

33RD ANNUAL ORMATYC CONFERENCE

April 25 – 27, 2019



Inn At Spanish Head

RESORT HOTEL

LINCOLN CITY, OREGON



SCHEDULE

Thursday, April 25

<u>Time</u>	<u>Event</u>	<u>Location</u>
5:30 – 7:00 p.m.	Registration	El Toro I
7:00 – 8:00 p.m.	Opening Keynote Speakers	El Toro
	◆ <i>Jessica Bernards and Wendy Fresh, Portland Community College</i>	
8:00 – 11:00 p.m.	Hosted Social	Suite 620
	◆ <i>Cengage Learning, Lumen Learning, McGraw-Hill Education, Pearson Education</i>	

Friday, April 26

7:00 – 8:00 a.m.	Yoga w/ Eric Ziegler	Cortez (1 st floor)
7:00 – 9:00 a.m.	Registration	El Toro 1
7:30 – 8:45 a.m.	Breakfast	Fathoms Restaurant
8:30 – 4:00 p.m.	Exhibits	El Toro I
9:00 – 10:00 a.m.	Session I	See schedule
10:00 – 10:30 a.m.	Refreshment Break	El Toro I
	◆ <i>John Wiley & Sons</i>	
10:30 – 11:30 a.m.	Session II	See schedule
12:00 – 1:00 p.m.	Lunch	El Toro
1:30 – 2:30 p.m.	Session III	See schedule
3:00 – 4:00 p.m.	Session IV	See schedule
4:15 – 6:45 p.m.	2 nd Annual ORMATYC Group Photo and Happy Hour	

Saturday, April 27

7:30 – 8:30 a.m.	Breakfast	El Toro
8:00 – 8:45 a.m.	ORMATYC Business Meeting	El Toro
8:45 – 11:00 a.m.	Exhibits	El Toro I
9:00 – 10:00 a.m.	Session V	See schedule
10:00 – 10:30 a.m.	Refreshment Break	El Toro I
	◆ <i>Texas Instruments</i>	
10:30 – 11:30 a.m.	Session VI	See schedule
Noon – 1:00 p.m.	Lunch	El Toro
12:45 – 1:30 p.m.	Closing Keynote Speaker	El Toro
	◆ <i>Mark Clark, Palomar College</i>	

FEATURED SPEAKERS

Opening Session Keynote: Thursday 7:00 p.m.

Grit and growth mindset: the foundations to success in mathematics

***Jessica Bernards and Wendy Fresh
Portland Community College***

By now many of us have heard these buzz words, but how do they relate specifically to math? This presentation will cover what grit and a growth mindset look like in a math class, the importance of them, and how you can foster these traits in your students.

Closing Session Keynote: Saturday 12:45 p.m.

The P^{ower} of Collaboration

***Mark Clark
Palomar College***

Come explore how collaboration can be used to enhance different areas of our lives and jobs. Mark Clark will share examples of how he has collaborated with various people and help inspire us as math instructors to improve our teaching practice through collaboration. Mark will also challenge us to recognize and show our thanks for the growth we have made through the years collaborating with others.

Session I: Friday 9:00-10:00 a.m.

Catenary Curves and How Zip-lines Are Designed

Doug Gardner, Rogue Community College

Come see how to slide down a cable from high to low and arrive at the end neither too fast nor too slow! You will see an engaging application involving hyperbolic trig, integral calculus, algebraic manipulation, systems of equations, and differential equations.

Room: Balboa (1st floor)

The Power of Open Content: Designing Low Cost, Highly Effective Math Courses

Paul Golisch, Lumen Learning

As math faculty refine the design of math courses, OER offer unprecedented flexibility to shape the learning experience, test its effectiveness, and make improvements to better support students and learning. Open educational resources (OER) in mathematics education include not only open textbooks, but also extensive video content and online homework systems with massive teacher-created question banks and algorithmically-generated problem sets. This session will include demos of 2-3 high-enrollment math courses and the process for easily designing and remixing courses. See how far math OER has come, thanks to a vibrant open education math community. Bring your questions about customizable OER course design, LMS integration, learning outcome alignment, courseware support and other topics.

