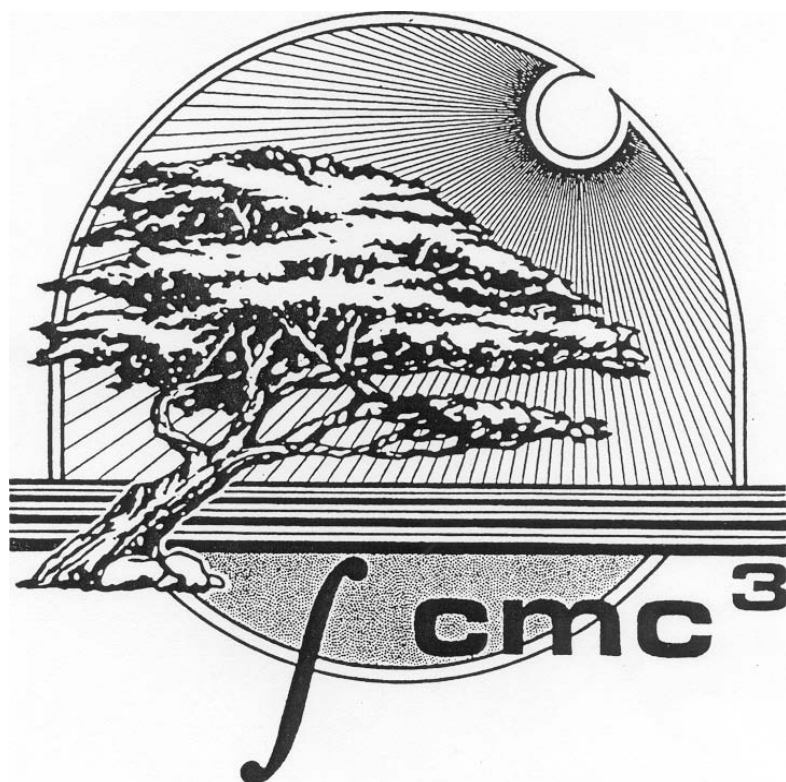


# The California Mathematics Council, Community Colleges

41st Annual Fall Conference



Download the Monterey 2013 conference app:

- 1) On your iPad or "smart phone," download the "Guidebook" app.
- 2) Once you have Guidebook, then search for "CMC3 2013."
- 3) Have fun building your schedule!!

December 13 - 14 , 2013

the Hyatt Regency Monterey Hotel and Spa, Monterey, CA

[www.cmc3.org](http://www.cmc3.org)



Join our Facebook group

		<b>CMC<sup>3</sup> Monterey, 2013</b>			
Special Event:		Primes and Zeros: a Million Dollar Mystery		4:00 - 5:00 pm	
Topic		Ignite, by the Board <i>Five-Minute Presentations by a great variety of speakers on a great variety of topics!</i>		2:30 - 3:30 pm	
Speaker School President		Saturday Keynote 1:00 - 2:15 pm		Removing the Dev. Math Roadblock	
Susanna Gunther, Solano Comm. College		Brian Conrey The American Institute of Mathematics Mark Harbison, Sacramento City College		Dave Sobekli Miami University Hamilton Tracy Jackson, Santa Rosa Junior College	
		9:00 - 10:00 am		10:30 - 11:30 am	
Topic		What Are We Doing? Part Two.		45 Boredom Busters	
Speaker School President		Blaise Pascal and His Mystic Hexagram <b>John Martin</b> Santa Rosa Junior College Fred Tetti, City College of San Francisco		<b>David Ellenbogen</b> The Community College of Vermont Melody Stamp, Cabot College	
Michael Eurgubian Santa Rosa Junior College John Thoo, Yuba College		Content in Context: Teaching Students with Real-World Applications		Math-to-Math Resuscitation: Ideas to Bring Your Class Back to Life	
Visualizing Problem-Solving in Pre-Algebra		<b>Stefan Baratto</b> Clarkes C.C. (Oregon City, OR) Cynthia Stubblebine, Chabot College		<b>Joe Vasta</b> Cuesta College Randy Taylor, Las Positas College	
Speaker School President		Andrew Phelps, De Anza College		<b>Teresa Sutcliffe</b> Los Angeles Valley College Randy Rosenberger, Sacramento City C.	
Topic		The Impact of Common Core and the Community Colleges		Math Jam! Building Community and Improving Math Placement	
Speaker School President		<b>Diana Herrington</b> CA Teacher Advisory Council Terri Hanson, Las Positas College		<b>Marie Bruley</b> Merced College Rina Santos, Las Positas College Bic Ha Dovan, Santa Rosa Junior College	
Classroom Mathematics Experiments for PreCalculus-Level Courses		Whats Up With MOOCs?		Community College Math Faculty Engagement in SLO Assessment	
Speaker School President		<b>John Jacob</b> College of Marin Anna Kaush, Santa Monica College		<b>Charles S. Barnett</b> Las Positas College Kristine Woods, Las Positas College	
Topic		Sticky Precalculus		Neither Div nor Curl nor Both Constitute the Derivative	
Speaker School President		<b>Eric Schulz</b> Walla Walla Community College Rob Knight, Evergreen Valley College		<b>Charles S. Barnett</b> Las Positas College Kristine Woods, Las Positas College	
Case Study: Instructor-Created Instructional Materials		Improving Learning by Understanding the Psychology of Human Memory		Top 10 Technology Resources for the Mathematics Classroom	
Speaker School President		<b>James Sullivan</b> Sierra College Jaqueline Farris, Moroco Junior College		<b>Riki Kucheck</b> Orange Coast College Jenny Freidenreich, Diablo Valley College	
Topic		Simulation and Randomization Techniques in Introductory Statistics		What Do Hyp. Tests Teach Us About the Truth of Hypotheses? Ans: Nothing.	
Speaker School President		<b>Michael Sullivan</b> Joliet Junior College George Woodbury, College of the Sequoias		<b>Kevin Brewer</b> Solano College Jennie Graham, Las Positas College	
Speaker School President		<b>Jeffrey Saikali</b> San Diego Miramar College Tina Levy, Diablo Valley College		no session	
Speaker School President		<b>John Kuchek</b> Orange Coast College Jenny Freidenreich, Diablo Valley College		no session	
Speaker School President		<b>Michael Sullivan</b> Joliet Junior College George Woodbury, College of the Sequoias		no session	

