

21st ORMATYC Conference
20th Anniversary (1987-2007) Celebration
April 19-21, 2007



Oregon Mathematical Association of Two-Year Colleges

**Inn at Spanish Head Resort Hotel
Lincoln City, Oregon**

Program Summary

Thursday, April 19

- 6:00 - 7:15 PM Registration – El Toro I (4th floor)
- 7:30 - 8:30 PM Opening Session: El Toro (4th floor)
Humor in the Classroom—An Effective Teaching Tool
John Coburn, Author
- 8:30 - 11:00 PM Hosted Social - Suite 620 (6th floor)

Peter Harris, Addison Wesley/Benjamin-Cummings
Maureen Rachford, Prentice Hall
Brittney Bent, Thomson Learning

Friday, April 20

- 7:30 - 8:30 AM Breakfast – Fathoms Restaurant (10th floor)
- 7:30 - 12:00 PM Registration – El Toro I (4th floor)
- 8:30 - 4:00 PM Exhibitors – El Toro I (4th floor)
- 9:00 - 4:00 PM Sessions
- 11:45 – 1:30 PM Lunch - El Toro (4th floor)
- 4:00 - 6:30 PM Hosted Social - Suite 620 (6th floor)
Kari Smith, Houghton Mifflin
John Osgood, McGraw-Hill

Saturday, April 21

- 7:30 - 9:00 AM Breakfast - El Toro (4th floor)
- 8:00 - 9:00 AM ORMATYC General Membership Meeting - El Toro
- 9:00 - 11:30 AM Exhibitors – El Toro I (4th floor)
- 9:30 - 12:00 PM Sessions
- 12:00 - 1:30 PM Lunch Buffet - El Toro (4th floor)
- 12:30 - 1:30 PM Closing Session: El Toro (4th Floor)
Modeling in Today's Weather
Rod Hill, Meteorologist, KATU-TV CH 2

2007 Conference Notes:

Balboa and Cortez Rooms, Beach Access – 1st floor
Outdoor Heated Pool, Spa, Workout Room, Rec Room – 1st floor
El Toro I, II, III Rooms – 4th floor
Conference Registration and Exhibitors in El Toro I & II
Hosted Socials and Sessions in Suite #620 – 6th floor
Vehicle Access, Room Reservations Desk and Lobby – 9th floor
Inn at Spanish Head Dining Room: *Fathoms Restaurant* – 10th floor

****Your name tag is your admission ticket to all meals****

Welcome!

On behalf of your **ORMATYC** board and all other volunteers, we hope you enjoy your conference stay. Visit the various exhibitors, discussion groups and sessions, as well as the beautiful Oregon coast.

ORMATYC is a non-profit, educational association. Its purposes are:

- *to encourage the development of effective mathematics 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 Organization Executive Board

President: Ronda Kingstad, Portland Community College

President-Elect: Pat Rhodes, Treasure Valley Community College

Secretary: Frank Goulard, Portland Community College

Treasurer: Lisa Folberg, Portland Community College

Technology: Gary Parker, Blue Mountain Community College

Conference Organization

Registration: Lisa Folberg, Portland Community College

Program: Ronda Kingstad, Portland Community College

Technology: Gary Parker, Blue Mountain Community College

Exhibitors Liaison: Frank Goulard, Portland Community College

Special Assignments

Historians: Virginia Somes, Portland Community College
Garrett Gregor, Clark College

ORMATYC Presidents

Jim Streeter 1987-88	Frank Goulard 1997-98
Roger Judd 1988-89	Lynn Trimpe 1998-99
Mary Ellen White 1989-90	Marveen McCready 1999
Dorothy Beaufait 1990-91	Doug Nelson 1999-01
Dick Clark 1991-92	Dennis Kimzey 2001-02
Dick Holliday 1992-93	Renaë Weber 2002-03
Gary Grimes 1993-94	Kurt Lewandowski 2003-05
Wally Waldman 1994-95	Ronda Kingstad 2005-07
Tom Reimer 1995-96	Pat Rhodes 2007-09
Don Hutchison 1996-97	

