2007 Washington State Two – Year College Mathematics Conference

April 26 – 28

Wenatchee Conference Center

Wenatchee, Washington

Hosted by

Wenatchee Valley College

and

Big Bend Community College

CONFERENCE HIGHLIGHTS

Thursday	Event
5:30 - 7:00 and 8:00 – 9:30 PM	REGISTRATION IN RED LOBBY
7:00 – 8:00 PM	OPENING SPEAKER IN ORCHARD SOUTH ROBERT UNDERWOOD
8:00 – 10:00 PM	SOCIAL IN THE RED LOBBY FEATURING THE JAZZ TRIO *SIXTEEN STRINGS* HOSTED BY THOMPSON LEARNING, W.H. FREEMAN & COMPANY AND MCGRAW-HILL HIGHER EDUCATION, HOUGHTON MIFFLIN

FRIDAY	Event
7:00 AM – 5:00 PM	REGISTRATION/INFORMATION TABLE IN RED LOBBY
7:15 – 8:45 AM	BREAKFAST BUFFET IN ORCHARD SOUTH
11:30 – 1:00 PM	LUNCH IN ORCHARD SOUTH LUNCH SPEAKER: PETE WILDMAN
5:45 – 7:00 PM	DINNER IN ORCHARD SOUTH
7:00 – 8:00 PM	KEYNOTE SPEAKER: DR. HANS C. VON BAEYER
8:00 – 10:00 PM	SOCIAL IN ORCHARD SOUTH HOSTED BY TRANSITION MATH PROJECT

Transition Math Project proudly supports WAMATYC and its high-quality professional development events. Come and join us for dessert and learn about TMP projects and progress!

SATURDAY	Event
7:15 – 8:45 AM	BREAKFAST BUFFET AND AWARDS IN ORCHARD SOUTH

Caffe Mela at 17 N Wenatchee Ave (a couple of blocks south) is offering 10% off all drinks with your name tag or conference travel mug.

CONFERENCE SCHEDULE

DATE	TIME	EVENT
THURSDAY, APRIL 26	5:30 - 7:00 PM	REGISTRATION
	7:00 - 8:00 PM	OPENING SPEAKER: **ROBERT UNDERWOOD**
	8:00 - 9:30 PM	REGISTRATION
	8:00 PM - 10:00 PM	HOSTED SOCIAL IN ORCHARD SO.
FRIDAY, APRIL 27	7:30 AM - 8:45 AM	BREAKFAST BUFFET IN ORCHARD SO.
	7:00 AM - 11:30 AM	REGISTRATION
	9:00 AM - 10:00 AM	**SESSION I**
	10:00 AM - 10:30 AM	REFRESHMENT BREAK IN FOUNTAIN LOBBY
	10:30 AM - 11:30 AM	**SESSION II**
	11:30 AM -1:00 PM	LUNCH BUFFET SPEAKER: **PETE WILDMAN**
	1:00 PM - 1:30 PM	WAMATYC ANNUAL BUSINESS MEETING ORCHARD SOUTH
	1:45 PM - 2:45 PM	**SESSION III**
	2:45 PM - 3:00 PM	BREAK
	3:00 PM - 4:00 PM	**SESSION IV**
	4:00 PM - 5:45 PM	FREE TIME - ENJOY - PERHAPS A WALK IN RIVERFRONT PARK, COUNTRY MUSIC IN MEMORIAL PARK, A HIKE UP SADDLEROCK, …
	5:45 PM - 6:15 PM	NO HOST BAR IN ORCHARD SO.
	6:15 PM - 7:00 PM	DINNER IN ORCHARD SO.
	7:00 PM - 8:00 PM	KEYNOTE SPEAKER: **DR. HANS C. VON BAEYER**
	8:00 PM - 10:00 PM	HOSTED SOCIAL IN ORCHARD SO.
SATURDAY, APRIL 28	7:30 AM - 8:45 AM	BREAKFAST BUFFET
	9:00 AM - 10:00 AM	**SESSION V**
	10:00 AM - 10:30 AM	REFRESHMENT BREAK
	10:30 AM - 11:45 AM	**SESSION VI**
	11:45 AM	CHECKOUT AND APPLE BLOSSOM ACTIVITIES