Friday  
Keynote  
7 - 9 pm

Saturday  
Sessions

Spyglass I  
(General Interest)

Spyglass II  
(Developmental Ed.)

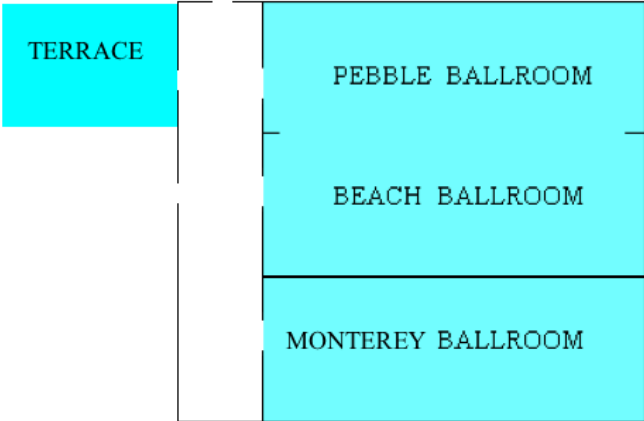
Big Sur II+III  
(Papers and Issues)

Cypress II+III  
(PreCalc. and Above)

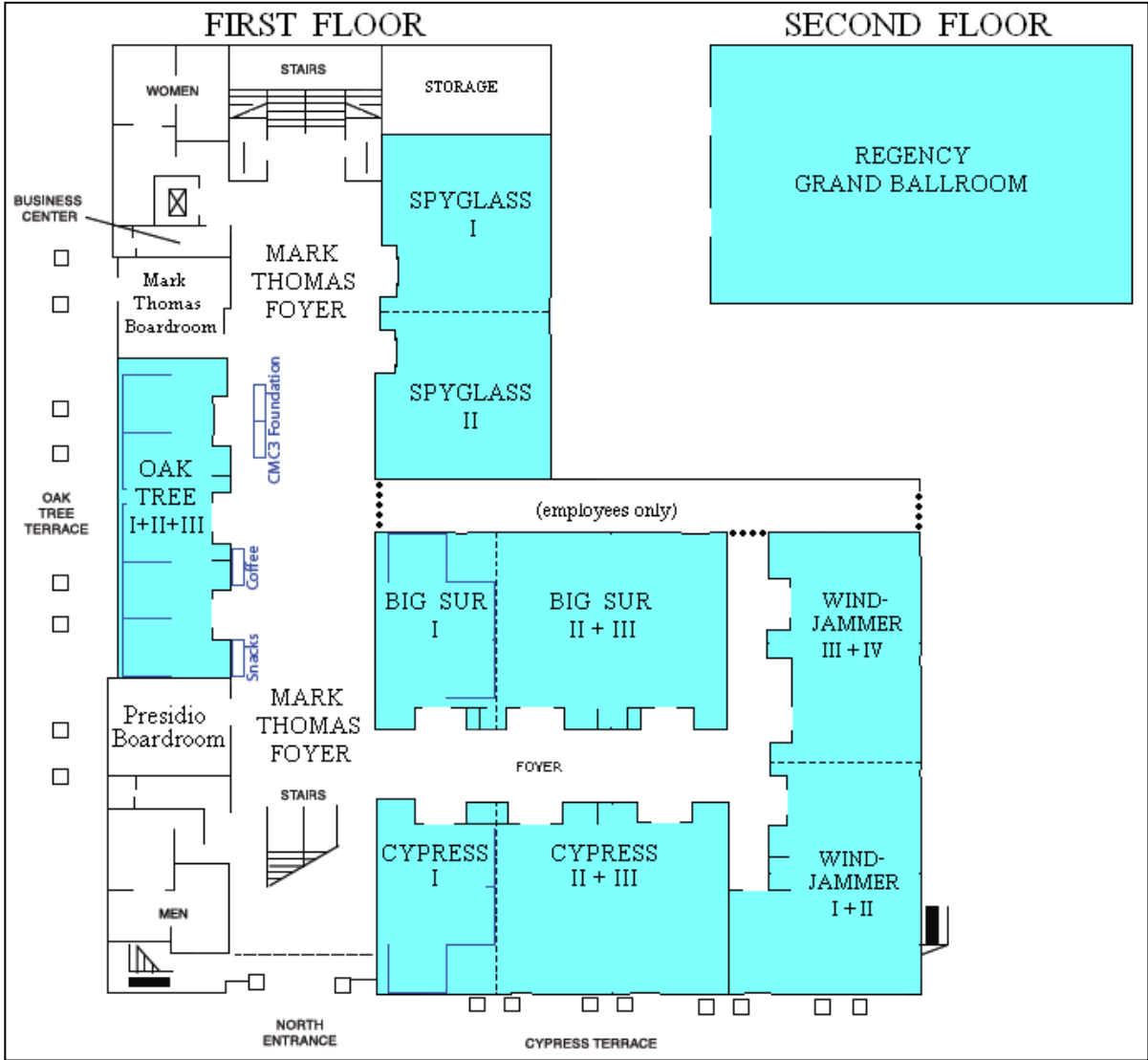
Windjammer I+II  
(Polbourn)