Conference Program

Thursday, April 19

6:00-7:15 PM - Registration - El Toro I (4th floor)

Thursday 7:30-8:30 PM El Toro (4th floor)

Opening Session: ***Humor in the Classroom—An Effective Teaching Tool***

John Coburn, Professor and Author, St. Louis Community College

Over the years, each of us has likely acquired a collection of student bloopers, favorite quips and quotes, humorous cartoons related to the teaching and learning of mathematics, ingenious devices used to make a mathematical point, and those uproariously funny gems that need to be treasured and shared. This presentation is designed to transform a very traditional attitude towards humor in the classroom into one that recognizes humor can set students at ease, equalize status relationships, find unexpected connections and insight, increase retention, encourage divergent thinking and increase group rapport. An instructive and enjoyable time is in store for all who attend.

John Coburn is a professor of mathematics at the Florissant Valley campus of St. Louis Community College, where he has taught for the last 18 years. He is the recipient of numerous teaching awards, most recently being selected as the 2004 Post-Secondary Teacher of the Year by the Mathematics Educators of Greater St. Louis (MEGSL).

8:30-11:00 PM - Hosted Social - Suite 620 (6th floor)

Co-hosted by: **Peter Harris**, Addison Wesley/Benjamin-Cummings
Maureen Rachford, Prentice Hall
Brittney Bent, Thomson Learning

Friday, April 20

7:30-8:30 AM - Breakfast Buffet - Fathom Restaurant (10th floor)

7:30-12:00 PM - Registration - El Toro I (4th floor)

Friday **9:00-10:00 AM** **Balboa (1st floor)**

What Newton Knew—a Visual and Graphical “proof” of the Fundamental Theorem of Calculus

James Ballard, Oregon Institute of Technology

A talk on Newton’s approach to the development of integration. Newton visualized the connection between the antiderivative and area under the curve which leads to the fundamental theorem of calculus. The presenter uses this approach to introduce integration in second term calculus. Intended for those interested in Math history or Calculus.

Presider: **Pat Rhodes**, Treasure Valley CC

Friday **9:00-10:00 AM** **Cortez (1st floor)**

Enhance Your Lecture Class with Online Tools, from the Simple to the Complex

Ken Anderson and Lorna TenEyck, Chemeketa CC

The presentation includes a smorgasbord of tools and techniques that have worked for the presenters and may work for you, starting with relatively quick and easy enhancements through more complex bells and whistles. Some of the topics covered will be Web Quests, Discussion Tools, Breeze Live, Web Pages, Camtasia and Breeze Productions, and Publisher software. Time will be set aside for questions and for attendees to share how they have enhanced their teaching using online tools and techniques.

Presider: **Chris Nord**, Chemeketa CC

Friday **9:00-10:00 AM** **El Toro III (4th floor)**

Fun with Functions

Ron Larson, Penn State University

This talk includes worksheets in which the graphs of functions are used to create pictures, including cartoon characters. The worksheets vary in difficulty—from Elementary Algebra through Precalculus.

Presider: **Bill Jennings**, Klamath CC

Friday **9:00-10:00 AM** **Suite 620 (6th floor)**

Meeting Tomorrow’s Needs: The Future of Two-Year College Education in Oregon

Stefan Baratto, Clackamas CC

Projections show that the number of community college students in Oregon may double over the next three decades. Oregon needs to address this issue soon in order to be prepared for the coming boom. Participants will discuss possible solutions and changes in State and Institutional operations needed to move forward.

Presider: **Ann Sitomer**, Portland CC

10:00-10:30 AM - Break-Coffee Service - El Toro I

Hosted by **Alicia Brady, W.H. Freeman**

Friday	10:30-11:30 AM	Balboa (1st floor)
---------------	-----------------------	--------------------------------------

A Unified Approach to Exponentials, Radicals, and Logarithms: The Ruling Triumvirate

Jeffrey Hayen, Southwestern Oregon CC

Students of Intermediate Algebra and Precalculus have a common tendency to struggle with the concepts and principles associated with radicals and logarithms. In an effort to further demystify these mathematical objects, this presentation aims to motivate their existence and properties, as well as elucidate their interrelatedness. As a bonus, some remarkable results for exponential, radical, and logarithmic expressions will be presented, and some novel proofs will be provided.

