

**CMSESMC**

Council of Math/Science Educators  
of San Mateo County

*presents the 42<sup>nd</sup> Annual*

# STEM Conference

**Saturday, February 10, 2018**

San Mateo County Office of Education  
101 Twin Dolphin Drive  
Redwood Shores

**Registration Brochure**

**Register online: <https://goo.gl/v8bbgv>**

Sponsored by

**Council of Math/Science Educators of San Mateo County (CMSESMC)  
San Mateo County Office of Education's STEM Center**

## Conference Information

### Dear STEM Educators,

On behalf of CMSESMC, we invite you to explore the many exciting aspects of STEM education and to learn about and discuss the latest news, information and issues. This is also an opportunity to network with colleagues who can assist you in building your programs and meet new friends that share your interests and love of teaching.

### ABOUT CMSESMC

The Council of Mathematics/Science Educators of San Mateo County (CMSESMC) is the county's professional organization dedicated to the improvement of classroom instruction in science, technology, engineer and mathematics (STEM). Its goals are to foster excellence in STEM curricula and educational programs, promote professional excellence in teaching and strengthen leadership in the STEM subjects.

Our members are teachers and administrators, Pre-K through college, from private and public institutions in San Mateo County and the greater Bay Area. Members become more knowledgeable about STEM education and have opportunities to network with others in job-alike positions.

Active members meet on a monthly basis and are especially interested in providing activities and events that support STEM educators. Meetings are held on the first Monday of the month from 4:30 - 5:30 p.m. at the San Mateo County Office of Education (SMCOE).

CMSESMC is supported by the SMCOE and is affiliated with the California Science Teachers Association (CSTA) and the California Mathematics Council Northern Section (CMC-N). The two main events are this conference and the Julia Robinson Math Festival held in the Fall.

If you are interested in gaining leadership experience in math and/or science education and would like to become more involved in the CMSESMC, visit the registration area or contact Brennan Brockbank at [cmsesmc@gmail.com](mailto:cmsesmc@gmail.com).

### REGISTRATION

When you arrive, please come to the Registration Area, located inside the front door. You may register for the Conference on-site, or if you are pre-registered, you may pick up your conference materials there. Your name tag will serve as your brunch "ticket" so be sure to wear it during the event.

If you are a presenter or exhibitor, please check-in to receive your materials, plus room assignment or exhibit location. Questions? Please contact Brennan Brockbank, at [cmsesmc@gmail.com](mailto:cmsesmc@gmail.com) or by calling 415.497.0743.

### PARKING

Available in the lot surrounding the building.

### ACCESSIBILITY

Please inform us via your registration form, or at the Registration Area, if you need any special assistance.

### PARTICIPANTS RECEIVE

A one-year membership of CMSESMC. If you are interested in becoming more involved with CMSESMC, please visit the Registration Area, or e-mail Brennan Brockbank at [cmsesmc@gmail.com](mailto:cmsesmc@gmail.com). We are always seeking active members with exciting ideas!

### COLLEGE CREDIT OR PROFESSIONAL HOURS

One CEU (Continuing Education Unit) is available from St. Mary's College for participating in the STEM Conference and writing a reflection/critique of the sessions attended and overall conference schedule, at a cost of \$50. A letter verifying professional development hours is free and may be picked up in the Registration Area.

### FOOD SERVICE

Coffee served from 7:45 a.m. and a brunch at 10:45 a.m. are included in your pre-registration fee. A limited number of brunches may be available for on-site registrants.

### EXHIBITS

The exhibits will be open from 8:00 a.m. to noon, so we encourage participants to visit this area during the break. Exhibitors will be allowed to sell any of their products.

### DIRECTIONS

See back page.

### CMSESMC ANNUAL RETREAT

You are invited to join the CMSESMC Annual retreat on June 21 from 9:00am – noon.

A catered brunch is provided at our kick-off event where the annual CMSESMC events for the next year are planned out before we take our summer break. Please join us!

RSVP to Brennan Brockbank, at [cmsesmc@gmail.com](mailto:cmsesmc@gmail.com).