Windjammer III+IV  
(Statistics)

# The Hyatt Regency Monterey Hotel and Spa (Friday events)



# The Hyatt Regency Monterey Hotel and Spa (Saturday events)



**Welcome** to the 41<sup>st</sup> Annual Fall Conference! 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 CMC<sup>3</sup> by contacting a board member any time. Enjoy the conference.

### CMC<sup>3</sup> Board and Conference Committee

President:	Susanna Gunther	Business Liaison:	Randy Rosenberger
Past-President:	Barbara Illowsky	Newsletter Editor:	Jay Lehmann
Pres.-Elect (Conf. Chair):	Mark Harbison	Secretary:	Greg Daubenmire
Treasurer:	Rebecca Fouquette	Awards Coordinator:	Katia Fuchs
Monterey Speaker Chair:	Wade Ellis	Adjunct Advocate:	Tracey Jackson
Hotel Liaison:	Rob Knight	Articulation Breakfast:	Steve Blasberg
A/V co-chair:	Larry Green	CMC Liaison:	Jenny Freidenreich
A/V co-chair:	Steve Blasberg	Foundation President:	Debbie Van Sickle
Membership Chair:	Joe Conrad	Foundation Member:	Bic Ha Dovan
Web Page Manager:	Larry Green	Foundation Member:	Hsiao Wang

### Special THANKS to ...

#### In-kind Donations:

- \* Sacramento City College [ printing & envelope sealing ]
- \* AMATYC [ tote bags ]
- \* the Harbison family [ envelope stuffing ]
- \* Pearson Higher Ed. [ Friday "Game Night" ]

**and all of our Door Prize & Foundation Donors.**

### Thanks to our Exhibitors

CMC <sup>3</sup> Foundation	3 c s n
Thinkwell	Pearson
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WebAssign	xyz Textbooks
W.H. Freeman	Hawkes
Pacific Crest Publishing	Wiley
Rice Univ. Connexions	Kendall Hunt

### CMC<sup>3</sup> Presidents

1973 – 1974	James Curl	Modesto Junior College
1974 – 1977	Raymond Wuco	San Joaquin Delta College
1978 – 1980	Brandon Wheeler	Sacramento City College
1980 – 1981	Hal Andersen	Santa Rosa Junior College
1982 – 1983	Art Dull	Diablo Valley College
1984 – 1985	Pat Boyle	Santa Rosa Junior College
1986 – 1987	Shirley Trembley	Bakersfield College
1988 – 1989	Wade Ellis, Jr.	West Valley College
1990 – 1991	Denny Burzynski	West Valley College
1992 – 1993	Barry Wood	Santa Rosa Junior College
1994 – 1995	Debra Landre	San Joaquin Delta College
1996 – 1997	Chris Burditt	Napa Valley College
1998 – 1999	Michael Eurgubian	Santa Rosa Junior College
2000 – 2001	Lois Yamakoshi	Los Medanos College
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 College
2014 – 2015	Mark Harbison	Sacramento City College

