Laguna Beach III

This workshop will outline the nature of the Project Approach with young children. The three phases of project work will be described: 1) Identifying the topic to be investigated and developing the questions the investigation will be designed to find answers to. 2) Engaging in data collection such interviewing relevant experts, visiting sites where relevant phenomena can be observed, etc., and 3) working with children to summarize their findings and share them with each other, other school mates and their parents.

*Content: S T M*

*Approach/Philosophy: PA R*

*Target Audience: PK-K K-1*

### "Unit Blocks: The Foundation for STEM"

**Presenter:** Betty Zan

*University of Northern Iowa*

**Room:** Newport Beach II

Unit blocks have long been recognized as one of the most valuable early childhood classroom materials available. Block play addresses multiple domains of learning and development, including social, emotional, cognitive, and language development. But perhaps the most powerful contribution is in the area of STEM learning. When children explore and build with blocks, they exercise spatial reasoning, engage in the engineering and design process, and grapple with laws of physics.

*Content: S M*

*Target Audience: PK-K K-1*



"De-constructing Big Ideas: preschoolers draft, map, and design"

**Presenters: Ellen Khokha and Christine Richard**

*Santa Monica College, The Growing Place*

**Room: Newport Beach III**

How can we support children's translation of their "big ideas" into experiences which are more manageable and successful for them? We know that in-depth, long-term projects lead to meaningful work and significant learning. When children are invited to organize their thinking by mapping the details and steps of the process to realize the things they want to create, their work becomes meaningful, not only to themselves, but their parents and peers. More importantly drafting, mapping, and project diagrams help teachers see the questions and challenges children are facing. These tools hold the memory of the work and document the process so that "big ideas" can be translated into authentically real work which leads to deeper learning.

*Content: S E*

*Approach/Philosophy: R*

*Target Audience: PK-K*

"Environment as Third Teacher: an educational designer's perspective"

**Presenters: Todd Erlandson and Sherry Hoffman**

*(M)Arch. branded architectures*

**Room: Bristol I**

This hands-on workshop will help you leverage your existing space and vision for your future. How well do your indoor and outdoor, community and dedicated spaces reflect your school's values? What about your existing environment supports your cultural context and educational philosophy? What is working against it? How can your environment communicate who you are and what is important to you? Can the environment be a departure point for future visioning by your school and by the children and community? Engage in a step-by-step process and hands on activities with other educators to create beautiful spaces for children that make a difference.

*Content: E*

*Approach/Philosophy: R*

*Target Audience: PK-K*

**3:00 PM – 4:30 PM**

"Fun with the Plant Nutrient Team"

**Presenters: Stephanie Etcheverria and Shaney Emerson**

*California Foundation for Agriculture in the Classroom*

**Room: Laguna Beach I**

Humans, animals and plants all depend on soil for life. How we care for the soil is important to our lives. Fun with the Plant Nutrient Team activity book helps children understand what soil needs to be healthy in order to provide us with healthy foods. Participants will receive the activity book and the California's Educators Guide. The activity book and teacher guide are aligned to Common Core and Next Generation Science Standards.

*Content: S M*

*Target Audience: K-1*

*Foundations/Standards: CC N*

**"206 Is Really A Lot" - An Investigation of Theories (and Bones)"**

**Presenters: Kristina Farah and Maureen Morrison**

*SGM Atelier*

**Room: Newport Beach I**

Explore the process of The Body's Group investigation of the human skeleton, including the construction of "Stan," their child-sized skeleton model. Organically utilizing mathematical and physics concepts while researching and making connections with their work with teachers carefully facilitating and documenting, the group transcended boundaries and expectations fueled by their curiosity and investment in their work.

*Content: S E M*

*Approach/Philosophy: C P A R*

*Target Audience: PK-K*

**"Implementing a STEAM program in your ECE center"**

**Presenter: Candi Schreuders**

*Stratford School*

**Room: Huntington Beach**

Do you want to implement a STEAM program in your center but don't know where to begin? This workshop takes you through step-by-step on how to implement a STEAM program in your school. Steps include: creating an action plan and time-line, teacher recruitment and training, curriculum development, parent communication and involvement, and rolling out and overseeing the 10-month implementation of the program.