Room: Cortez (1st floor)

We Have Pathways in Place! Now Let's Make Them Better

Dave Sobecki, Miami University Hamilton

In enlightened states like Oregon, math pathways have been widely implemented, providing new opportunities for students who struggle with traditional algebra. As we congratulate ourselves and our colleagues for this important achievement, let's not forget that constant assessment and improvement should always be the goal of curriculum advances. Let's talk about how we can improve the math literacy program in such areas as placement and advising, student engagement, faculty and administration buy-in, and others.

Room: El Toro III (4th floor)

Applying Growth Mindset Strategies in Your Teaching Practice

Dawn Forrester, Mt Hood Community College

Are you interested in applying a growth mindset approach in your classroom but you're not sure how? Do you already use a growth mindset approach in your classroom? Bring your questions and share your ideas! This session is a follow up to the Keynote address and is intended to spark the discussion of implementing growth mindset strategies in the classroom. The subject will be reviewed, ideas for implementing will be discussed, and resources for getting started will be shared.

Room: Suite 620 (6th floor)

Mastery Grading

Kara Colley, Portland Community College

In this presentation, I will share how I have implemented Mastery Grading in my classes. In short, I divide my class into ten skills. On exams, students only earn credit for correct or nearly correct answers. If students don't answer questions for a particular skill correctly, they may try that skill again on the next exam. I find that the students focus more on mastering a skill, rather than on earning a good grade. Participants are encouraged to bring a Final Exam or a curriculum guide for a particular class.

Room: Suite 621 (6th floor)

Notes

Session Title:

Speaker:

Contact Info:

Handouts:

Session II: Friday 10:30-11:30 a.m.

The Most Marvelous Theorem in Mathematics!

Thomas Dick, Oregon State University

Constructions, constraints, conics, CAS, and a curious calculus connection to cubics all come into play in what has been called "*the most marvelous theorem in mathematics!*" We'll bring it alive using linkages between dynamic geometry, graphing and computer algebra system capabilities of TI-Nspire.

Room: Balboa (1st floor)

AMP: Adjust My Placement!

Kathy Smith and Doug Nelson, Central Oregon Community College

AMP: Adjust My Placement is a 1-credit course graded Pass/No Pass that provides a structured setting for students to refresh and review their math skills. The goal of this course is for students to be successful in a higher-level math course than originally placed. The course also includes a critical thinking component to strengthen problem solving strategies and skills.

Room: Cortez (1st floor)

A New Approach to the Flipped Classroom

Jessica Bernards and Wendy Fresh, Portland Community College

The flipped classroom has been around for years. Update the concept with ideas for guided video notes with question sets for outside of class and in class activities such as station mazes, games, Desmos Activity Builder, and Kahoot. Be engaged yourself and then engage your students for higher success rates.

Room: El Toro III (4th floor)

Mindfulness for Mathematics Leadership

John Mitchell, Clark College

Mathematicians usually receive little or no formal training in transitioning from the classroom to departmental leadership roles. Mindfulness training can help with the complex and varied challenges of leadership including focus/attention, interpersonal skills, and working skillfully with distractions. Many faculty may be aware of mindfulness as a common component of academic or corporate leadership training, but may be unsure of how to get started. This presentation will give attendees a foundation in mindfulness and a road map for developing their own customized leadership development program.

Room: Suite 620 (6th floor)

TiLT Your Math Assignments

Jennifer Ward, Portland Community College

The Transparency in Learning and Teaching Project, or TiLT, is designed to give educators "transparent teaching methods help students understand how and why they are learning course content in particular ways," which creates a more equitable starting point for students to complete their work. In this session, you'll learn about, and be given, the template for creating transparent assignments and projects, whether it's in the classroom or online. You'll also contrast assignments before and after applying the TiLT template and you'll have some time to make changes to your own assignments in small groups. Optional: bring a copy or two of an assignment/project that you'd like to modify using the TiLT template.