INVITED SPEAKERS

Thursday Opening Speaker – Robert Underwood
Title: The Mathematics Behind the Scene

When going to a movie, have you wondered how water crashes into the center of New York City, how buildings burn or topple, cars explode, lions walk with children, griffons fly, and monsters fight. In “olden days” miniatures were made to mimic these situations with an artificial looking result. Animation was done by painting each frame. NOW through computer graphics it is mathematics and physics that manipulate the marionettes of effects that we have all come to expect in our movies. We model the physics of water using the Navier Stokes equations and make bodies bend and material jiggle through elasticity theory. We model the motion of individual hairs and their interaction with other hairs or bodies. Mathematically we need to solve systems of ordinary and partial differential equations using state of the art numerical techniques. Depending on the particular application the system may involve anywhere from several hundred variables to millions. Many times the systems are stiff and potential unstable numerically. Our problems have nonconventional boundary conditions and have to accommodate complex collisions. In this talk we will examine how elastic bodies are handled in the special effects setting.

Friday Lunch Speaker – Pete Wildman
Title: Leonard Euler - Mathematical Idol!!!!

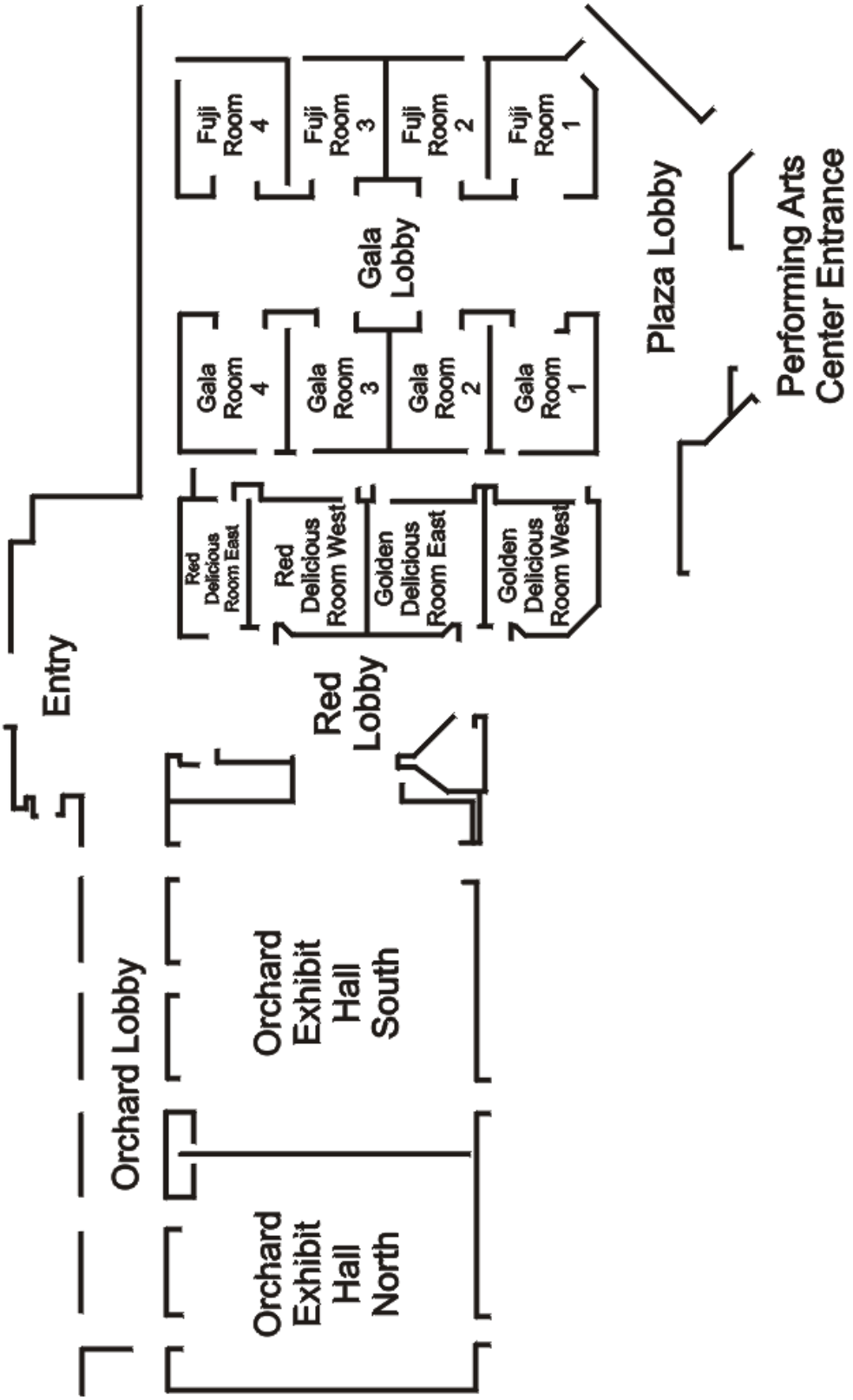
Undoubtedly most of you reading this message know that Leonard Euler was born 300 years ago this month!! Euler was one of the most prolific and famous mathematicians of all time.