*Content: S T E M*

*Target Audience: D/CC*

*Foundations/Standards: CC N*

**"Block Building, a Teacher's Role: Taking the Lessons from the First 100 Years Forward"**

**Presenters: Jennifer Winters and Todd Erickson**

*Bing Nursery School, Stanford University*

**Room: Bristol III**

In celebration of the 100+ years of the creation of the unit block, this presentation will promote block building as a vital educational and developmental experience for young children. To highlight the power of this multi-disciplinary medium, the presenters will track the unit block all the way back to Friedrich Froebel in 1800's Germany. A closer look will reveal that the development and implementation of blocks for young children informed and chronicled the growth of what we now know as developmentally appropriate practice in early childhood education.

The presenters will make the connection between block building and early childhood learning outcomes to strengthen participants' advocacy for this essential experience. Additionally, the presenters will look toward the next 100 years of block building by linking block building to innovation and design thinking.

The presentation will be an encouraging dialogue. As such, the presenters look forward to answering questions from the participants in both formal and informal arenas.

*Content: S E M      Approach/Philosophy: C F M Res      Target Audience: PK-K D/CC  
Foundations/Standards: C*

**5:00 PM – 6:00 PM**

**"Orange County ECSTEM Mentor Program"**

**Presenter: Marcela Suarez**

*THINK Together*

**Room: Bristol I**

Are you ready to be a STEM Mentor? Are you looking for a STEM Mentor? Come join us as we launch the ECSTEM Mentor Program in Orange County!

Most educators know how important STEM is, but they require professional development knowledge and tools to implement STEM into their classroom. ECSTEM is needed because teachers, especially in early childhood education, need to have continuous feedback and support to implement a quality STEM curriculum. Peer-to-peer collaborations are especially effective because it allows educators to have someone to bounce ideas back and forth with and implement a curriculum that works for THEIR classroom. Continuous peer-to-peer support allows educators to go through the trial and error process, and come out with a stem-quality program.

ECSTEM Mentor's mission is to provide peer-to-peer support among early childhood educators in order to expand STEM-based Learning for children 0-5. Our vision is to have STEM-based learning in every early childhood program in Orange County.

Description: ECSTEM Mentor Program is a year-long mentorship that pairs an early childhood educator with a STEM-experienced educator to help them incorporate STEM into their classrooms and programs. ECSTEM is a mentorship opportunity for any educator serving children 0-5 in Orange County, whether they work at a private/public, community, or home-based center. ECSTEM is a graduate program, which means after one year, mentees can apply to be mentors. They can use their new knowledge and expertise to help another early childhood educator, making this program self-sustainable and lasting.

*Content: S T E M      Approach/Philosophy: C PA HS R F M Res  
Target Audience: I/T PK-K D/CC K-1 FHP CF Special Education Preschool Teachers/Administrators  
Foundations/Standards: C H CC*

# WORKSHOPS SATURDAY, FEBRUARY 7

## KEYNOTE 8:30-10:00 AM

"Resiliency and Neural Integration: Harnessing the Power of Relationships and Reflection to Cultivate and Maintain Well-being"

**Presenter: Daniel Siegel**

*Mindsight Institute*

**Room: Catalina Ballroom**

This presentation will immerse participants in an intensive experiential and didactic overview of the power of relationships and reflection to promote the growth of integrative fibers of the brain.

Seen through the lens of the interdisciplinary field called Interpersonal Neurobiology, resilience can be seen to reflect how a set of nine functions are cultivated including bodily regulation, compassionate communication, emotional balance, flexibility, fear modulation, insight, empathy, morality and intuition. These functions emerge from the integrative fibers of the prefrontal cortical areas that coordinate and balance a wide range of neural circuits. We will review how both secure parent-child relationships and mindfulness practices promote these functions, and how mental health in fact may emerge from the process of integration. We'll dive into a "wheel of awareness" reflective practice that can be used to promote both mindful states as well as neural integration. The benefit for clinicians and other care providers is to promote resilience for those working with highly stressed and traumatized individuals.