Room: Suite 621 (6th floor)

Notes

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Contact Info:

Handouts:

Session III: Friday 1:30-2:30 p.m.

Inclusive Excellence in Two-Year College Mathematics

Ann Sitomer, Oregon State University and Nikki Gavin, Lane Community College

InclusiveExcellence@OSU is a collaboration between Oregon State University, Lane Community College, and Linn-Benton Community College. This project poses questions for faculty teaching introductory STEM courses; for example, how might the curriculum and teaching practices exclude learners from historically underserved communities? In this session, we will work to uncover implicit systemic biases that are present in two-year college mathematics classrooms and start to develop strategies for creating Inclusive Excellence in our classrooms.

Room: Balboa (1st floor)

Activities to Engage your Students in the Classroom!

Mark Clark, Palomar College

Come experience some fun activities that you can use in your classroom. Activities for developmental math, trigonometry, college algebra, and beyond will be shared. Take home some ideas of how you can engage your students with the concepts you want them to master.

Room: Cortez (1st floor)

Co-requisite Course Design and Implementation: Lessons Learned

Robert Weston, Clark College

Co-requisite support courses are meant to increase student success through earlier placement in college-level courses, with concurrent remediation and study skill development. This presentation will discuss the experience of faculty at Clark College designing and implementing these courses. This work is partially funded by a Washington College SPARK Community Grant.

Room: El Toro III (4th floor)

Euler Could Add

Keith Schloeman, Chemeketa Community College

We will explore the early development of ideas related to infinite series paying particular attention to the differences between modern and historical approaches. We will examine some noteworthy historical results, including a breathtaking result from Euler.

Room: Suite 620 (6th floor)

My Sabbatical Journey through Math for Elementary Teachers

Paula Kitchen, Mt Hood Community College

A summary of information that I gathered while visiting Colleges and Universities in Oregon observing Math for Elementary Teachers courses (Math 211-212-213) will be presented. This will be a time to share and discuss ideas for faculty who teach in the Math 211-213 sequence.

Room: Suite 621 (6th floor)

Notes

Session Title:

Speaker:

Contact Info:

Handouts:

Session IV: Friday 3:00-4:00 p.m.

Dance the Function

Celeste Petersen, Clatsop Community College

Are you feeling like you need to move after sitting in workshops? Students can feel the same way in a classroom. Come learn how to teach transformations and polynomial end behavior through movement. Be prepared to get up and dance!

Room: Balboa (1st floor)

Adopting, Adapting, and Authoring Open Content for Math

Amy Hofer, Open Oregon Educational Resources, Pam Morse, Columbia Gorge CC, Jack Green, MHCC, Jacque Coe, Central Oregon CC, Paula Thonney, Lane CC and Rich Beveridge, Clatsop CC

Expensive textbooks are a barrier to student success, and can have a negative impact on retention, time to degree, and completion. Open Educational Resources (OER) are available for free online or in print at low cost, providing day-one access to all students. Further, because they are openly licensed, they can be customized to meet the needs of specific student populations and tailored to specific learning objectives. The 2018-19 OER grant cohort includes math instructors who are redesigning their courses around openly licensed materials. Come to this session to hear about how they did it!

Room: Cortez (1st floor)

Math Café!?! Don't We Already Have a Math Help Desk?

Hollis Duncan, Sheri Rogers, Shannon Harbert and Brie Wood, Linn-Benton Community College

In the 2017-2018 academic year the Linn-Benton Math Department made significant changes to the developmental sequence in an effort to shorten the path and improve student success. The processes and layout of the Learning Center largely stayed the same. In looking at data from the online software we noticed that students were not doing their homework. After several conversations with students we found that they were not comfortable asking "basic" questions while sitting next to someone doing Calculus. In response to this, the math department created the Math Café specifically for developmental students. The café, along with intrusive tutoring and other procedural changes, has shown promise in helping students improve achievement. The math department is also using the Math Café as a means for implementing Math Reboot for struggling, failing and withdrawing students. Come enjoy coffee, pastries and learn all about it.