Presider: **Matthew Funk**, Portland CC

Friday	10:30-11:30 AM	Cortez (1st floor)
---------------	-----------------------	--------------------------------------

PERS and Retirement Overview

Frank Goulard, Portland CC

An overview of Oregon's PERS system, including its changes and retirement benefit calculations processes, will be presented for Tier 1, Tier 2, OPSRP, and IAP account members. Social Security information will also be presented. Retirement considerations and budgeting will also be provided to assist in personalizing retirement planning for each individual.

Presider: **Doug Nelson**, Central Oregon CC

Friday	10:30-11:30 AM	El Toro III (4th floor)
---------------	-----------------------	---

Am I Right? Checking My Algebra

Michael McAfee and Cathy Curtis, Mt. Hood CC

Presenters will share some philosophy, skills, and strategies to empower students to take responsibility for their own mathematics.

Presider: **Angela Martinek**, Linn-Benton CC

Friday	10:30-11:30 AM	Suite 620 (6th floor)
---------------	-----------------------	---

Mentoring New Full-time and Part-Time Faculty: A Model Program

Roger Maurer, Bethany Pratt, and Nancy Clough, Linn Benton CC

Four years ago, the math faculty at LBCC decided the existing informal mentoring process was not effective. As a result, a formal Mentoring Program was created for new full-time and part-time faculty to ease the transition into both the department and the college. In this session, the presenters will discuss components of a successful mentoring program, share materials and tips for establishing such a program, and offer insights and experiences from the perspective of both the mentor and the mentees.

Presider: **Sharon Rodecap**, Linn-Benton CC

11:45 AM - 1:30 PM - Lunch Buffet - El Toro
--

Friday	1:30-2:30 PM	Balboa (1st floor)
---------------	---------------------	--------------------------------------

Series Expansion of a Function—Why Would You Ever Do That?

Tiernan Fogarty, Oregon Institute of Technology

Demonstration of a physical example where series expansion of a function is useful. Intended for students who have completed integral calculus or anyone else who has an interest in the topic.

Presider: **Jim Ballard**, Oregon Institute of Technology

Friday	1:30-2:30 PM	Cortez (1st floor)
---------------	---------------------	--------------------------------------

Using Protocols and Open-Ended Tasks to Promote Student Mathematical Discourse

Lyn Riverstone, Oregon State University and Maria Fung, Western Oregon University

Introduction to pedagogical techniques inspired by OMLI (such as protocols, group roles and norms, and discussion facilitation), as well as sample group tasks that will promote student mathematical discourse.

This talk is intended for instructors of developmental math courses or anyone interested in increasing the level of discourse among their students.

Presider: **Judy DeSzoek**, Linn-Benton CC

Friday	1:30-2:30 PM	El Toro III (4th floor)
---------------	---------------------	---

Statistics—An Exploratory Approach to Understanding Standard Deviation

Diane Whitfield, Portland CC

The latest version of the ClassPad has a Statistics Wizard that makes Inferential Statistics easier to visualize. During this hands-on workshop, we will work in groups on an activity designed to help students understand standard deviation and sample size.

Presider: **Michael McAfee**, Mount Hood CC

Friday	1:30-2:30 PM	Suite 620 (6th floor)
---------------	---------------------	---

Does That Always Work?

Charlie Naffziger, Central Oregon CC

The presenter will show examples of student mistakes that are mostly terrible abuses of algebra. The presenter will focus on two such mistakes that are simply absurd. The catch is that one of them always works and the other works “often”.