## WORKSHOPS

10:30 AM – 12:00 PM

"STEM - Developing an Observational Perspective"

**Presenter: Steven Erwin**

*Kaplan Early Learning Co.*

**Room: Hall of Inquiry**

This workshop will provide an opportunity for participants to develop an observational perspective of STEM learning while children are involved in play. Participants will be able to identify cognitive constructs of STEM and support children's learning using appropriate communication strategies!

*Content: S T E M      Approach/Philosophy: HS Dr. Sara Smilansky's 4 types of play  
Piramide Approach*

*Target Audience: I/T PK-K D/CC K-1 FHP CF*

"The Play Dough Curriculum: Using Creative Dough Making to Learn Science and Math Process Skills"

**Presenters: Regina Lamourelle and Chantal Lamourelle**

*Santiago Canyon College*

**Room: Laguna Beach I**

Malleable doughs are a perfect medium to use to introduce science, math, and engineering concepts since they are versatile, inexpensive and familiar to many Early Learning professionals. The Play Dough Curriculum workshop will show attendees how to use this medium to extend the curriculum for math, science, engineering, and critical thinking. Attendees will receive information about how to create doughs to teach basic math, science, and engineering principles and to extend math and science learning beyond sink and float or one-to-one correspondence.

*Content: S E M      Approach/Philosophy: C P A M      Target Audience: I/T PK-K K-1 FHP*  
*Foundations/Standards: C H C C N*

"STEAM-opolous"

**Presenters: Leah Hanes and Viki Stathopoulos**

*Trash for Teaching (T4T.org)*

**Room: Laguna Beach II**

Getting comfortable with open ended material for the discovery process of early childhood education? Participants will work in groups to create a game using a variety of materials designed to inspire pre-school children with science, technology, engineering, art and math.

*Content: S T E M      Approach/Philosophy: R      Target Audience: I/T PK-K D/CC FHP*  
*Foundations/Standards: C C N*

"What's that Called Again?"

**Presenters: Carrie Rothstein-Fisch and Katie Leon**

*California State University, Northridge*

**Room: Laguna Beach III**

Have you ever watched children explore materials and thought "what's that called again?" struggling to remember a key word related to children's discoveries? In this workshop, participants will be offered materials to simulate children's discoveries accompanied by a glossary of key terms to support children's learning. For example, hands-on materials for geological terms, forces, and geometry will be provided and then explained by participants using words from their glossary. Come- explore, share, and learn!

*Content: S M      Target Audience: PK-K K-1*

### **"Investigating Science Projects through Inquiry Based Learning"**

**Presenter: Lia Doron-Mizrahi**

**Room: Newport Beach I**

Explore a play-based science curriculum emphasizing investigation and exploration as young inventors use Project and Inquiry Based Learning methods, problem solving, critical-thinking and peers. Investigating light, liquid vs. solid, symmetry, volcanoes, past inventions (electricity, telephone system) and more. Involvement of families, culture and state standards are included.

*Content: S                      Approach/Philosophy: PA      Target Audience: PK-K D/CC K-1 FHP CF  
Foundations/Standards: C*

### **"Woodworking with Children"**

**Presenter: Kunaal Kumar**

*Orange Coast College Early Childhood Lab School*

**Room: Newport Beach II**

The word "WOODWORKING" alone puts fear and questions in the minds of many adults and teachers. Just like any other area in a classroom, the woodworking area and tools can be utilized correctly to foster children's development. If implemented and supervised correctly the benefits, skills learned, and satisfaction of children outweigh the potential problems, so that woodworking supports whole-child development.

*Content: S M                      Target Audience: PK-K K-1*

### **"What is STEM?"**

**Presenters: Beth Odom and Yolanda Bernal**

*Children's Home Society of California*

**Room: Newport Beach III**

This is an introduction to STEM for family child care home providers. We will discuss how children can learn about science, technology, engineering, and math in a family child care home setting. This presentation is in English, but some handout materials will be available in Spanish.