## 2018 STEM Conference Schedule

Room	Session 1   8:30 - 9:30	Session 2   9:45 - 10:45	Session 3   11:30 - 12:30
Arroyo	<p style="text-align: center;"><i>Manuel Zarate</i> <b>MakerSpace Board Games</b> Grades 3-8</p>	<p style="text-align: center;"><i>FaraLee Wright</i> <b>Surface Area &amp; Volume Aliens Have Landed</b> Grades 6-8</p>	<p style="text-align: center;"><i>Emiliano Gomez</i> <b>MDTP Online Platform: Using Data to Inform Teaching</b> Grades 6-8</p>
Butano	<p style="text-align: center;"><i>Dr. Bert Bower</i> <b>Let's Go to the Zoo with TCI's Bring Science Alive!</b> Grades K-2</p>	<p style="text-align: center;"><i>Dr. Bert Bower</i> <b>Digging for Extinct Organisms with TCI's Bring Science Alive!</b> Grades 3-5</p>	<p style="text-align: center;"><i>Dr. Bert Bower</i> <b>Riding the Wave with TCI's Bring Science Alive!</b> Grades 3-5</p>
Eucalyptus	<p style="text-align: center;"><i>Gerald Schwartz</i> <b>4R's: Reduce, Reuse, Recycle, Rot (Compost) Unit Games</b> Grades 3-8</p>	<p style="text-align: center;"><i>Denise Torrissi</i> <b>Integrated Middle School Unit: Connections, Carbon Cycle, Energy and Ecosystems</b> Grades 6-8</p>	<p style="text-align: center;"><i>Endre Balogh</i> <b>Musical Tubes and the Ratio Blues</b> Grades 6-8</p>
Laurel	<p style="text-align: center;"><i>Ralph Hammond</i> <b>Shallow-Water Ocean Waves</b> Grades 6-8</p>	<p style="text-align: center;"><i>Elvia Henderson</i> <b>Mathtime Playtime</b> Grades PK-5</p>	<p style="text-align: center;"><i>Eve Sutton</i> <b>Adaptable Math, Science, Logic Lessons Using Venn Diagrams</b> Grades PK-8</p>
Oak	<p style="text-align: center;"><i>Ned Diamond</i> <b>Math Games You Can Count On</b> Grades 3-8</p>	<p style="text-align: center;"><i>Rebecca Abbott</i> <b>What's So Phenomenal About Phenomena?</b> Grades K-8</p>	<p style="text-align: center;"><i>David Stronck</i> <b>Saving Endangered Animals of California</b> Grades 3-8</p>
Pelican	<p style="text-align: center;"><i>Belle Akers</i> <b>STEM in Action! Engineering Fun: Soft Landing</b> Grades K-2</p>	<p style="text-align: center;"><i>Belle Akers</i> <b>STEM in Action! Hands-on with Legos, Sticks, Straw &amp; Paper</b> Grades K-2</p>	<p style="text-align: center;"><i>Liz Sheets</i> <b>Water Testing and Ocean Acidification</b> Grades 6-8</p>
STEM Conf	<p style="text-align: center;"><i>Brian Kruse</i> <b>After the Eclipse: Anchoring Phenomena to Keep Space Science Alive</b> Grades K-8</p>	<p style="text-align: center;"><i>Brad Hoge</i> <b>Teaching Tough Topics with Tact</b> Grades PK-8</p>	<p style="text-align: center;"><i>Dr. Browning Neddeau</i> <b>The Selfie Project: Using Photographs to Improve Writing</b> Grades 3-8</p>
STEM Studio	<p style="text-align: center;"><i>Melissa Hero</i> <b>Gamify Your Curriculum with Breakout EDU</b> Grades K-8</p>	<p style="text-align: center;"><i>Debbie Heiman</i> <b>Fun with Math</b> Grades 3-5</p>	<p style="text-align: center;"><i>Lora Saarnio</i> <b>Mathematical Mini-Universes</b> Grades K-2</p>

**Brunch 10:45–11:30**

## Conference Sessions

Abbott, Rebecca — Professional Learning Specialist,  
Lawrence Hall of Science

### **What's So Phenomenal About Phenomena?\***

You've probably heard about phenomenon-based instruction. Figure out what this actually means and how this is embodied in an NGSS-designed curriculum.