Presider: **H. David Reynolds**, Treasure Valley CC

2:30-3:00 PM - Break - El Toro I (4th floor)

Saturday, April 21

7:30-9:00 - Breakfast Buffet - El Toro (4th floor)

Hosted by Paul Riopel, Texas Instruments

8:00-9:00 - ORMATYC Annual Business Meeting - El Toro (4th floor)

Saturday **9:30-10:30 AM** **Balboa (1st floor)**

An Easy Solution to the General Cubic

Geza Laszlo, Tillamook Bay CC

The presenter will first show the Babylonian method to solve quadratic equations. The audience members will develop a method to solve cubic equations in a similar way, with guidance given by the presenter. This method will be tested on examples. Basic operations on complex numbers will be used.

Presider: **Cathy Lovingier**, Linn-Benton

Saturday **9:30-10:30 AM** **Cortez (1st floor)**

The Art of Math

Angela Stabley and Kim Una, Portland CC

The integration of topics such as: modular arithmetic, algebraic equations, and geometry with Art to create art spiral designs, symmetric and non-symmetric quilt designs. Artistic creativity and color design/color theory per ratio of complementary pairs are used to create works of art in the college classroom.

Presider: **Brenda Herman**, Clackamas CC

Saturday **9:30-10:30 AM** **El Toro III (4th floor)**

Online Competency Based Math Placement Exams

Ron Wallace, Blue Mountain CC

Over the past year, with the help of Title III grant funds, the math department at BMCC has developed a set of online placement tests that focuses on students proving several competencies for each course. These tests can be used for placement as well as pretests and exit exams for MTH 20/60/65/95. This session will discuss the philosophy behind the design of the tests, how the system works, and how it could be modified for any course at any school.

Presider: **Jerry Kissick**, Portland CC

Saturday **9:30-10:30 AM** **Suite 620 (6th floor)**

Using Classroom Contexts to Develop and Assess Mathematical Knowledge of Teachers

Scott Peterson, Oregon State University

A brief overview of how practice based problems are used in the Oregon Math Leaders Institute to help inservice K-12 teachers develop their mathematical knowledge. Several problems will be presented that can be used as a springboard into a larger mathematical topic. Examples of assessment of mathematics content knowledge for teaching will be discussed.

Presider: **Mariah Beck**, Umpqua CC

10:30-11:00 AM - Break-Coffee Service - El Toro I

Hosted by Diane Whitfield, Casio

Saturday **11:00-12:00 PM** **Balboa (1st floor)**

The Four-Fold Approach to Developmental Algebra: Taking the Visual Approach Beyond Graphing

Alice Kaseberg, Lane CC

Retain visual learners who don't get "symbolic algebra." Start with a hands-on area model for adding like terms, factoring, and completing the square. Mix well with concept maps, a visual tool for introducing and organizing information as well as assessing student progress. Both tools are now on the Internet.

Presider: **Pat Rhodes**, Treasure Valley CC

Saturday **11:00-12:00 PM** **Cortez (1st floor)**

Research Informing Practice: Some Ideas for Community College Teaching

Ann Sitomer, Portland CC and Mark Yannotta, Clackamas CC

The presenters will share some educational research on the topics of "advancing mathematical thinking" and "discourse in the mathematics classroom" and then engage participants with some research-based activities that have been modified to meet the needs of community college students.

Presider: **Holli Adams**, Portland CC

Saturday **11:00-12:00 PM** **El Toro III (4th floor)**

Testing the Difference Between Two Means: Pooled vs. Not Pooled

Rachel Webb, Portland State University

A discussion on whether the pooled variance should be used for independent sample t-tests. Example questions to be discussed are: Should we use the F-test to decide which t-test to use? Why use the Welch-Satterthwaite approximation instead of the smaller of two degrees of freedom when the variances are unequal? Discussion followed by a student worksheet using the two different versions of the t-test based on the results of an F-test.

Presider: **Dee Winn**, Umpqua CC

Saturday **11:00-12:00 PM** **Suite 620 (6th floor)**

ALeKS and MathZone—Successful Placement and Assessment for Math Students

Amelia Keeney, McGraw-Hill

The only Artificial Intelligence Math Program now integrated into a Homework Management System to help instructors and students assess and improve their math skills.