## CMC<sup>3</sup> President's Award Recipients (selected by the CMC<sup>3</sup> President)

2002	Barry Wood	Santa Rosa Junior College
2003	Chris Barker	De Anza College
2004	Noelle Eckley	Lassen College
2005	Barbara Illowsky	De Anza College
	Zwi Reznik	Fresno City College
2006	Sandi Nieto	Santa Rosa Junior College
2007	Randy Taylor	Las Positas College
2008	Mark Harbison	Sacramento City College
2009	Jim Spencer	Santa Rosa Junior College
2010	Robert Knight	Evergreen Valley College
2011	Larry Green	Lake Tahoe Community College
2012	Michael Eurgubian	Santa Rosa Junior College

## CMC<sup>3</sup> Distinguished Service Award Recipients (selected by the CMC<sup>3</sup> board)

1992	Ray Wuco	San Joaquin Delta College
1993	Frank Denney	Chabot College
"	Wade Ellis, Jr.	West Valley College
"	Brandon Wheeler	Sacramento City College
1994	Patrick Boyle	Santa Rosa Junior College
"	Arthur Dull	Diablo Valley College
1995	Hal Andersen	Santa Rosa Junior College
"	Sister Clarice Sparkman	San Jose City College
1996	James Curl	Modesto Junior College
1997	Guy De Primo	City College of San Francisco
1998	Allen Utterback	Cabrillo College
1999	Barry Wood	Santa Rosa Junior College
2000	Denny Burzynski	West Valley College
2001	Chris Burditt	Napa Valley College
2002	Wei Jen Harrison	American River College
2003	Marilyn McBride	Skyline College
2004	Michael Eurgubian	Santa Rosa Junior College
2005	Lois Yamakoshi	Los Medanos College
2006	Debra Landre	San Joaquin Delta College
2007	Dave Johnson	Diablo Valley College
2008	Chris Barker	De Anza College
2009	Rick Hough	Skyline College
2010	Jim Spencer	Santa Rosa Junior College
2011	Randy Taylor	Las Positas College
2012	Cynthia Speed	Mendocino College

## 2013 Rob Knight Evergreen Valley College



Rob Knight is a full-time tenured Mathematics/Statistics professor at Evergreen Valley College. He served as President of CMC<sup>3</sup> from 2006 to 2007 and has served on the Board of CMC<sup>3</sup> for over a decade. Rob received the President's Award from CMC<sup>3</sup> in 2010.

Within the past four years, Rob has been designed, developed and self-funded a free educational software program, MyMathText, and the soon to be released, MyClassText, and created their educational software parent company, MYTEXT SOFTWARE, along with his wife, Marianne. In the past year, it is conservatively estimated that Rob has saved his students over \$100,000 collectively using MyMathText to replace costly textbooks.

Prior to becoming a Mathematics/Statistics professor, Rob was a high school mathematics teacher and received his Master of Science Degree in Mathematics from Adelphi University through a grant from the National Science Foundation. Rob left high school teaching to attend Podiatric Medical School in San Francisco and did his surgical residency in Los Angeles. After 20 years of surgical practice, Rob retired from medicine and reentered teaching on the community college level. Today, Rob teaches at several colleges and universities while continuing to development his educational platform.

The *California Mathematics Council Community Colleges Foundation* annually provides several dozen **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 CMC<sup>3</sup> Foundation Scholarship Fund. Contributions are tax-deductible, as provided by law. Our tax ID # is 94-3227552.

Please donate either in-person at the Foundation table or mail your donation to

Rebecca Fouquette, CMC<sup>3</sup> Treasurer  
De Anza College  
21250 Stevens Creek blvd.  
Cupertino, CA 95014

**CONFERENCE PROGRAM - FRIDAY**

1:30 – 5:00 pm	“Learning to Learn Algebra” event (limited space. rsvp Wade@pcrest.com)	Windjammer I+II
4:30 - 6:30 pm	Registration	Terrace
7:00 - 8:00 pm	Dessert Reception	Pebble Ballroom
8:00 - 9:00 pm	IGNITE by the Board	Pebble Ballroom

**Five-Minute Speedy Presentations**  
**by a great variety of speakers on a great variety of topics.**

Student Math Competitions	Steve Blasberg	West Valley College
Estimation Run	Jay Lehmann	College of San Mateo
Common Core Competencies	Greg Daubenmire	Las Positas College
CMC <sup>3</sup> Foundation	Debbie Van Sickle	Sacramento City College
Normal Numbers & Good Teaching	Joe Conrad	Solano College
Math Clubs & Activities for Students in Math	Larry Green	Lake Tahoe Community College
New Pathways: Statway, Path2Stats, & PreStats	Jenny Freidenreich	Diablo Valley College
Math Organizations	Dean Gooch	Santa Rosa Junior College
Basic Skills	Susanna Gunther	Solano College
Basic Skills Handbook - Chancellor's Office	Barbara Illowsky	De Anza College

The “Ignite” motto: Enlighten us, but make it quick!