K-8 | EL, Pre-service Teachers, New Teacher | 9:45 - 10:45 in Oak

Akers, Belle — 1st Grade Teacher,  
Convent of the Sacred Heart

### **STEM in Action! Engineering Fun: Soft Landing**

Take a closer look at STEM and NGSS in action in a first grade classroom! Enrich your students science and engineering practices through a dynamic hands-on investigation. Using simple materials, what can you design to hold a ping-pong ball inside a cup when dropped from 12 inches or higher?

K-2 | New Teacher | 8:30 - 9:30 in Pelican

*Co-presenter: Audra Jones*

### **STEM in Action! Hands-on with Legos, Sticks, Straw & Paper\***

"Think like a materials engineer" is a mantra I've used with my first graders. When presented with design challenges, can materials be used in more than one way? Can you change materials to meet your needs? For example, with paper you can fold to make it stronger, cut to make it the size you need, roll it if you need cylinders, etc. Come ready to dive into various design challenges using simple materials, craft sticks, straws, a variety of paper and Legos!

K-2 | New Teacher | 9:45 - 10:45 in Pelican

*Co-presenter: Audra Jones*

Balogh, Endre — Chairman of the Toones  
Foundation, Toones Academic Music

### **Musical Tubes and the Ratio Blues**

This session provides guided basic exploration with ratio and music notation. By creating a simple rhythmic instrument to demonstrate tones (musical tubes) with common pitches, teachers (students) will understand the importance of the music notes and their relationship to measuring ratio and proportional reasoning.

6-8 | Special Ed, New Teacher | 11:30 - 12:30 in Eucalyptus

Bower, Dr. Bert — CEO, TCI

### **Let's Go to the Zoo with TCI's *Bring Science Alive!*\***

Participants take the role of first graders as they go on a trip to the zoo and learn how plants and animals are like others of the same kind.

K-2 | 8:30 - 9:30 in Butano

### **Digging for Extinct Organisms with *Bring Science Alive!***

Join TCI as we act as paleontologist to uncover paleontologists fossils while we learn about the lesson phenomena.

3-5 | 9:45 - 10:45 in Butano

### **Riding the Wave with TCI's *Bring Science Alive!***

In this session, we'll use a powerful online learning system to develop a model of waves to describe patterns in terms of amplitude and wavelength.

3-5 | 11:30 - 12:30 in Butano

Diamond, Ned — Mathematics Teacher,  
Crystal Springs Uplands School

### **Math Games You Can Count On**

Come play math games you can use right away to reinforce integers, multiples, probability, exponents, working backwards, and place value. Games adapt to all levels.

3-8 | Special Ed, Pre-service Teachers, New Teacher | 8:30 - 9:30 in Oak

Gomez, Emiliano — Site Director,  
Math Diagnostic Testing Project

### **MDTP Online Platform: Using Data to Inform Teaching**

We will describe MDTP's free online testing platform and ways to use student results to inform teaching and curricular decisions.

6-8 | 11:30 - 12:30 in Arroyo

Hammond, Ralph — Biology and Earth Science  
Teacher, Westmoor HS

### **Shallow-Water Ocean Waves**

Learn about various professional developments for teachers including The Maury Project, an initiative of the American Meteorological Society. This session is on Shallow-water waves using the 5E model to engage your students. Includes handouts and model you can use in your classroom.

6-8 | EL, Special Ed, New Teacher | 8:30 - 9:30 in Laurel

## Conference Sessions

Heiman, Debbie — Classroom Teacher,  
John Muir School

### **Fun with Math**

Using math games to reinforce math concepts.

3-5 | 9:45 - 10:45 in STEM Studio

*Co-presenter: Phylis Takahashi*

Henderson, Elvia — Teacher Aide, Redwood City SD  
**Mathtime Playtime\***

Using recycled materials you can have children learn math and language skills. Many of these games involve simple hand and eye coordination skills.

PK-5 | Special Ed, New Teacher | 9:45 - 10:45 in Laurel

*Co-presenter: Paul Henderson*

Hero, Melissa — Instructional Technology Specialist,  
Sequoia Union High SD

### **Gamify Your Curriculum with Breakout EDU**

Have you heard of an escape room? It's a game where participants have to work together to solve a series of clues to break out of a room. Breakout EDU is an educational version of this concept, where you can incorporate your content, and students are solving puzzles and practicing collaboration, teamwork, and communication. Come play a game and learn how to make your own to fit your content.