Presider: **Liz Hylton**, Clatsop CC

12:00 PM – 1:30 PM - Lunch Buffet - El Toro

Keynote Speaker

Saturday

12:30-1:30 PM

El Toro (4th floor)

Closing Session: ***Modeling in Today's Weather***

Rod Hill, Chief Meteorologist at KATU-TV CH 2, Portland Oregon

The presentation summarizes advances in satellite imagery over the past five years which have provided new information about events such as moisture coming in off the Pacific Ocean. Advances in computer science and computer modelings that have led to improved forecasting accuracy will be explored.

Rod Hill is a graduate of the University of Missouri and has been in Portland for 8 years. Currently, he is chief meteorologist for KATU Channel 2, doing the evening weather Monday through Friday. Rod is a two time Emmy Award winner for Best Meteorologist in the Pacific Northwest, and three time Associated Press best weathercast in Oregon.

Conference Evaluations

The members of the Executive Board and Conference Committee value your suggestions for improving the conference and our association. Please turn in your evaluation form at the conference registration table to help us in our planning for future conferences.

ORMATYC Campus Representatives

Blue Mountain

Gary Parker
gparker@bmcc.cc.or.us

Central Oregon

Becky Plassmann
rplassmann@cooccc.edu

Chemeketa

Sheeny Behmard
sbehmard@chemeketa.edu

Clackamas

Adam Hall
adamh@clackamas.edu

Clatsop

Liz Hylton
lhylton@clatsopcc.edu

Columbia Gorge

John Evans
jevans@cgcc.cc.or.us

Klamath

Bill Jennings
Jenningsb@kcc.cc.or.us

Lane

Gayle Smith
smithg@lanecc.edu

Linn-Benton

Bethany Pratt
prettb@linnbenton.edu

Lower Columbia

Carol Flakus

Mt. Hood

Phil DeMarios
demaroip@mhcc.cc.or.us

O.I.T.