9:00 - 11:55 pm 5th annual Pearson Education Game Night Monterey Ballroom

*This event is open to everyone. The Pearson math & stats team invites you to an evening of games, hors d'oeuvres, and drinks at CMC<sup>3</sup>! Join our team and our authors for food, conversation, and fun.*

## CONFERENCE PROGRAM - SATURDAY

7:30 am	Estimation Walk/Run	meet by the Front Desk
8:15 - 10:00 am	Registration	Mark Thomas Foyer
8:30 am - 1:00 pm	Exhibits open	Oak Tree room

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

#### Michael Eurgubian

*Santa Rosa Junior College*

MEurgubian@santarosa.edu

#### Spyglass I

(General Interest)

### What Are We Doing? Part Two

In 2011, through visitations and communication, I engaged in a purely objective study of mathematics departments across the California Community College system, encompassing the mathematics teaching environments of each school, student and instructor demographics, delivery systems, curriculum, equivalencies, campus layout, book selection, academic standards, student preparation and success, on-line classes and homework, student services related to mathematics, and matriculation.

This talk is an update, having now included most of the colleges that I did not visit, and especially noting that a great deal has changed in less than two years.

#### Karl Ting

*Mission College*

Karl.Ting@wvm.edu

#### Spyglass II

(Developmental Ed.)

### The Tai Chi of Basic Mathematics

Basic skills students fall into two categories:

- 1) students who are anxious and thus fear their lack of understanding of math, or
- 2) students who think they should not be in a basic skills class and rush through all their work.

In either case, it leads to their lack of success.

The talk will incorporate techniques of Singapore mathematics to model the four basic operations of arithmetic, leading to the development of problems solving skills, and eventually algebraic abstraction of the modeling of application problems.

#### Diana Herrington

*California Teacher Advisory Council*

DianaHerringtonMath@gmail.com

#### Big Sur II+III

(Panels/Issues)

### The Impact of Common Core and the Community Colleges

The Common Core standards at the high school will bring a different student to the college classroom.

This presentation will be an overview of what the CCSS is and the implications for Community College Math classrooms. Examples will be given for class work, projects and the different assessments that students will be working with.

#### John Jacob

*College of Marin*

John.Jacob@marin.edu

#### Cypress II+III

(PreCalculus and Above)

### Classroom Mathematics Experiments for Precalculus-Level Courses

The speaker will guide the participating(!) audience through these three mathematics experiments that use his specially designed "lab" equipment.

- (1) The gradient of a plane and its relation to the two slope numbers  $m_1$  and  $m_2$ .
- (2) Tools that can be used with a topographic map to determine the location of possible obstructions to straight-line visibility.
- (3) Mapping certain curves and regions in the plane onto the cone.

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

**Eric Schulz**

*Walla Walla Community College*

Eric@wwcc.edu

**Windjammer I+II**

(Potpourri)

### Sticky Precalculus

Do your students have difficulty understanding and remembering mathematical concepts from precalculus? If so, it is time to use interactive visualizations. When students experience an interactive figure, they become engaged in the mathematics and build an understanding of concepts that stick with them for years to come. Well-crafted interactive visualizations break through the barriers imposed by static materials. Ideas, interactive figures, and techniques designed for dynamic teaching and student explorations in precalculus will be shared in the presentation.

**James Sullivan**

*Sierra College*

JSullivan@sierracollege.edu

**Windjammer III+IV**

(Statistics)

### Case Study: Instructor-Created Instructional Materials

This presentation reveals one instructor's approach to developing instructor-created materials for an Elementary Statistics course, including text book, study guides, and video lessons, using widely available software.

The complete progression from initial design elements to the final production process will be highlighted. Using these instructor-created materials in an online course has resulted in an 88% success rate.

Participants will learn what is involved in creating instructional materials should they choose to pursue this approach in their own courses.

Reminders:

8:30 am - 1:00 pm  
and 2:00 - 5:15 pm

**Exhibits open**

Oak Tree room

9:30 am - 1:00 pm

**Student Posters on Display**

Mark Thomas Foyer

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

### John Martin

*Santa Rosa Junior College*

JMartin@santarosa.edu

### Spyglass I

(General Interest)

## Blaise Pascal and His Mystic Hexagram

Inventor, mathematician, physicist and theological writer Blaise Pascal has been called by many, "the greatest might-have-been in the history of mathematics." In this talk, we will examine his life and times and consider one of his most impressive discoveries.

---

### Stefan Baratto

*Clackamas Community College (Oregon City, OR)*

SBaratto@clackamas.edu

### Spyglass II

(Developmental Ed.)

## Content in Context: Teaching Students with Real-World Applications

Motivating students who ask, "When will I ever use this?" can be a challenge. Move beyond using applications to motivate topics; use them to teach content. We explore what to look for in applications, how to find them, and how to use them to teach new topics, maintaining student interest and increasing learning and knowledge retention. Explore problem-solving strategies so students can achieve critical thinking.