He was truly a "mathematical idol." But like many mathematicians he felt that the true relevance and greatness of his discoveries are not appreciated during his time or even today!! Due to the outstanding enthusiasm for mathematics demonstrated by the WAMATYC participants, it has been arranged for Euler to make one last special appearance! He has chosen to come to the 2007 WAMATYC conference to further enlighten you all on his life and his contributions to mathematics!

Friday Keynote Speaker – Dr. Hans Christian von Baeyer
Title: How I Learned to Stop Worrying About Schrödinger's Cat.

The meaning of quantum mechanics, the description of light and atoms, has been controversial since its invention in 1925. Throughout my career I have lived with the nagging worry that the theory, in spite of all its spectacular successes in practice, doesn’t really make sense. But now, at the dawning of the information age, an obscure 18th century mathematical theorem is resolving some of the most fundamental paradoxescl of quantum mechanics by throwing light on the subtle interplay between the concepts of information and probability. Richard Feynman’s famous grumble that nobody understands quantum mechanics still holds true, but there is progress! I hope that your students, or their students, will benefit by having a firmer grasp of reality than I have had.

Conference Center Floor Plan



Room Session	Gala 1 Gala 2	Gala 3 Gala 4	Fuji 1 Fuji 2	Fuji 3
I Friday 9:00 – 10:00	Arithmetic and Algebra Review using ALEKS Carol Avery and Valerie Morgan-Krick	Reclaiming an Understanding of Mathematics William Bricken	Polynomial Inequalities – Discovering a Shortcut Nancy Hyde	Where Does Data Come From? Jeff Eldridge
II Friday 10:30 – 11:30	Mathematics and Engineering: Make a Tune Ann Pham and Andrew Wekin	The Mandelbrot Set: Fun with Fractals Calvin Clawson	Applications of Stationary Points of Quadratics Yves Nievergelt	Math Tutoring and Learning Centers – the Departmental Step Child Jason Ramirez, Katherine Skelton, Allan Walton, and Dusty Wilson
III Friday 1:45 – 2:45	How to Motivate Students by Using Software Jordan Enzor	Ptolemy's Theorem Gail Nord	Markov Chains and Model Trains John Kellermeier	Journaling for Academic Success Peg Balachowski
IV Friday 3:00 – 4:00	Managing Math Homework with “Enhanced” Web Assign John Holdcroft	Mathematics and Engineering: Make a Tune Ann Pham and Andrew Wekin	Pythagorean Angles Andre Yandl	The Mathematics of Lake Powell Dr. William T. Webber
V Saturday 9:00 – 10:00	Learning from Failure Peg Balachowski	Reclaiming an Understanding of Mathematics William Bricken	Markov Chains and Model Trains John Kellermeier	Is It Reasonable? Laura Bracken
VI Saturday 10:30 – 11:30	Generating Some New Periodic Functions Richard Plagge	Math in Motion Mike Lavinder	Learning Algebra Again ... And Again ... And Again Linda Ernst	Round Table for Math for Elementary Teachers Jackie Gorman