Room: El Toro III (4th floor)

Hands-on Laboratory Activities for Teaching Differential Equations and Linear Algebra

David Hammond and Tiernan Fogarty, Oregon Institute of Technology

Students are often interested in learning concrete applications of the mathematical content of their courses. We describe a pair of hands-on activities where students can see the use of differential equations and linear algebra for explaining experimental data that they collect themselves. In the first activity students discover a differential equation that models the vertical deflection of a horizontal beam under different boundary conditions. Data is collected to measure the vertical deflection from horizontal against the distance from one end for several boundary condition situations, and a mathematical model is arrived at for the vertical deflection. From this model the general form of the governing ODE can be inferred, and the Young's modulus of the material may be estimated. In the second activity, UV-visible light spectrophotometry is used to illustrate the concept of linear combinations of vectors. The spectra of a set of three colored solutions (red, blue, yellow) are measured; from these the spectra of any mixture of the solutions can be predicted. Students also use the least-squares solution of a linear system to determine the component fractions of an unknown mixture, based on its spectra.

Room: Suite 620 (6th floor)

Circus Math

Payal Roy and Kaustava Roy, Portland Community College

This presentation will share an approach to help students become capable of amazing mathematical (stress on multiplication) feats much like a circus performer. The confidence from this ability should dispel any fear of learning higher topics in math. This approach draws on the ancient wisdom of Vedic Math principles to simplify complex computations and analysis.

Room: Suite 621 (6th floor)

Notes

Session Title:

Speaker:

Contact Info:

Handouts:

Session V: Saturday 9:00-10:00 a.m.

Using Games in the Classroom

Michael Renne, Linn-Benton Community College

Interest in game-based learning is heating up, but few games have been designed for higher education, and fewer still, have been used in the classroom. This presentation will discuss the implementation of a game in a College Algebra course and a game in a Differential Calculus course at the community college level. What did students think, and how do we leverage games for learning going forward?

Room: Balboa (1st floor)

Developing 'Eyes to See Students': Implementing Lesson Study at Three Oregon CCs

Susan Bickerstaff, Community College Research Center, Natalie Denny, PCC, Carrie Kyser and Kelly Mercer, Clackamas CC, Melinda Leong, Education Northwest and Paula Thonney, Lane CC

This presentation will describe the experiences of math faculty who are adapting and piloting Lesson Study for use in community colleges. Lesson Study is a structured, collaborative professional development intervention that gives instructors a framework for actively investigating how to improve learning in their classrooms. Attendees will participate in a brief hands-on activity designed to simulate the experience of participating in Lesson Study. Presenters will describe changes they have made to classroom practice as a result of their involvement in the project and will offer reflections on whether and how Lesson Study might be a viable model for professional collaboration and learning for community college math faculty.

Room: Cortez (1st floor)

Reinventing the Rigorous Foundations of Calculus in a Bridge Course

Mark Yannotta, Clackamas Community College and Brittney Ellis, Portland State University

Math 205: A Bridge to University Mathematics has been running at Clackamas for the past 14 years. This course is designed to support students' transition to proof and abstract mathematics. In Winter 2019, we conducted a term-long teaching experiment with Portland State University to develop a third curricular option for this course. In this session, we will overview the bridge course, discuss some of the research, and then a group of CCC students will share some of their experiences as they reinvented some of the rigorous foundations of calculus.

Room: El Toro III (4th floor)

Implementing a College Statistics Flipped Classroom with EdPuzzle

Bret Rickman, Portland Community College

This engaging, hands-on session will guide participants on methods of utilizing the free online video management system EdPuzzle - applied to the college statistics classroom. Participants will be actively involved in creating a short EdPuzzle video lesson, complete with embedded questions and a brief tutorial on the EdPuzzle video management system. (Participants will need to have a mobile wireless device (laptop, etc.) with connection to the internet to fully participate in this session.)