Each application is chosen for its relevance to students' lives and the world around them. Participants will take applications back to their own classrooms to answer, "Here, this is where you will use this!"

---

### Martin Flashman

*Humboldt State University*

flashman@humboldt.edu

### Cypress II+III

(PreCalculus and Above)

## Using Mapping Diagrams to Understand Functions

Mapping diagrams (dynagraphs) provide a valuable alternative to graphs for visualizing functions. Core function concepts can be more easily understood using these diagrams. I will introduce the concepts and illustrate examples of composition and inverses for linear, quadratic, and trigonometric functions.

Technological tools will make the presentation more dynamic.

---

### Jeffrey Saikali

*San Diego Miramar College* newtonian\_calculus@yahoo.ca (not ".com")

### Windjammer I+II

(Potpourri)

## Improving Learning by Understanding the Psychology of Human Memory

*Cognition* refers to mental processes that include perception, attention, knowledge, language, problem-solving, reasoning, and decision-making; but the component of cognition that dominates all of the aforementioned is memory. Common understandings in the general public about the workings of human memory may tend to be based on assumption rather than supported by science.

This presentation will provide an examination of current research on memory and a closely related important topic, forgetting. We will look at what cognitive psychologists have discovered about these, how students can improve their capacities to remember and use what they have studied, how they can study more effectively, and how they can get more out of lectures so that they forget less.

For example, one research study demonstrated that students who simply attended course lectures retained only 5% of what they saw/heard, whereas retention was much higher when additional methods were employed.

A PDF of the presentation's contents plus advice (from this author and some highly successful students) to students on better course-preparation, studying, and retention will be available electronically to all attendees.

---

# Pearson Authors at CMC<sup>3</sup>



## “Sticky Precalculus”

Eric Schulz  
Walla Walla Community College  
Saturday, 9:00AM–10:00AM  
Windjammer I+II



## “Simulation and Randomization Techniques in Introductory Statistics”

Michael Sullivan  
Joliet Junior College  
Saturday, 10:30AM–11:30AM  
Windjammer III+IV



## “45 Boredom Busters”

David Ellenbogen  
The Community College of Vermont  
Saturday, 2:30PM–3:30PM  
Spyglass I

## Join Pearson for Game Night!

Friday, December 13, 2013

Monterey Ballroom

9:00PM – 12:00MIDNIGHT

[www.pearsonhighered.com/math](http://www.pearsonhighered.com/math)

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

**Pat McKeague**

*Cuesta College*

Pat@McKeague.com

**Big Sur II+III**

(Panels/Issues)

### What's Up with MOOCs?

Massive Open Online Courses (MOOCs) are a recent addition to the options available in higher education. Where did they come from, what is it like to teach one, do we need to be concerned about them?

These topics, and more, from someone who has created and taught his own MOOCs.

**Michael Sullivan III**

*Joliet Junior College*

SullyStats@gmail.com

**Windjammer III+IV**

(Statistics)

### Simulation and Randomization Techniques in Introductory Statistics

Statistical computing has made it possible to teach inferential topics typically relegated to higher level courses in an introductory course. Simulation methods allow for students to develop conceptual understanding of complicated topics such as a P-value with relative ease.

Bootstrapping and randomization techniques use the power of the computer to construct confidence intervals or approximate P-values. These methods provide a powerful and enlightening introduction to traditional inferential techniques.

This session will focus on both tactile and computer generated simulations to introduce re-sampling methods and randomization techniques.

**Prealgebra**

**Charles P. McKeague**  
**Kate Duffy Pawlik**

Prealgebra:  
The Complete Course

Derived from Prealgebra by Pat McKeague and Kate Duffy Pawlik, our Prealgebra Complete Course is organized as a one-semester, college mathematics course and provides a table of contents that includes an early introduction to negative numbers, equations, and algebra. This arrangement gives students extensive practice with an integration of these concepts during the greater part of the course.

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Take-Five Enrichment: The Fibonacci Sequence

Watch this video on the Fibonacci Sequence, and one of the textbook author's favorite applications: the number of bees in each generation of the family tree of a male honeybee.

Sequence of Odd Numbers  
1, 3, 5, ...

Sequence of Squares  
4, 9, ...

Honey Bee

Discussion Forum R.2

We have started a discussion on the Fibonacci sequence and the DaVinci Code. Click on the link above to participate in the discussion, and to start a discussion for any questions, comments, or observations you have.