*Content: S T E M                      Approach/Philosophy: C PA R CHS School Readiness Curriculum  
Target Audience: FHP                      Foundations/Standards: C*

### **"Adapting Montessori Principles to Your Preschool Classroom"**

**Presenter: Jane Jacobs**

*Montessori Services/Private Psychotherapy Practice*

**Room: Huntington Beach**

Maria Montessori, the first female to graduate from medical school in Italy, used her observational skills and scientific background to discover how infants and children learn. The basic early-childhood principles that Montessori used to develop her method of teaching will be

defined and explored, along with some of the elegant Sensorial and Math Materials she created for use in the Montessori Primary Class (ages 3 to 6). We will discuss how her philosophy and principles relate to STEM education and how to implement them in a traditional classroom.

*Content: S E M      Approach/Philosophy: M      Target Audience: I/T PK-K D/CC K-1 FHP CF  
Foundations/Standards: C H CC N*

### **"Extraordinary Outdoor Science On A Shoestring Budget"**

**Presenter: Vivian Belmont**

*Dream Big Science & Art Inc.*

**Room: Bristol III**

This is a valuable presentation for anyone wanting to set up an outdoor science program. You will walk away with ideas you can put to use in your program the very next day. Using fabric, wood and other natural and recycled materials, it's a hands on program combined with an incredible Power Point presentation of children at work, pushing the envelope of scientific discovery.

*Content: S E      Target Audience: PK-K K-1*

### **"Infant and Toddler Math and Science Curriculum"**

**Presenters: Jasmin Waggoner and Eloisa Pagsisihan**

*The Children's Center at Caltech*

**Room: Bristol I**

This workshop presents a look into teacher planning and environments necessary to build children's learning. Topics include spatial relationships, cause and effect, and the senses. The workshop includes a Power Point presentation highlighting more than three years of infant and toddler curriculum in the classroom.

*Content: S M      Approach/Philosophy: C      Target Audience: I/T FHP*

**1:00 PM – 2:30 PM**

### **"Exploring STEM"**

**Presenters: Beth Odom and Yolanda Bernal**

*Children's Home Society of California*

**Room: The Hall of Inquiry**

In this session for family child care home providers we will explore STEM activities with hands on projects, tour the Virtual Classroom, and discuss how to implement STEM in the family child care home setting. The presentation is in English, but some handout materials will be available in Spanish.

*Content: S T E M      Approach/Philosophy: C P A R CHS School Readiness Curriculum  
Target Audience: FHP      Foundations/Standards: C*

"Full "STEAM" Ahead – Fixing Up Your Curriculum for the 21<sup>st</sup> Century Learner"

**Presenter: Sherry Adams**

*Stratford School*

**Room: Laguna Beach III**

To prepare students for the future, it will be crucial for schools to implement 21<sup>st</sup> century skills within the classroom. With an intentional focus on curriculum that taps the inquisitive nature of preschool children, teachers will lay the foundation of innovation by stimulating creativity, critical thinking, collaboration, and communication. Come learn why STEAM must begin in preschool and what Stratford School in Silicon Valley is doing to "fix up" their curriculum to meet the needs of the 21<sup>st</sup> century learner.

*Content: S T E M*

*Approach/Philosophy: 21<sup>st</sup> Century Framework*

*Target Audience: PK-K D/CC*

*Foundations/Standards: 21<sup>st</sup> Century Framework*

"Physical Science with Young Children"

**Presenter: Kunaal Kumar**

*Orange Coast College Early Childhood Lab School*

**Room: Newport Beach III**

"Physical science." Do these words scare you as a teacher? Science is everywhere and children need the opportunity to explore this phenomenon through stimulating environments and curriculum. This workshop will help educators implement activities in a manner such that children can grasp the concepts and bring out their inner scientist. We will discuss age-appropriate physical knowledge, how to set up and implement activities/curriculum, techniques to support children's scientific inquiry, and a multitude of activity examples.

