

## Welcome to the 45 ${ }^{\text {th }}$ Annual Fall Conference!

## The Hyatt Regency Monterey



The event organizers are people just like you from various community college mathematics departments across Northern California. We are always looking for more eager volunteers with new ideas. Please consider getting involved with $\mathrm{CMC}^{3}$ by contacting a board member any time. Enjoy the conference!

The California Mathematics Council Community Colleges Foundation annually provides scholarships to honor our mathematics and science students. We need your financial help. We rely on your generosity and donations to fund the Scholarship Program.

Please consider making a donation to our $\mathrm{CMC}^{3}$ Foundation Scholarship Fund. Contributions are tax-deductible, as provided by law. Our tax ID \# is 94-3227552.

Please donate in-person at the Foundation table!

## CMC ${ }^{3}$ Board and Conference Committee

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| CMC ${ }^{3}$ Presidents |  |  |
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| 2002-2003 | Randy Taylor | Las Positas College |
| 2004-2005 | Rick Hough | Skyline College |
| 2006-2007 | Rob Knight | Evergreen Valley College |
| 2008-2009 | Larry Green | Lake Tahoe Community College |
| 2010-2011 | Barbara Illowsky | De Anza College |
| 2012-2013 | Susanna Gunther | Solano Community College |
| 2014-2015 | Mark Harbison | Sacramento City College |
| 2016-2017 | Joseph Conrad | Solano Community College |

Past CMC ${ }^{3}$ President's Awardees (selected by the $\mathrm{CMC}^{3}$ President)

Barry Wood
Chris Barker
Noelle Eckley
Barbara Illowsky
Zwi Reznik
Sandi Nieto

Santa Rosa Junior College
De Anza College
Lassen College
De Anza College
Fresno City College
Santa Rosa Junior College

# Past CMC ${ }^{3}$ President's Awardees (Continued) 

Randy Taylor
Mark Harbison
Jim Spencer
Robert Knight
Larry Green
Michael Eurgubian
Ken Seydel
Rebecca Fouquette
Jay Lehmann
Leslie Banta

Las Positas College
Sacramento City College
Santa Rosa Junior College
Evergreen Valley College
Lake Tahoe Community College
Santa Rosa Junior College
Skyline College
De Anza College
College of San Mateo
Mendocino College

Past CMC ${ }^{3}$ Distinguished Service Awardees (selected by the CMC $^{3}$ board)

Ray Wuco
Frank Denney
Wade Ellis, Jr.
Brandon Wheeler
Patrick Boyle
Arthur Dull
Hal Andersen
Sister Clarice Sparkman
James Curl
Guy De Primo
Allen Utterback
Barry Wood
Denny Burzynski
Chris Burditt
Wei Jen Harrison
Marilyn McBride
Michael Eurgubian
Lois Yamakoshi
Debra Landre
Dave Johnson
Chris Barker
Rick Hough
Jim Spencer
Randy Taylor
Cynthia Speed
Rob Knight
Barbara Illowsky
Noelle Eckley
Debbie VanSickle

San Joaquin Delta College
Chabot College
West Valley College
Sacramento City College
Santa Rosa Junior College
Diablo Valley College
Santa Rosa Junior College
San Jose City College
Modesto Junior College
City College of San Francisco
Cabrillo College
Santa Rosa Junior College
West Valley College
Napa Valley College
American River College
Skyline College
Santa Rosa Junior College
Los Medanos College
San Joaquin Delta College
Diablo Valley College
De Anza College
Skyline College
Santa Rosa Junior College
Las Positas College
Mendocino College
Evergreen Valley College
De Anza College
Lassen Community College
Sacramento City College

## 2017 - Susanna Gunther - Solano Community College

As with the vast majority of those who have received this award, I had the privilege of serving on the CMC ${ }^{3}$ board for the better part of a decade. Prior to teaching community college full time, Susanna worked in the field of Optometry for ten years and this gave her an unusual perspective during the beginning of her career. Initially Susanna wanted to
 work in both optometry and teaching, both part-time, and so for about 9 years Susanna chose to be an adjunct instructor at DVC, Ohlone College, Sacramento City College, and Las Positas College. After this she started to apply for full time employment. and soon after got the position at Solano College, where she still teaches. In Susanna's words, "I was VERY surprised when I was told that I was getting this award, as it is such an honor and I have so much respect for those who have been awarded before me. Besides, I almost feel a sense of guilt for getting awarded for doing something that I have enjoyed so much! That's not to say there wasn't a lot of work involved, but as any parent or spouse or Community College faculty member will attest to, nothing truly worthwhile is ever easy!" Thank you for your dedicated service, Susanna!