Room Session	Fuji 4	Red Delicious West	Golden Delicious
I Friday 9:00 – 10:00	Factors that Shape Faculty Reasoning about College Algebra Reform Helen Burn	WAMAP.org: Do it online for free David Lippman	College Readiness and Math Placement – Is There a Difference? (And Does it Matter?) William S. Moore, Ph.D.
II Friday 10:30 – 11:30	Indigo Children in the Community College Classroom Lara Michaels	The TIME is Now! Timely Discussions for Successful K-16 transitions Joyce Hammer, Kris Kissel and Duane Baumann	*Beyond Crossroads,* A Look at AMATYC's Updated Standards Beverly Parnell
III Friday 1:45 – 2:45	Fuzzy Sets: The Basics Hugh Sullivan	Report from the Student Math Conference Mike Kenyon and Paul Casillas	Mathematica 6 - More Dynamic Than Ever Eric Schulz
IV Friday 3:00 – 4:15	The TI-Nspire Handheld and Software Paul Riopel	Activities to make Developmental Math Fun! Pete Wildman	Making Learning Visible in First-Quarter Calculus David Whittaker
V Saturday 9:00 – 10:00	Taking the Visual Approach Beyond Graphing Alice Kaseberg		Interactive eBooks and Webportals in Math Education: the New Paradigm in Textbook Publishing Michael Howard
VI Saturday 10:30 – 11:30	Is Teaching Efficient Algorithms Inefficient? Ed Miller	How Does WSU Teach Teachers to Teach T.J. Lackner and Elizabeth Bodine	Learning Communities Jennifer Laveglia

SESSION ABSTRACTS

Abstracts in alphabetical order by presenters last name

Carol Avery and Valerie Morgan-Krick (Tacoma Community College)
Arithmetic and Algebra Review using ALEKS

This year Tacoma Community College launched Math 10 - Arithmetic and Algebra Review, an intensive 2-credit, computer-mediated learning course for students needing to review Arithmetic through Elementary Algebra material. A math instructor leads the course but instruction is primarily through ALEKS, a web-based computer program. This 4-week course is offered twice a quarter and serves as both an accelerated version of classroom courses as well as a review of past courses for ill-prepared math students.

Peg Balachowski (Everett Community College)
Journaling for Academic Success

Many college instructors realize that having students keep a course journal (or learning log) is a great way to promote deeper learning of academic content as well as develop the inner qualities of successful students. At the same time, instructors may be concerned about the time that journals may require both in and out of class. In this session I will explain how I have used weekly writing prompts in my math classes to promote self-awareness, self-responsibility, self-management and other positive qualities of successful students. To achieve these benefits, this method does not sacrifice class time needed to cover essential course content. In this session participants will create writing prompts for their own classes and learn effective and efficient ways of responding to student journals.

Peg Balachowski (Everett Community College)
Learning from Failure

In a recent article in the San Francisco Chronicle, journalist Jon Carroll suggested that "failure is a good thing." It seems counterintuitive until you read his explanation. "Success is boring," he says, because it's "proving that you can do something that you already know you can do." It feels good to be successful, but "first-time success is usually a fluke." He believes "failure is how we learn." Risking failure can be frightening, especially for a student in remedial classes, but it's only with failure that we learn what we don't know. How can we help our students understand that failure is a good thing? In this session I will describe how members of the math, science and nursing departments help students "debrief" after exams. Students are encouraged to engage in some "self analysis" to determine how they can learn from their mistakes. From this they design a plan to better prepare for the next exam. Participants in this session will be given forms that are used by faculty in these departments and together we will brainstorm ideas for debriefing in other disciplines.