*Content: S*

*Target Audience: PK-K K-1*

*Foundations/Standards: C*

"Ecosystems and Habitats: A look into Systems and Interactions"

**Presenter: Veronica Dayag**

*The Children's Center at Caltech*

**Room: Bristol I**

In this workshop, we will investigate the study of ecosystems and habitats from a 4-5 year old perspective. With focus on living organisms and non-living factors, we will explore the ecological and environmental areas in which they interact as a system. Other areas of learning include: nests, ponds, gardens, insectariums, vivariums, and aquariums.

*Content: S E M*

*Approach/Philosophy: C*

*Target Audience: PK-K D/CC K-1*

*Foundations/Standards: C H*



1:00 PM – 4:00 PM

“All Around STEM”

**Presenter: Shalek Chappill-Nichols**

*Resource Center for Teaching, R.A.F.T*

**Room: Laguna Beach I**

In All Around STEM, educators will learn how to use hands on activities to enhance learning in science, technology, engineering, and math. We will also use effective tools and strategies to incorporate creative thinking, classification, fine and gross motor skills, and open ended projects to teach STEM in a fun and exciting way.

*Content: S T E M*

*Target Audience: PK-K K-1*

“What Can We Learn From Folding Circles”

**Presenter: Bradford Hansen-Smith**

*Wholemovement*

**Room: Laguna Beach II**

Folding the circle reveals 2- & 3-D patterns fundamental to understanding math and the structural nature of transformation. We will discover geometry, basic algebra, and trigonometry in the first fold of the circle. By folding and joining multiple circles we will make spheres, fold the net of the tetrahedron, and through reconfiguring and joining multiples form three of the the Five Platonic Solids. Higher frequency folding of the net yields complexities to explore.

*Content: S M*

*Target Audience: PK-K K-1*

*Foundations/Standards: CC*

“STEAM as a Provocation for Narratives”

**Presenters: Paola Cervantes and Jean Kaneko**

*The Exploratory/PeaPods SchoolHouse*

**Room: Newport Beach I**

The Exploratory and PeaPods SchoolHouse present to you the fundamentals of Constructionism in Early Childhood Education and how to use STEAM as provocation for Narratives in the classroom. We will navigate you through two long-term projects with a mixed age classroom. The first project integrates storytelling, natural sciences, block building and we used it as an opportunity to introduce simple machines like pulleys and technology like photography and stop motion animation. The second project tells the story of how our children built a teepee from natural materials, weaving, and e-textiles (conductive sewing) to leave a legacy gift for their community. We will spend the last half tinkering with the same materials the children used during these two projects: circuit blocks, squishy circuits, stop motion animation, textiles, and conductive sewing.

*Content: S T E M*

*Approach/Philosophy: C P A R*

*Target Audience: I/T PK-K K-1 D/CC FHP*

**“Exploring Air”**

**Presenter: Betty Zan**

*University of Northern Iowa*

**Room: Newport Beach II**

Even though air cannot be seen, it is a powerful force in our everyday lives. In this session, participants will learn how to make the effects of air visible to young children and support them in exploring and investigating air as a force. Hands-on experiences will provide participants with ideas for how to implement air dynamics activities in their classrooms.

*Content: S M*

*Target Audience: PK-K K-1*

**“Froebel Today: How to use the Gifts & Occupations in a STEM classroom”**

**Presenters: Tiffeni Goesel and Scott Bultman**

[www.froebeltoday.com](http://www.froebeltoday.com) and [FroebelUSA](http://FroebelUSA)

**Room: Huntington Beach**

Like STEM, Friedrich Froebel (1782 - 1852) invented a philosophy of education that encompassed a holistic view of the child. He was a naturalist, scientist, mathematician, geologist, and pedagogue. His education of children from 3 to 7 years old began in Germany and traveled the world after his death. Since then many branches of education have grown from this original seed: Montessori, Waldorf, Progressive, Reggio & STEM. This workshop will share with you an overview of Froebel's Philosophy of Unity or from the whole to the parts and back. It will use the Gifts & Occupations to express these ideas in a play and discovery based approach that covers the elements of STEM, yet broadens the teachers, parents, and child's world to explore more.