## CONFERENCE PROGRAM - FRIDAY

| 4:30-6:30 pm <br> $5-6: 30 \mathrm{pm}$ | Registration <br> AB 705 Discussion | Regency Foyer <br> Regency IV-VI |
| :--- | :--- | :--- |
| $7: 00-8: 00 \mathrm{pm}$ | Dessert Reception | Regency IV - VI |
| 8:00-9:00 pm | Keynote | Regency IV - VI |



## 9th Annual Pearson Education Game Night

This event is open to everyone. The Pearson Math \& Stats team invites you to an evening of games, hors d'oeuvres, and drinks at the CMC ${ }^{3}$ Monterey Conference! Join our team and our authors for food, conversation, and fun.

# CONFERENCE PROGRAM - SATURDAY 

## 7:20 am

8:15 am - 10:00 am
8:30 am-1:00 pm,
2:00 pm - 5:15 pm

Estimation Walk/Run
Registration
Exhibits open

Meet by the Front Desk
Regency Foyer
Regency Foyer

## First Session: 9:00-10:00 am

## Regency I <br> Vanson Nguyen

College of Alameda
(General Interest) vansonnguyen@peralta.edu

## Classroom Management Practices That Don't Hurt Our Students

"I hate math because my teacher sucks." This is sometimes a quote that students share and can lead to disruption of the classroom. This workshop will present ideas around knowledge sharing and engaging the least motivated students to positively contribute to the classroom, and increase participation without compromising content coverage.

## Regency II

John Thoo

Yuba College
(Issues and Panel)
jthoo@yccd.edu

## Quantitative Reasoning - Global Numeracy, Global Change

Mathematical literacy (ML) is an important part of preparing students to understand global issues and engage the global community. Technology (e.g., spreadsheets) can help us design and/or supplement ML courses that bridge elementary mathematics and more sophisticated analytical tools. Participants will engage and be provided access to such course materials.

## Regency III <br> Felicia Darling <br> Santa Rosa Junior College <br> fdarling@santarosa.edu

## English Learner in the Math Classroom

In this 45-minute, interactive workshop, participants will have the opportunity to experience how cognitively demanding it is to be a second-language learner learning math in the classroom. From this hands-on workshop, participants will gain empathy for their English learner students, and discuss ways that they can refine their strategies for supporting students learning math while simultaneously learning English.

## Regency IV

(Precalculus and Above)

## Trey Cox Chandler-Gilbert Community College trey.cox@cgc.edu <br> Roads? Where We're Going We Don't Need Roads!

Many students have a hard time differentiating (sorry for the pun) between distance, velocity, and acceleration and understanding how they are related to one another. This workshop will demonstrate how instructors can enhance their students understanding of these concepts using a "three-act-task" activity in the context of the classic movie,
Back to the Future!

# First Session: 9:00-10:00 am, continued 

## Heather Schmidt <br> CCC Confer \& 3C Media Solutions <br> hschmidt@palomar.edu

## Get Your Math Classes into the Hands of Your Students!

We will share how using 3C Media Solutions can increase student success in your classroom. Learn how to store, organize and share videos and other file types. Upload videos, import YouTube videos, create custom playlists folders, embed videos into your LMS. Easy-to-use, available $24 / 7$ and FREE to all California Community College faculty and staff.

## Regency VI

## Lori Maloney

Sacramento City College
(Statistics)
malonel@scc.losrios.edu

Re-thinking Statistical Independence in the Introductory Statistics Course
Most teachers of statistics know that the idea of independence can be very confusing to students, and that intuition about conditional probability is not very good. Yet the ideas behind independence are essential to many topics in the Introductory Statistics course. Two-by-two tables can be a good place to start the investigative cycle with students as well as build vocabulary and generate thoughtful discussion around important statistical concepts. Real-world applications related to social justice simultaneously engage students in Statistics and give them a de facto guess as to the direction of the relationship. Careful selection of data sets pertaining to relevant social justice issues can thereby serve as a vehicle to support student understanding and mastery of many heretofore difficult concepts such as independence.

Reminders:

8:30 am - 1:00 pm and 2:00 pm-5:15 pm Exhibits open
Regency Foyer
9:30 am-1:00 pm
Student Posters on Display
Regency Foyer

The American Mathematics Association of Two-Year Colleges (AMATYC) will hold their next annual conference in Orlando, FL on November 15-18, 2018.



## Second Session: 10:30-11:30 am

## Regency I

## Darryl Allen

Solano Community College
(General Interest)

## All the Things You Aren't

So many things math instructors write on the board to make things 'simpler' cause many misunderstandings for the students and lead them to have problems when they transfer. Here are many of the things that are commonly presented to students that later led them astray and cost them points after transfer.

## Regency II

Vik Hovsepian

## Rio Hondo College

## (Issues and Panel)

## Math Is Fun

Participants will experience a variety of dynamic inquiry oriented investigations - promoting students thinking - along with FUN FILLED opportunities in making mathematics teaching coherent and engaging. Come, get involved and win prizes!