Ben Cornelius
cornelib@oit.edu

Oregon Coast

Margaret Stevens
mstevens@occc.cc.or.us

Portland

Sylvania Campus

Janet Muzos
jmuzos@pcc.edu

Cascade Campus

Matthew Funk
mfunk@pcc.edu

Rock Creek

Lisa Folberg
lfolberg@pcc.edu

Rogue

Redwood Campus

Dennis Kimzey
dkimzey@roguecc.edu

Riverside Campus

Steve O'Donnell
sodonnell@roguecc.edu

Southwestern

Jeff Hayen
jhayen@socc.edu

Tillamook Bay

Steve Kerr
skerr@tbcc.cc.or.us

Treasure Valley

Pat Rhodes
prhodes@tvcc.cc

Umpqua

Dee Winn
Dee.Winn@umpqua.edu

2007 ORMATYC Exhibitors

Addison Wesley / Benjamin-Cummings Publishing Company

Peter Harris

Co-host of Thursday's evening Social

Casio

Diane Whitfield

Sponsor of Saturday morning refreshment break

Hawkes Learning Systems

Brittany Walker

Houghton Mifflin Company

Kari Smith

Co-host for Friday evening social

McGraw-Hill

John Osgood

Co-host for Friday evening social

Prentice Hall Publishing

Maureen Rachford

Co-host of Thursday's evening Social

Texas Instruments

Paul Riopel

Host for Saturday Breakfast

Thomson Learning - Brooks/Cole

Brittney Bent

Co-host of Thursday's evening Social

WH Freeman & Worth Publishers

Alicia Brady

Sponsor of Friday morning refreshment break

Wiley

Trent Ellis

ORMATYC Conference Program

Thursday	Balboa (1 st floor)	Cortez (1 st floor)	El Toro III (4 th floor)	Suite 620 (6 th floor)
6:00–7:15pm	Registration – El Toro I			
7:30–8:30pm	Opening Session, El Toro: <u>Humor in the Classroom—An Effective Teaching Tool</u> John Coburn, Author, Professor of Mathematics—St. Louis Community College			
8:30–11:00pm	Hosted Social <i>Addison Wesley, Prentice Hall, and Thomson Learning</i>			
Friday				
7:30–8:45am	Breakfast Buffet – Dining Room (10 th floor) Registration – El Toro I			
9:00–10:00am	<u>What Newton Knew—a Visual and Graphical “proof” of the Fundamental Theorem of Calculus</u> Jim Ballard Oregon Institute of Technology	<u>Enhance Your Lecture Class with Online Tools, from the Simple to the Complex</u> Ken Anderson Lorna TenEyck Chemeketa CC	<u>Fun with Functions</u> Ron Larson Penn State University	<u>Meeting Tomorrow’s Needs: The Future of Two-Year College Education in Oregon</u> Stefan Baratto Clackamas CC
10:00–10:30am	Break: Hosted Refreshments <i>WH Freeman</i> — El Toro I			
10:30–11:30am	<u>A Unified Approach to Exponentials, Radicals, and Logarithms: The Ruling Triumvirate</u> Jeffrey Hayen Southwestern Oregon CC	<u>PERS and Retirement Overview</u> Frank Goulard Portland CC	<u>Am I Right? Checking My Algebra</u> Michael McAfee Cathy Curtis Mt. Hood CC	<u>Mentoring New Full-time and Part-Time Faculty: A Model Program</u> Roger Maurer Bethany Pratt Nancy Clough Linn Benton CC
11:45–1:30pm	Lunch Buffet—El Toro			
1:30–2:30pm	<u>Series Expansion of a Function—Why Would You Ever Do That?</u> Tiernan Fogarty Oregon Institute of Technology	<u>Using Protocols and Open-Ended Tasks to Promote Student Mathematical Discourse</u> Lyn Riverstone Oregon State University Maria Fung Western Oregon U	<u>Statistics—An Exploratory Approach to Understanding Standard Deviation</u> Diane Whitfield Portland CC	<u>Does That Always Work?</u> Charlie Naffziger Central Oregon CC
2:30–3:00pm	Break			
3:00–4:00pm	<u>Don’t Freak Out... It’s ONLY Math</u> Jennifer McCandless Shasta College	<u>Problem-Solving as a Gateway to Writing in Mathematics</u> Richard Beveridge Clatsop CC	<u>Distance Education—Who Me? How Interactive Software Helped</u> Bud Hart Oregon Institute of Technology	<u>Student Math League Exam—What Is It and Is It For Me?</u> Henry Mesa Dennis Reynolds Portland CC
4:00–6:30pm	Hosted Social <i>Houghton Mifflin and McGraw-Hill</i>			
Saturday				
7:30–9:00am	Breakfast Buffet (hosted by <i>Texas Instruments</i>) —El Toro ORMATYC General Business Meeting: 8:00am—El Toro			
9:30–10:30am	<u>An Easy Solution to the General Cubic</u> Geza Laszlo Tillamook Bay CC	<u>The Art of Math</u> Angela Stabley Kim Una Portland CC	<u>Online Competency Based Math Placement Exams</u> Ron Wallace Blue Mountain CC	<u>Using Classroom Contexts to Develop and Assess Mathematical Knowledge of Teachers</u> Scott Peterson Oregon State University
10:30–11:00am	Break – Hosted Refreshments <i>Casio</i> — El Toro I			
11:00–Noon	<u>The Four-Fold Approach to Developmental Algebra: Taking the Visual Approach Beyond Graphing</u> Alice Kaseberg Lane CC	<u>Research Informing Practice: Some Ideas for Community College Teaching</u> Ann Sitomer Portland CC Mark Yannotta Clackamas CC	<u>Testing the Difference Between Two Means: Pooled vs. Not Pooled</u> Rachel Webb Portland State University	<u>ALeKS and MathZone— Successful Placement and Assessment for Math Students</u> Amelia Keeney McGraw-Hill
Noon–1:30pm	Lunch Buffet and Keynote Speaker—El Toro <u>Modeling in Today’s Weather</u> Rod Hill, Meteorologist at KATU-TV CH 2—Portland, Oregon			