K-8 | 8:30 - 9:30 in STEM Studio

Hoge, Brad — Director of Teacher Support,  
National Center for Science Education

### **Teaching Tough Topics with Tact**

Teaching students about climate change is tough, but there are proven lessons that can succeed. Join me for a hands-on examples for all ages.

PK-8 | Pre-service Teachers, New Teacher | 9:45 - 10:45 in STEM Conference

Sessions with an \* include materials for sale.

### **Special offer from RAFT:**

During the conference choose to take advantage of a 1 day Free Trial and the option to purchase a \$20 annual membership fee

Kruse, Brian — Director, Teacher Learning Center,  
Astronomical Society of the Pacific

### **After the Eclipse: Anchoring Phenomena to Keep Space Science Alive**

As the excitement surrounding the 2017 solar eclipse fades, explore some astronomical anchoring phenomena to keep your students engaged.

K-8 | EL, Pre-service Teachers, New Teacher | 8:30 - 9:30 in STEM Conference

Neddeau, Dr. Browning — Assist. Professor of  
Education, CSU, Monterey Bay

### **The Selfie Project: Using Photographs to Improve Writing**

Participants will engage in a technology-integrated writing lesson that uses selfies. The lesson was recently published in a peer-reviewed book for teachers.

3-8 | EL, Pre-service Teachers, New Teacher | 11:30 - 12:30 in STEM Conference

Saarnio, Lora — Math Specialist, The Nueva School  
**Mathematical Mini-Universes**

Explore problems that allow students to experience math as an experimental science wherein they enter an unfamiliar number/data landscape and develop and test their ideas.

K-2 | 11:30 - 12:30 in STEM Studio

Schwartz, Gerald — Coordinator,  
County of San Mateo Office of Sustainability

### **4R's: Reduce, Reuse, Recycle, Rot (Compost) Unit Games**

Play the three 4R's: Reduce, Reuse, Recycle, Rot (Compost), Unit Games and learn how you can integrate these interactive card and board games into your classroom curriculum to teach your students about resource conservation and waste reduction.

3-8 | EL, New Teacher | 8:30 - 9:30 in Eucalyptus

Sheets, Liz — Marine Science Instructor,  
Marine Science Institute

### **Water Testing and Ocean Acidification**

How to use testing in local water ways to talk about ocean acidification and climate change.

6-8 | 11:30 - 12:30 in Pelican

*Co-presenter: Redwood High School Students*

## Conference Sessions

Stronck, David — Professor of Science Education, CSU, East Bay

### **Saving Endangered Animals of California**

Participants will receive a free book about endangered animals of California and other print materials for saving the species. We will predict their futures.

3-8 | Pre-service Teachers, New Teacher | 11:30 - 12:30 in Oak

Sutton, Eve — Curriculum Consultant

### **Adaptable Math, Science, Logic Lessons Using Venn Diagrams**

Integrate Math, Science, Logic and Verbal skills. Hands-on activities to help students sort, categorize, and teach other students. Collaborate with teachers at other levels to design adjustable lessons using Venn diagrams. Free materials.

PK-8 | EL, Special Ed, Pre-service Teachers, New Teacher | 11:30 - 12:30 in Laurel

Torrisi, Denise — 7th Grade Science Teacher, Centerville Jr. HS

### **Integrated Middle School Unit: Connections, Carbon Cycle, Energy and Ecosystems**

Be engaged with sample activities, interact with a simple system, and create some new connections. EL strategies, handouts, and links will be included.

6-8 | EL | 9:45 - 10:45 in Eucalyptus

Wright, FaraLee — Teacher, Armijo HS, Fairfield

### **Surface Area & Volume Aliens Have Landed**

Using real-life containers in a compound configuration to determine the difference between surface area and volume.

6-8 | EL | 9:45 - 10:45 in Arroyo

Zarate, Manuel — Tinkerer,

Los Robles Magnet Academy, Ravenswood City SD

### **MakerSpace Board Games**

Students create unique, one-of-a-kind board games using the design thinking process and technology (3D printers, laser and vinyl cutters).