## Luncheon: 11:45 am - 12:45 pm

11:45 am - 12:45 pm	Buffet (tickets required) (Note: each person is allowed one meal plate and one dessert plate.)	Regency Grand Ballroom
12:30 - 12:45 pm	Students Discuss their Posters	Mark Thomas Foyer

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

1:00 - 1:15 pm	Poster awards, CMC <sup>3</sup> awards	Regency Grand
1:15 - 2:15 pm	Keynote	Regency Grand



**Brian Conrey** [Conrey@aimath.org](mailto:Conrey@aimath.org)  
American Institute of Mathematics

### - Primes and Zeros: a Million Dollar Mystery -

Just over 150 years ago, Bernhard Riemann proposed a hypothesis that would explain a great regularity in the occurrence of prime numbers. But to this day we have been unable to prove Riemann's Hypothesis. In this talk we will give some of the colorful history and anecdotes that surround this most important unsolved problem in all of mathematics.

---

2:00 - 5:30 pm	Exhibits open	Oak Tree Room
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## Third Session: 2:30 - 3:30 pm

<b>David Ellenbogen</b> <i>The Community College of Vermont</i>	<a href="mailto:PianoMath@gmail.com">PianoMath@gmail.com</a>	<b>Spyglass I</b> (General Interest)
--------------------------------------------------------------------	--------------------------------------------------------------	-----------------------------------------

### 45 Boredom Busters

The average course meets 45 times. Can each class contain something special? This session provides material for courses ranging from basic math through calculus. Attention-grabbers include anecdotes, activities, jokes, puzzles, and cartoons guaranteed to enrich the classroom experience. Attendees will leave with material for immediate classroom use.

---

<b>Joe Vasta</b> <i>Cuesta College</i>	<a href="mailto:JVasta@cuesta.edu">JVasta@cuesta.edu</a>	<b>Spyglass II</b> (Developmental Ed.)
-------------------------------------------	----------------------------------------------------------	-------------------------------------------

### Math-to-Math Resuscitation: Ideas to Bring Your Class Back to Life

What do irrational numbers have to do with the Fibonacci sequence? What do logarithms have to do with a counting problem? What do exponents have to do with ripping paper? What does the Chain Rule have to do with breaking into a house? How can probability show you that being polite helps you win the game? How can bugs be effective calculus teachers? How can you use topology to turn your shirt inside out while handcuffed?  
How can a person give an hour-long talk over so many topics and more?

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

**Marie Bruley**

*Merced College*

Bruley.M@mccd.edu

**Big Sur II+III**

(Panels/Issues)

### Community College Math Faculty Engagement in Student Learning Outcomes (SLO) Assessment

Little is known about California community college math faculty engagement in SLO assessment.

In this presentation, the results of a mixed-methods exploratory study designed to examine the nature of community college math faculty engagement in the student learning outcomes assessment cycle will be discussed.

**Charles S. Barnett**

*Las Positas College*

CJBarnett2@comcast.net

**Cypress II+III**

(PreCalculus and Above)

### Neither Div nor Curl nor Both Constitute the Derivative

The Div and Curl operators are derivative-like but are only aspects of the derivative of a map from 3-space to 3-space. The derivative of such a given map is a linear map from 3-space to 3-space. By employing the Frechet difference quotient at the outset, we can construct that derivative without use of the heavy machinery of advanced analysis. The process, results, and properties parallel those of the one-dimensional case.

**Riki Kuchek**

*Orange Coast College*

rkuchek@yahoo.com

**Windjammer I+II**

(Potpourri)

### Top 10 Technology Resources for the Mathematics Classroom

This session will explore a collection of math-related technology resources including interactive demos, clever videos, textbook websites, APPs, and online homework. You should be able to go back to campus and begin immediately incorporating these materials into your math courses.

**Monica Dabos**

*College of the Canyons*

MonicaDabos@gmail.com

**Windjammer III+IV**

(Statistics)

### “What is R-squared, again? The amount of variation on.... that...”

The definition of R-squared is recited by many students in exams as a mantra that is not understood. When this lack of understanding is added to fixed rules like “Close to ‘1’ = Good model” and “Close to ‘0’ = Bad model”, then students leave statistics classrooms with a set of tools that lack practical application and therefore cannot be utilized effectively in different scenarios.

In this workshop we will start by developing conceptual understanding of the standard deviation, which in turn will help decode the mysteries of the R-squared definition and reveal its importance in decision-making.

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

**Dave Sobecki**

*Miami University Hamilton*

DaveSobecki@gmail.com

**Spyglass I**

(General Interest)

### Removing the Dev Math Roadblock

Answer this question honestly: is your beginning algebra course really pre-pre-pre calculus? The traditional developmental math curriculum was designed to prepare students for precalc/college algebra, but many non-STEM students will never take those classes. Let's talk about developing an alternate pathway for those students.

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The American Mathematics Association of Two-Year Colleges (AMATYC) will hold their next annual conference in Nashville, TN on November 13-16, 2014.

NOTES

**MATHEMATICS:**  
**MUSIC TO MY EARS** **NASHVILLE**  
**2014**

**AMATYC**



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

### Teresa Sutcliffe

Los Angeles Valley College

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### Spyglass II

(Developmental Ed.)