## Regency III

## Jay Lehmann

## Teaching a Prestatistics Course: Propelling Non-STEM Students Forward

Many colleges are propelling non-STEM students through math programs by creating a prestatistics course, which can be taken in place of elementary and intermediate algebra. Activities that foster debate, open-ended projects, innovative use of density histograms, and mini-essay assignments about key concepts/misconceptions can greatly enhance students' understanding and eventual success in a statistics course. In fact, at my college, the success rate of students taking the prestatistics-statistics path is $77 \%$ higher than the success rate of students taking the algebra-statistics path.

## (Developmental Ed.)

## College of San Mateo

Regency IV
Ken Rand

## Academic Math Camps Lead to Student Success

This interactive presentation will not only demonstrate how to start a Math Camp but it will also provide and engage the audience with the necessary and innovative tools in the form of games and activities that are needed to create a successful program. Teaching demonstrated at its finest.

## Hartnell College

## Improve results with MyLab Math

MyLab™ Math is the leading online tutorial and assessment tool for teaching and learning mathematics, built around Pearson's best-selling content.

It helps students and instructors improve results; it provides engaging experiences and personalized learning for each student so learning can happen in any environment. Plus, it offers flexible and time-saving course management features to allow instructors to easily manage their classes while remaining in complete control within any type of class format.
Used by more than 39 million students worldwide, MyLab Math delivers consistent, measurable gains in student learning outcomes, retention, and subsequent course success.

## mymathlab.com

## Second Session: 10:30-11:30 am, continued

## Wade Ellis

## Regency V

## West Valley College (Retired)

(Technology)*
wade25@sbcglobal.net

Best Practices in Learning and Teaching Mathematics: Reading to Learn, Writing to Think
The content of mathematics courses, especially developmental mathematics courses, at the community college level can be mastered by most students if we believe they can succeed, set high expectations, and provide them with learning habits of mind and learning tools necessary for them to succeed.
(This Session is out of Strand because it is a replacement for a late cancellation. Thanks Wade!!)

## Regency VI

Karl K. Ting
(Statistics)
karl.ting@missioncollege.edu

Three Challenges from Probability, and I Thought It Was So Obvious
This session looks at "The Problem of Points", a collaboration between two giants of mathematics: Blaise Pascal and Pierre de Fermat, and the growth of probability theory. Monty Hall and Joseph Bertrand's Box Paradox follows to answer, "Why don't our students listen to us when it comes to probability?"


| 11:30-11:45 am | Student Poster Presentations | Regency Foyer |
| :--- | :--- | :--- |
| 11:45 am $-12: 45 \mathrm{pm}$ | Buffet (tickets required) | Regency Main |
| (Mention to one of the servers if you have special dietary needs not met by the buffet.) |  |  |

1:00-1:15 pm
1:15-2:15 pm


## General Session: 1:00-2:15 pm

Poster awards, CMC ${ }^{3}$ awards Regency Main
Keynote
Regency Main

## Brandy Wiegers

Central Washington University
Brandy.Wiegers@cwu.edu
Math Saves the Day
How do we use math to help with preventing, understanding, and assisting with disasters? In this presentation we will examine the BP Oil Spill, Oroville Dam Failure, and Hurricane Harvey using a mathematical lens. Several quantitative tools will be introduced to examine these national events and help our students better contextualize these events. The material presented can be modified to be used in classroom activities for all levels of students and will include problem solving and interactive exploration

## 2:00-5:15 pm <br> Exhibits open <br> Regency Foyer

## Third Session: 2:30-3:30 pm

(General Interest)
George Woodbury

College of the Sequoias
Flipping Your Classroom
georgew@cos.edu

Do you want your students to be more engaged during class? The presenter will share strategies for flipping your classroom that encourage active learning while class is in session. Examples from Algebra and Statistics will be shared, including a discussion of "targeted flipping" based on material that students struggle with.

Regency II

## David Schroerlucke

City College of San Francisco
(Issues and Panels)
dschroerlucke@ccsf.edu

## Who's Afraid of the Big Bad Wolf?

Math anxiety is a pervasive cultural phenomenon that undermines student performance and interest in math, discourages students from pursuing STEM careers, and reduces teaching self-efficacy among math teachers. Recent research at the intersection of psychology and education has revealed important insights into the origins of math anxiety as well as strategies that can help mitigate its effects. This talk will summarize the current state of research and present some evidence-based psychological strategies that can be used to reduce the negative impact of math anxiety on our students.