*Content: E M*

*Approach/Philosophy: F*

*Target Audience: PK-K K-1*

**“Correlation between math and music in Early Childhood Music Education”**

**Presenter: Dayita Datta**

*The Children's Center at Caltech*

**Room: Bristol III**

This workshop explores ear training for young children using musical pattern recognition, which is an integral part of math skills. It will include pattern recognition through song-tales, echo songs, dance, tap, clap, and playing percussion instruments.

*Content: M*

*Target Audience: I/T PK-K K-1 D/CC FHP*

3:00 PM – 4:30 PM

“Buzz, Bubble, and Bounce”

**Presenter: Jean Barbre**

*Orange County Department of Education*

**Room: The Hall of Inquiry**

Children are naturally curious and they desire to explore and investigate the world around them. Join us as we identify the elements of designing developmentally appropriate STEM activities for infants and toddlers. Learn about the cognitive stages of infant toddler development and how to build STEM into your everyday activities. We will examine questions to ask young children to help them build and strengthen their understanding of STEM and new strategies to expand their vocabulary. The early years are the perfect time to begin cultivating children’s interests in science, technology, engineering, and math!

*Content: S T E M      Approach/Philosophy: C      Target Audience: I/T*

“Bug City” and “Drake the Cat”: Following the path of Math and Science through Children's Interests”

**Presenters: Tina Wiatrak and Lizette Chavez**

*The Growing Place*

**Room: Laguna Beach III**

Building homes for insects in the park, calculating the number of blocks needed for a castle, or measuring the ingredients for snack, math and science are everywhere! Join us for a presentation and dialogue, through a constructivist lens, of our work of building foundations in math and science with young children through indoor and outdoor classroom experiences.

*Content: S M      Approach/Philosophy: C R      Target Audience: PK-K*

“Plan for STEM”

**Presenters: Beth Odom and Yolanda Bernal**

*Children's Home Society of California*

**Room: Newport Beach III**

In this third session for family child care home providers we will facilitate setting up an environment and curriculum that supports STEM experiences. We will be working in groups, come ready to share your ideas!

*Content: S T E M      Approach/Philosophy: C P A R CHS School Readiness Curriculum  
Target Audience: FHP      Foundations/Standards: C*