## Flip the Switch!

Many students do not know how to study math. That is why they fail miserably. In the flip-the-switch approach, the students "attend class at home and do homework in class."

With this approach, several light switches turn on for both instructor and students resulting in a more-successful math class.

### Michael Hoffman

Cañada College

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### Big Sur II+III

(Panels/Issues)

## Math Jam! Building Community and Improving Math Placement at Cañada College

While many students from underrepresented groups enter the California Community College system with a high level of interest in STEM fields, the majority of them drop out or change majors even before taking transfer-level courses.

To facilitate the transition of these students into transfer-level STEM courses, we developed an intensive math placement test review program called Math Jam. This free program involves students taking the placement test before and after one or two weeks of intense work on core math skills. An analysis of student academic performance in subsequent semesters show significantly higher success and retention rates among Math Jam participants compared to non-participants. Since the implementation of Math Jam, enrollments in STEM courses have increased significantly, with a higher rate of increase among minority students.

Data will be presented along with information related to developing and maintaining a program like this on other campuses.

### Kevin Brewer

Solano College

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### Windjammer III+IV

(Statistics)

## What Do Hypothesis Tests Teach Us About the Truth of Hypotheses? Answer: Nothing

The goal of the presentation is to shed light upon the notion of statistical inference in the context of hypothesis tests by viewing such tests in their historical context. According to Neyman-Pearson statistics, the theory of statistics which is (supposed to be) the theoretical basis for most current statistics textbooks, one does not "infer" anything at all about the truth or falsity of a hypothesis at the conclusion of a hypothesis test.

Only when the work of Neyman and Pearson is set against the school of Bayesian statistics and also against the work of R. A. Fisher can we understand why and how they arrived at a view which will surely strike many as counter-intuitive. Accordingly, I present a brief overview of Bayesianism, the work of Fisher and finally that of Neyman and Pearson. With these in place, I conclude by taking a fresh look at what most textbook writers say about hypothesis tests.

5:00 - 6:00 pm

Reception with door prizes

Mark Thomas Foyer

## Mark Your Calendar!



CMC<sup>3</sup> 18<sup>th</sup> Annual Recreational Mathematics Conference

Fri., April 25 to Sat., April 26, 2014

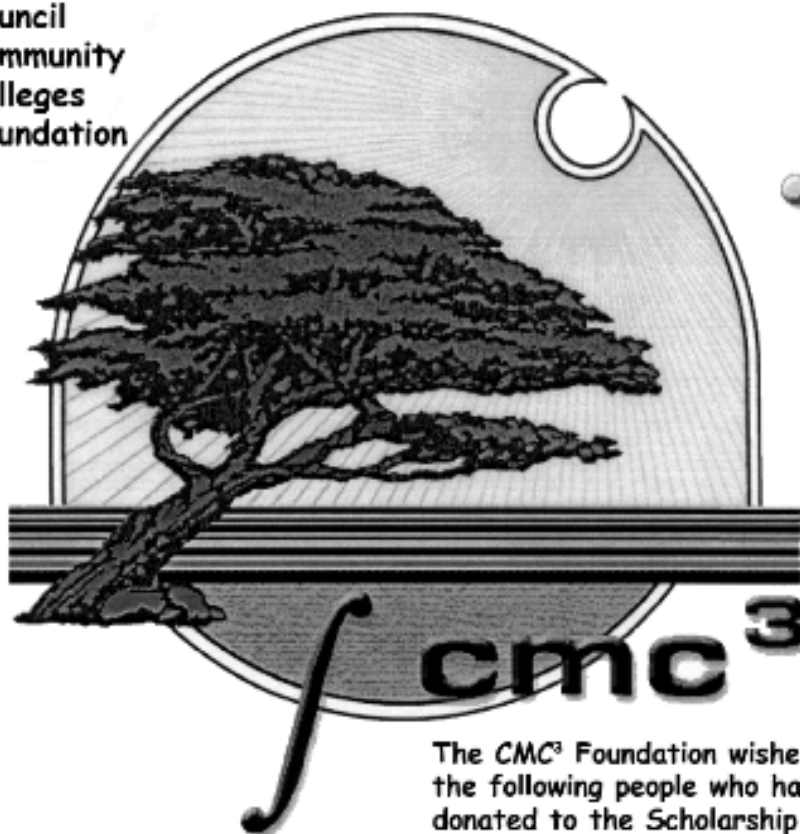
MontBleu Hotel and Casino,

Stateline, NV (South Lake Tahoe, CA)

**Sacramento Valley CC Math Conf. (SVCCM) Mar. 15, 2014**

**Woodland Community College** <http://ms.yccd.edu/sacvalleyccm.aspx>

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- Thank You
- Thank You
- Thank You

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Jane and Wade Ellis  
Allyn Washington

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G. Ling  
Pat McKeague (MathTV)

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