Laura Bracken (Lewis-Clark State College)
Is It Reasonable? Helping Developmental Students Assess Their Work.

Many texts structure problem-solving with a step-by-step approach. Modeled on work by Polya, one step asks students to check answers for reasonability. Developmental students often dismiss this step with a “looks okay to me.” This presentation will discuss strategies for helping students become better evaluators of reasonability.

William Bricken (Lake Washington Technical College)
Reclaiming an Understanding of Mathematics

Reclaiming an Understanding of Mathematics is an introduction to spatial arithmetic and algebra. Based on recent advances in reasoning with spatial forms, these new methods of understanding mathematics unite intuition with abstraction. We will show how spatial algebra simplifies both the concepts of and the teaching of mathematics, through slide presentations, video, demonstration, and participation.

Helen Burn (Highline Community College)
Factors that Shape Faculty Reasoning about College Algebra Reform

This presentation focuses on internal and external factors that emerged as influential on community college mathematics faculty reasoning about college algebra reform. Particular focus will be paid to factors that mediated the student influence.

Calvin Clawson (Bellevue Community College)
The Mandelbrot Set: Fun with Fractals

While the Mandelbrot set is the most well known fractal, it contains a surprising amount of order. Much has been done to understand the nature of the boundary, the escape set and the orbits. In addition we can generalize the recursive equation and look at the M-set's siblings.

Jeff Eldridge (Edmonds Community College)
Where Does Data Come From?

The GAISE project (http://www.amstat.org/education/gaise/GAISECollege.htm) recommends using "real data" in statistics courses. Where can one find suitable data sets that are interesting and meaningful to students, illustrate important concepts, spark discussions about data collection and analytical techniques, and are appropriate for quizzes and exams? We'll discuss strategies for finding useful data sets (or gathering your own) with a focus on several examples and how they can facilitate teaching and assessment of a variety of statistical concepts.

Jordan Enzor (Hawkes Learning Systems)
How to Motivate Students by Using Software

Discover the benefits of using interactive software in teaching and learning mathematics. Come see a demonstration of the Hawkes Learning Systems student software, the instructor online grade book, and our state-of-the-art test generator. Features of the software that promote grade improvement and motivate students will be explored, including helpful feedback provided by artificial intelligence, unlimited practice problems, and mastery based homework.

Linda Ernst (Columbia Basin College)
"Learning Algebra Again ... And Again ... And Again"

"A look at what relevant publications are proposing for success in adult education (18 and older). Results from one application of some of these theories to developmental mathematics (Beginning and Intermediate Algebra) will be discussed. An annotated bibliography will be available for further reading on this area of research."

Jackie Gorman (Tacoma Community College)
Round Table for Math for Elementary Teachers

This round table will not be an “I have the answers” session; rather, this will be a chance to network and to brainstorm with others who teach the Math for Elementary Teachers classes. Come and share both your questions and your solutions.

John Holdcroft and Lauren Tarson (Brooks/Cole Publishers)
Managing Math Homework with “Enhanced” Web Assign

Enhanced WebAssign (EWA) is a series of text-specific, easily created courses powered by WebAssign. It is a complete online homework system. Includes such features as a calendar, assignments, Questions, Tasks, Grades, Communication, Class view and folders. Web Assign is the most widely used homework program in higher education.

Michael Howard (WH Freeman)
Interactive eBooks and Webportals in Math Education: the New Paradigm in Textbook Publishing

Presenting new methods of delivering math content to students in more effective and less expensive ways through the use of interactive eBooks and WebPortals. As examples, he will be presenting in both statistics and calculus.

Nancy Hyde (Broward Community College (formerly))
Polynomial Inequalities – Discovering a Shortcut

The presenter will lead the participants through a series of exercises that will lead students to greater understanding of the behavior of polynomials. Ultimately the students will “discover” an efficient and quick way to solve and analyze polynomial inequalities. Materials for future use will be provided.