3-8 | 8:30 - 9:30 in Arroyo

### Commercial and Non-Profit Exhibitors

California Math Council - North

County of San Mateo Office of Sustainability

Computer Science Teachers Association (CSTA)

Hiller Aviation Museum

Math Diagnostic Testing Project

*Conference Notes* \_\_\_\_\_  
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## Registration Information

**STEM Conference**  
**Saturday, February 10, 2018**

**Register online: <https://goo.gl/v8bbgv>**

### SINGLE REGISTRATION

Conference Fees	Early	Onsite	Name _____
Registration Fee	<input type="radio"/> \$40	<input type="radio"/> \$45	Site _____
Student Teacher/Intern	<input type="radio"/> \$30	<input type="radio"/> \$35	Street _____
Pre-School Teacher	<input type="radio"/> \$25	<input type="radio"/> \$30	City/Zip _____
			Daytime phone _____
			E-mail _____

### GROUP REGISTRATION

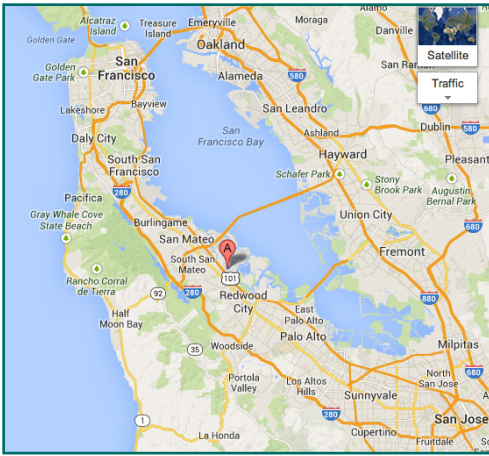
Group Rate Conference Fee	Site _____
Six or more from the same school or district paid with one check.	Street _____
<b>Early</b>	<b>Onsite</b>
<input type="radio"/> \$30	<input type="radio"/> \$35
	City/Zip _____
	Daytime phone _____
	Main contact _____

#	First and Last Name of Participant	Email
1		
2		
3		
4		
5		
6		

Payment Number: _____	Total Enclosed: _____
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Mail check or money order (sorry, no purchase orders or credit cards), payable to CMSESMC to:  
 Lyn Chan, Treasurer  
 P.O. Box 434, Millbrae, CA 94030-2906  
 (Registration includes brunch and a one-year CMSESMC membership)

**Questions? Please contact Brennan Brockbank at 415.497.0743 or [cmsesmc@gmail.com](mailto:cmsesmc@gmail.com)**

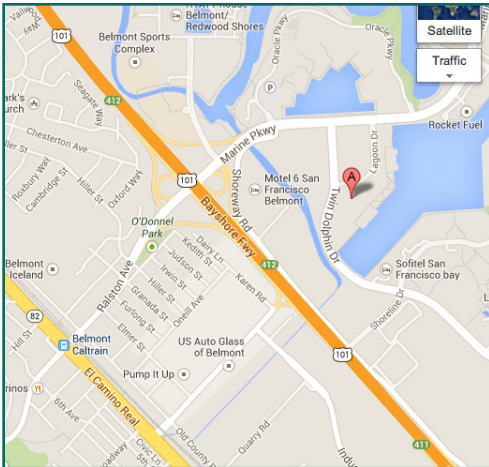


### **DIRECTIONS TO SMCOE:**

San Mateo County Office of Education  
101 Twin Dolphin Drive  
Redwood Shores, CA 95065

From 101

- Take the Ralston Ave/Belmont off ramp
- Take the Marine Parkway exit
- On Marine Parkway, go to Twin Dolphin Drive
- Turn right onto Twin Dolphin Drive
- On Twin Dolphin Drive, go to Lagoon Drive, which will be the first stop light
- Turn left onto Lagoon Drive
- The SMCOE building is on the corner of Twin Dolphin Drive and Lagoon Drive
- On Lagoon Drive, turn right into the SMCOE parking lot



### **2018 STEM Conference**

CMSESMC

P.O. Box 434

Millbrae, CA 94030-2906

Attention: Lyn Chan, Treasurer