Room: Suite 620 (6th floor)

Causation, Not Just Correlation

Rosanna Overholser and Terri Torres, Oregon Institute of Technology

Many of the questions people have are causal. For example, does eating chocolate while studying *cause* higher grades? Does using a non-standard font on a resume *cause* fewer job interview requests? One way to answer such questions is with a randomized experiment. In this talk we will describe the 'do-calculus' method, a recently developed formal statistical method of determining when causal questions can be answered in settings where randomized experiments are not possible. Judea Pearl's method of 'do-calculus' will be introduced and explained. A second presentation, "Do Calculus! A tutorial in causal inference", will lead participants through several examples.

Room: Suite 621 (6th floor)

Notes

Session Title:

Speaker:

Contact Info:

Handouts:

Session VI: Saturday 10:30-11:30 a.m.

The Importance of Teaching Why

Rita Wanner Luetkenhaus, Portland Community College and The University of Portland

How I teach my students: why is $x^0=1$? why is $x/0$ undefined? why you can't "cancel" everything in a rational expression? why the solution to $x^2=4$ is positive or negative 2 but the square root of 4 is not positive or negative two?

Room: Balboa (1st floor)

Acceleration, Intervention, & the Academic Mindset

Jackie Moncure, Hawkes Learning

With the spotlight on developmental education, fostering the academic mindset and accelerating the learning of developmental-level students is now even more important. Discover new & low-cost strategies to engage students through mastery-based learning, an emphasis on study skills, interactive Guided Notebooks, and flexible online tools. Learn how to use data on class and individual student performance, most commonly missed questions, and time-on-task activity to identify intervention points for at-risk students. With 40 years of experience teaching and assessing student learning, Hawkes can help you find cost-effective materials to achieve your SLO goals. Enter to win a \$25 Amazon gift card!

Room: Cortez (1st floor)

The ABC Pedagogy for Teaching Mathematics

Naveen Somasunderam, Oregon State University

We shall describe an active learning strategy for teaching mathematics based on the ABC pedagogy of Dr. David Pengelley. After presenting the basic pedagogy and mechanics of implementation, we shall discuss the issues involved, solutions, and state the clear advantages of the method. This pedagogy is also effective for classes with students for whom English is a second language.

Room: El Toro III (4th floor)

Digital Technology - 4th Dimension in Education

Larissa Shatalova, Lane Community College

Educators around the world are always seeking new initiatives for teaching and digital technology has just opened new horizons to explore. Digital learning removes limits and gives educators the freedom to provide education anytime and anywhere. Demand for nontraditional classes is growing as well as a question how to provide the quality equivalent or better compared to classical presentations? Educators have responded to this challenge in various ways. This presentation proposes one of them - the Lucid Method.

Room: Suite 620 (6th floor)

Do Calculus! A Tutorial in Causal Inference

Peter Overholser and Kenneth Davis, Oregon Institute of Technology

In this session, we will show how to apply Judea Pearl's method of do-calculus to answer causal questions. Several classroom examples will be given. Attendees who can bring a laptop to access the internet would be helpful, but not required. Please note that we will assume attendees saw the earlier presentation "Causation, not just correlation."

Room: Suite 621 (6th floor)

Notes

Session Title:

Speaker:

Contact Info:

Handouts:

EXHIBITORS

Sponsors of the Thursday Evening Social

Cengage Learning

Aaron Zalman
Eric Ziegler
Mark Clark

Lumen Learning

Sara Swangard
Rachel Zaccaro
Paul Golisch

McGraw-Hill Education

Clayton Clone
Michelle Cook
Amelia Keeney
Brittney Merriman

Pearson Education

Kris Whitney
Jennifer Estades

Sponsors of the Morning Refreshment Breaks

John Wiley & Sons

Sheila Ellis

Texas Instruments

Brian Dunicliffe

Contributors

Hawkes Learning

Jennifer Boyd
Jackie Moncure

XYZ Textbooks

Larry Armstrong
Rich Jones

Brian Angell Art

Brian Angell

AMATYC

Sarah Pauley

THANK YOU TO OUR SPONSORS AND CONTRIBUTORS!