# Third Session: 2:30-3:30 pm, continued 

Larry Green

Regency III
Lake Tahoe Community College
(Developmental Ed.)
OEI and OER for Math

The Online Education Initiative (OEI) is a California effort to assist faculty who are teaching online. The Open Educational Resources (OER) movement strives to provide an affordable education to all students. This talk will address the latest activities in OEI and OER mathematics including resources for online teaching, open textbooks and free online homework systems.

Regency IV
Jeff Anderson Michael McCusker Make the Eigenvalue Problem Resonate with Our Students

Foothill College
Foothill College
(Precalculus and Above) andersonjeff@fhda.edu mvmcc@pacbell.net


We present a new learning activity that enables students to apply eigenvalue theory to model a useful physical phenomenon. Specifically, we demonstrate how to build a spring-coupled pair of pendula and how students can analyze this system using eigenvalues. This activity enhances student motivation and prepares students to apply linear-algebraic techniques to real-world problems.

## Regency V

## Kendra Lockman

drLarryGreen@gmail.com


# Hiring TWO Full Time Faculty CITY COLLEGE OF SAN FRANCISCO Mathematics Department 

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## * City College of San Francisco

[printing and postage]

* AMATYC
[tote bags]
* Pearson Higher Education
[Friday "Game Night"]
* Our pre-conference presenters:

Larry Green and Virginia "Ginni" May:
AB705 Discussion

* All of our Door Prize and Foundation Donors!


## Thanks to our Exhibitors!

CMC ${ }^{3}$ Foundation
Hawkes Learnin
CSU/UC MDTP
Thinkwell

McGraw Hill
Pearson
Knewton
XYZ Textbooks

## CSU/UC

Mathematics Diagnostic Testing Project
MDTP tests measure readiness for mathematics courses and are approved for use by California Community Colleges

- The Algebra Readiness Test assesses preparation for first year algebra courses.
- The Elementary Algebra Diagnostic Test assesses preparation for second year algebra courses.
- The Intermediate Algebra Diagnostic Test assesses preparation for precalculus and other courses at that level.
- The Precalculus Diagnostic Test assesses preparation for calculus. This test is available in a 40 -item version and a 60 -item version.

MDTP has two online practice tests available to anyone with Internet access. Students can use the online tests to prepare for precalculus and calculus level courses. http://mdtp-wri.ucsd.edu/practice_tests/index.php

MDTP California Community College Coordinator
MaryAnne Anthony
cccmdtp@gmail.com http://mdtp.ucsd.edu


## the ah-ha moment

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# Fourth Session: 4:00-5:00 pm, continued 

## Regency II <br> ADJUNCT PANEL <br> Santa Rosa Junior College <br> jcarlingoldberg@santarosa.edu

Adjunct Instructors are invited to attend a Panel Session to discuss the process of getting hired for a Full Time Tenure Track Position at a California Community College. The Panel will include: Chantal Cimmiyotti of Mendocino College, Courtney Schultz of Santa Rosa Junior College, and a special mystery guest!

Regency III
Coleman Dobson
CSULA
(Developmental Ed)
coleman.dobson@gmail.com

Geometrization of Time:
Emergent Time as Mirror Symmetry
If we can build matter from quantum geometry, could quantum geometry also create time? That is, could we formulate a quantum geometrization of time? Using algebraic geometry and intersection theory, we argue that space and time are pregeometric emergent mirror pairs, emerging from symmetries of spin networks of quantum complexity.

Regency IV
Marcia Crump Alice Stevens Frederick Teti Roderick Thompson
(Precalculus and Above)

Los Medanos College
City College of San Francisco
City College of San Francisco
City College of San Francisco
mildredlouise.crump@gmail.com alice.stevens@mail.ccsf.edu fteti@ccsf.edu
roderick.thompson@mail.ccsf.edu

## Into the Fifth Dimension:

## Einstein, Kaluza-Klein, and Doctor Who

A light-hearted glimpse of Kaluza-Klein Theory through the eyes of classic characters from the BBC science fiction TV series, Doctor Who.Kaluza-Klein Theory was an attempt in the early twentieth century to express the electromagnetic field in the geometry of space-time in a similar manner to the expression of the gravitational field in Einstein's General Theory of Relativity.

5:00-6:00 pm Foundation Drawing
6:00pm - 12:00am Free shuttle downtown
Regency Foyer
Conference Center Entrance

## Mark Your Calendar!



CMC $^{3} 22^{\text {nd }}$ Annual Recreational Mathematics Conference Fri., April 27 to Sat., April 28, 2018

Lake Tahoe Community College

## Salable Solutions for Your Curriciulum Redesign in Mathematics \& Statisicic! <br> Cengage is partnering with educators to develop solutions for the growing and evolving trends of Quantitative Reasoning and Corequisite courses. Learn more about the solutions and how Cengage will support your redesign efforts! <br> cengage.com/math-redesign

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~NOTES~