**"Using the Scientific Method in Gardening"**

**Presenters: Cynthia Wylie and Cassondra Hegyes**

*Bloomers! Schoolyard, Inc.*

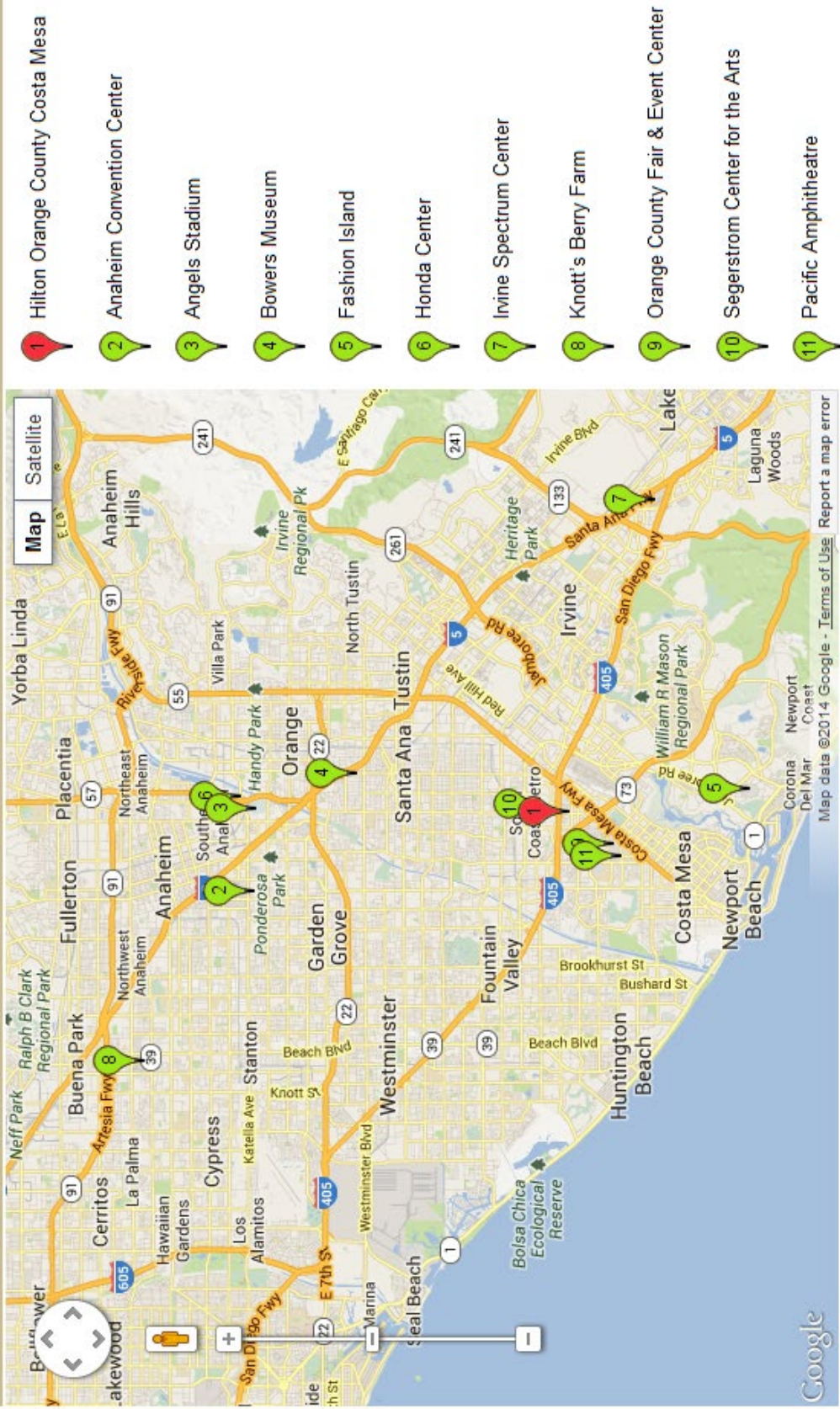
**Room: Bristol I**

Incorporating the current emphasis in introducing children in early education to the scientific method, we will show a multitude of ways this can be achieved with a school gardening program.

*Content: S*

*Target Audience: PK-K K-1*

## OUR NEIGHBORHOOD



Visit <http://www.hiltonorangecounty.com/things-to-do-oc.aspx> for more information

# 2016 EARLY CHILDHOOD STEM CONFERENCE

## REGISTRATION INFORMATION

### Registration will begin August 2015

#### Individual

To register online with PayPal, credit card, or check visit [ecstem.org](http://ecstem.org). If experiencing trouble registering online, please use the group registration method.

#### Groups

Follow steps below to register groups. Checks accepted. 20% discount for groups of 10+ attendees.

Step 1: Download the group registration form (excel file) online.