ORMATYC

The Oregon Mathematical Association of Two Year Colleges (ORMATYC) is a non-profit 501c(3) educational association. ORMATYC has several purposes:

- To encourage the development of effective mathematical programs.
- To afford a state forum for exchange of ideas.
- To further develop and improve the mathematics education and the mathematics-related experience of students in two-year colleges.
- To promote the professional welfare and development of its members.
- To afford a forum for input at the state level concerning mathematics education.

ORMATYC Executive Board

President	Dave Favreault, Mt Hood CC
President-Elect	Liz Hylton, Central Oregon CC
Secretary and Exhibitor Liaison	Frank Goulard, Portland CC
Treasurer	Lisa Folberg, Portland CC
Technology	Sean Rule, Central Oregon CC

ORMATYC Conference Planning Team

Dave Favreault, Jessica Giglio, Jennifer Ward
Frank Goulard, Lisa Folberg, Sean Rule, Liz Hylton

Conferences

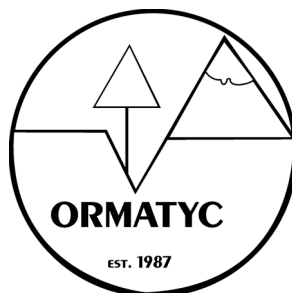
Year(s)	Location
1987	Eugene, OR
1988-1995	Agate Beach Hotel, Newport, OR
1996	Skamania Lodge; Stevenson, WA
1997	Salishan Lodge; Gleneden Beach, OR
1998-2000	Inn at Spanish Head; Lincoln City, OR
2001	Skamania Lodge; Stevenson, WA
2002-2005	Inn at Spanish Head; Lincoln City, OR
2006	Skamania Lodge; Stevenson, WA
2007-2010	Inn at Spanish Head; Lincoln City, OR
2011	Skamania Lodge; Stevenson, WA
2012-2015	Inn at Spanish Head; Lincoln City, OR
2016	Salishan Resort; Gleneden Beach, OR
2017-2019	Inn at Spanish Head; Lincoln City, OR

Historians

Liz Coleman, Central Oregon CC
Becky Plassmann, Central Oregon CC
Donna J. (Raymond) Casey, Central Oregon CC

Presidents

Year(s)	President
1987-1988	Jim Streeter
1988-1989	Roger Judd
1989-1990	Mary Ellen White
1990-1991	Dorothy Beaufait
1991-1992	Dick Clark
1992-1993	Dick Holliday
1993-1994	Gary Grimes
1994-1995	Wally Waldman
1995-1996	Tom Reimer
1996-1997	Don Hutchison
1997-1998	Frank Goulard
1998-1999	Lynn Trimpe
1999	Marvin McCready
1999-2001	Doug Nelson
2001-2002	Dennis Kimzey
2002-2003	Renae Weber
2003-2005	Kurt Lewandowski
2005-2007	Ronda Kingstad
2007-2009	Pat Rhodes
2009-2011	Jerry Kissick
2011-2013	Charlie Naffziger
2013-2015	Jerry Kissick
2015-2017	Stefan Baratto
2017-2019	Dave Favreault



2019 ORMATYC CONFERENCE PROGRAM

Thursday, April 25

	El Toro (4th floor)	Suite 620
5:30-7:00 p.m.	Registration	
7:00-8:00 p.m.	Opening Keynote <u>Grit and growth mindset: the foundations to success in mathematics</u> Jessica Bernards and Wendy Fresh, Portland Community College	
8:00-11:00 p.m.	Hosted Social Cengage Learning Lumen Learning McGraw-Hill Education Pearson Education	