Alice Kaseberg (Lane Community College (retired))
Taking the Visual Approach Beyond Graphing

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

John Kellermeier (Tacoma Community College)
Markov Chains and Model Trains

Model railroading consists of modeling not only the physical setting of a railroad but also the way in which a railroad is run. The movement of cars on a railroad is driven by the demand of shippers but must be simulated in order to operate a model railroad realistically. This talk will present a Markov chain probability model of railroad car movement, which can be used to generate simulated routings for model railroad cars.

Mike Kenyon and Paul Casillas (Green River Community College)
Report from the Student Math Conference

The first annual Western Washington Community College Student Mathematics Conference was held on February 24 at Green River Community College. About 40 students gathered to talk about the exciting mathematics they’re doing in and related to their classes. Find out what happened and learn about next year’s second annual conference!

T.J. Lackner and Elizabeth Bodine (Washington State University)
How Does WSU Teach Teachers to Teach

This is a workshop about Washington State University's Math Content Courses for Elementary Majors. Washington State University requires two semesters of math content courses for pre-service elementary teachers. The courses are designed to have students construct their own knowledge of topics through activities and instruction in order to have a deeper conceptual understanding of what content they will be teaching. This workshop will discuss the overall structure of the first semester content course and session attendees will view and complete two of the course's activities.

Jennifer Laveglia (Bellevue Community College)
Learning Communities that Integrate Algebra and Another Discipline

Abstract: This presentation outlines two coordinated studies courses, one that integrates a college algebra course for business majors with microeconomics, and another that combines intermediate algebra with a learning strategies course. The presenter will share the development processes for both of the courses and a general sense of the courses’ structures. She will also provide some comments from students and examples of the integrated content.

Mike Lavinder (Wenatchee Valley College)
Math in Motion

We all tend to think linearly. However, a lot of relationships that involve force are quadratic or cubic. I will present some very simple examples of how the quadratic and cubic functions relate to bicycling, sailing, flying, and even last and least, motor boating. These are simple and available to students at any level of algebra from Beginning Algebra to Precalculus. They are also appropriate. They help all of us understand the world of movement through the wind or water a little better.

David Lippman (Pierce College)
WAMAP.org: Do it online for free

Interested in doing online homework, but don't want extra costs to students or to get shackled to a publisher? Want to give students immediate feedback on homework without grading it yourself? WAMAP is a FREE online course management and assessment tool, providing delivery of homework, quizzes, tests, and diagnostics with rich mathematical content. Students receive immediate feedback on algorithmically generated questions with numerical or algebraic expression answers. Use 3000 pre-developed questions or create your own.

Lara Michaels (Green River Community College)
Indigo Children in the Community College Classroom

Indigo Children comprise 90% of the children between ages 10-18. This cohort will soon be entering community colleges starting in the fall of 2007. Part 1 of this talk will explain where the term "Indigo Children" came from and some qualities that these children have in common. Part 2 covers what these qualities mean for educators in terms of teaching strategies for these students.

Ed Miller (Lewis-Clark State College)
Is Teaching Efficient Algorithms Inefficient?

As mathematicians we value accuracy, as teachers we want our students to be successful, and as (mostly) employees of the state we want to move students through the system. So, we often teach algorithms that are easy for our students to learn quickly and use accurately. I'll talk about some problems that arise from taking this efficient road and argue for being less expedient and sneaking more math into our math classes.

William S. Moore, Ph.D. (Washington State Board for Community & Technical Colleges)
College Readiness and Math Placement – Is There a Difference? (And Does it Matter?)

With the new College Readiness Standards and increasing policy attention to issues around the how well graduating high school students are ready for college math, significant changes are being explored for math placement and assessment in Washington. Learn more about these changes, new resources and the opportunities for increased student success in schools and colleges.