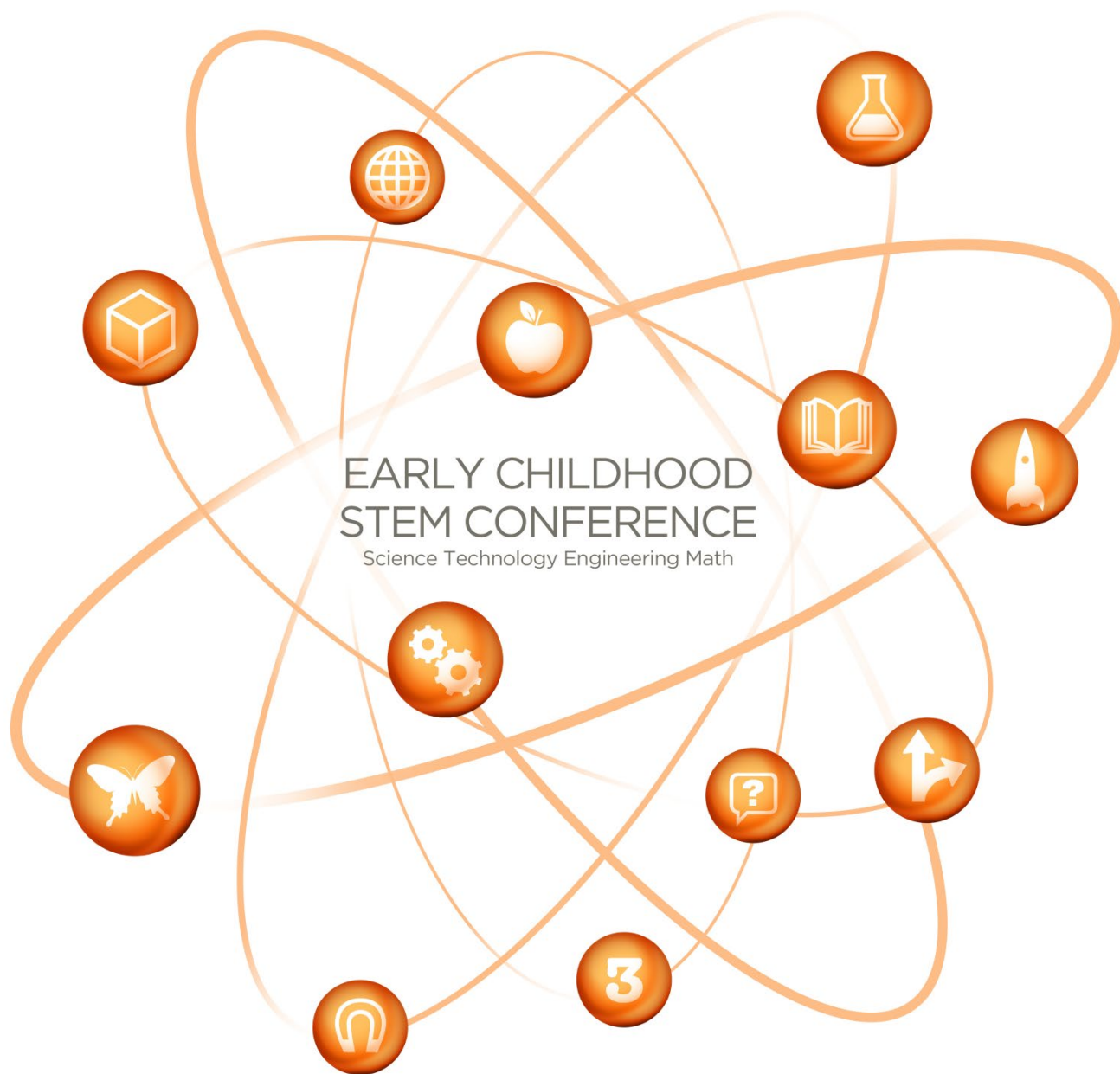
Step 2: Email the completed form to [ECSTEM@caltech.edu](mailto:ECSTEM@caltech.edu).

Step 3: Allow 1-2 business days for an invoice to be emailed.

Step 4: Mail check to address below, make payable to "Children's Center at Caltech" and include your invoice number.

The Children's Center at Caltech  
Attn: ECSTEM Conference  
1200 E California Blvd, Mail Code 1-133  
Pasadena, CA 91125  
CONTACT:

For help registering, email [ECSTEM@caltech.edu](mailto:ECSTEM@caltech.edu) or call (626) 395-6860 between 10:30 am and 5:30 pm PT, Monday to Friday.



SAVE THE DATE

**WHEN: February 4-6, 2016**

**WHERE: Pasadena, CA**

ECSTEM will begin accepting workshop proposals on March 1, 2015

Contact: ECSTEM@CALTECH.EDU  
Visit: [ECSTEM.ORG](http://ECSTEM.ORG)