Friday, April 26

7:30-8:45 a.m. 7:00-9:00 a.m.	Breakfast Buffet-Fathoms Restaurant (10 th floor) Registration-El Toro				
	Balboa (1st floor)	Cortez (1st floor)	El Toro III (4th floor)	Suite 620	Suite 621
7:00-8:00 a.m.		Yoga w/ Eric Z!			
9:00-10:00 a.m.	Catenary curves and how zip-lines are designed Doug Gardner Rogue	The Power of Open Content: Designing Low Cost, Highly Effective Math Courses Paul Golisch Lumen Learning	We Have Pathways in Place! Now Let's Make Them Better Dave Sobecki Miami University Hamilton	Applying growth mindset strategies in your teaching practice Dawn Forrester MHCC	Mastery Grading Kara Colley PCC
10:00-10:30 a.m.	Refreshment Break: Hosted by John Wiley & Sons				
10:30-11:30 a.m.	The most marvelous theorem in mathematics! Thomas Dick OSU	AMP: Adjust My Placement! Kathy Smith and Doug Nelson COCC	A New Approach to the Flipped Classroom Jessica Bernards and Wendy Fresh PCC	Mindfulness for Mathematics Leadership John Mitchell Clark College	TiLT Your Math Assignments Jennifer Ward PCC
Noon-1:00 p.m.	Lunch buffet-El Toro				
1:30-2:30 p.m.	Inclusive Excellence in Two-Year College Mathematics Ann Sitomer, OSU and Nikki Gavin, LCC	Activities to engage your students in the classroom! Mark Clark Palomar College	Co-req Course Design and Implementation: Lessons Learned Robert Weston Clark College	Euler Could Add Keith Schloeman Chemeketa	My Sabbatical Journey through Math for Elementary Teachers Paula Kitchen MHCC
2:30-3:00 p.m.	Break				
3:00-4:00 p.m.	Dance the Function Celeste Petersen Clatsop	Adopting, Adapting, and Authoring Open Content for Math Amy Hofer, Open Oregon, Pam Morse, Columbia Gorge, Jack Green, MHCC, Jacquie Coe, COCC, Paula Thonney, LCC and Rich Beveridge, Clatsop	Math Café?!? Don't we already have a Math help desk? Hollis Duncan, Sheri Rogers, Shannon Harbert and Brie Wood LBCC	Hands-on laboratory activities for teaching differential equations and linear algebra David Hammond and Tiernan Fogarty OIT	Circus Math Payal and Kaustava Roy PCC
4:15-6:45 p.m.	2nd Annual ORMATYC group photo and Happy Hour! Snacks sponsored by ORMATYC				

Saturday, April 27

7:30-8:45 a.m.	Breakfast Buffet ORMATYC Business Meeting at 8:00 a.m.				
	Balboa (1st floor)	Cortez (1st floor)	El Toro III (4th floor)	Suite 620	Suite 621
9:00-10:00 a.m.	<i>Using Games in the Classroom</i> Michael Renne LBCC	<i>Developing 'Eyes to See Students': Implementing Lesson Study at Three Oregon CCs</i> Susan Bickerstaff, CCRC Natalie Denny, PCC Carrie Kyser and Kelly Mercer, Clackamas Melinda Leong, Education Northwest Paula Thonney, LCC	<i>Reinventing the Rigorous Foundations of Calculus in a Bridge Course</i> Mark Yannotta, Clackamas CC Brittney Ellis PSU	<i>Implementing a College Statistics Flipped Classroom with EdPuzzle</i> Bret Rickman PCC	<i>Causation, not just correlation</i> Rosanna Overholser and Terri Torres OIT
10:00-10:30 a.m.	<i>Refreshment Break: Hosted by Texas Instruments</i>				
10:30-11:30 a.m.	<i>The Importance of Teaching Why</i> Rita Wanner Luetkenhaus PCC and U of Portland	<i>Acceleration, Intervention, & the Academic Mindset</i> Jackie Moncure Hawkes Learning	<i>The ABC pedagogy for teaching mathematics</i> Naveen Somasunderam OSU	<i>Digital Technology - 4th Dimension in Education</i> Larissa Shatalova LCC	<i>Do Calculus! A Tutorial in Causal Inference</i> Peter Overholser and Kenneth Davis OIT
Noon-1:00 p.m.	Lunch Buffet				
12:45-1:30 p.m.	Closing Keynote <i>The P^{ower} of Collaboration</i> Mark Clark, Palomar College				



See you next year at ORMATYC 2020!