Joyce Hammer, Kris Kissel, and Duane Baumann (Green River Community College)
The TIME is Now! Timely Discussions for Successful K-16 Transitions

Community college mathematics faculty can easily use the Project TIME model to encourage a collaborative relationship with middle and high school math teachers. Tools developed to increase trust, facilitate discussions, ease student transitions, and improve math placement in college will be shared. College Readiness Mathematics Standards have set the bar for "college ready" mathematics and will be distributed. Content topics and curriculum materials used for a new senior math course will also be presented.

Yves Nievergelt (Eastern Washington University)
Applications of Stationary Points of Quadratics

Minima of quadratic polynomials with several variables over quadric curves or surfaces arise in cartography, geodesy, manufacturing and testing of microwave antennae and cooling towers, as shown here at the basic multivariable calculus level.

Gail Nord (Gonzaga University)
Ptolemy's Theorem

We will examine a result in Euclidean Geometry and use it to give some applications in algebra for our math students.

Beverly Parnell (Yakima Valley Community College)
Beyond Crossroads, A Look at AMATYC's Updated Standards

Beyond Crossroads, AMATYC's newest standards document renews and extends the goals, principles, and standards originally set forth in its 1995 document, *Crossroads in Mathematics.* The ultimate goals of *Beyond Crossroads* are to improve mathematics education and to encourage more students to study mathematics. This new publication will be distributed and its key points discussed.

Ann Pham and Andrew Wekin (Washington State University)
Mathematics and Engineering: Make a Tune

The Culturally Relevant Engineering Applications for Math (CREAM) is a GK-12 NSF funded Project. It has goals that: students realize mathematics is an integral part of the world around them; and that the application of math in engineering is present in all aspects of our society; and participating high school students may consider a career in math or engineering. The CREAM project fosters a constructivist math environment and promotes math talk through small group hands-on activities.

Richard Plagge (Highline Community College)
Generating Some New Periodic Functions

The circular (trigonometric) functions are based on the unit circle $x^2 + y^2 = 1$. I have generated periodic functions based on $|x|^a + |y|^a = 1$ and other closed curves containing the origin. A good practice problem involving the fundamental theorem, the inverse function theorem, differentiation rules, Taylor's series and pattern recognition.

Jason Ramirez, Katherine Skelton, Allan Walton, and Dusty Wilson (Highline Community College)
Math Tutoring and Learning Centers – the Departmental Step Child

Come and share the successes and trials/failures associated with running a tutoring/resource center. We will share how we have made our Resource Center at Highline an integral aspect of our department and campus. Then, we will lead a discussion on the components of a successful Center as measured through student usage, faculty commitment, and administrative support. We look forward to your input and encourage participants to bring statistics related to the usage of their Centers.

Paul Riopel (Texas Instruments)
The TI-Nspire Handheld and Software: A New Level of Communications for Multiple Representations Delivered through a Document Model

The TI-Nspire from Texas Instruments employs a significantly higher level of communications for students and teachers through a document model of information delivery and interaction. This new product is available with or without a Computer Algebra System (CAS) and has a changeable keypad that enables compatibility with the TI-84 Plus and TI-83 Plus. The TI-Nspire greatly enhances the use of multiple representations for concept development and problem solving. The combination of these capabilities helps teachers increase learning opportunities for more students.

Eric Schulz (Walla Walla Community College)
Mathematica 6 - More Dynamic Than Ever

This presentation will look at the new dynamic, interactive, and presentation capabilities of Mathematica 6. Emphasis will be on highlighting the capabilities of Mathematica 6 that have an impact on our efforts in college mathematics instruction.

Hugh Sullivan (Eastern Washington University)
Fuzzy Sets: The Basics

An elementary introduction to the basic concepts of fuzzy sets. Fuzzy sets and operations will be introduced with an emphasis on simple examples to illustrate these interesting ideas. Comparisons with corresponding "crisp" sets, or classical sets will be included.

Dr. William T. Webber (Whatcom Community College)
The Mathematics of Lake Powell

What does a mathematician see when he is in the midst of spectacular southwest scenery? He sees the beauty of mathematics all around him, of course. From a small clump of flowers, to holes in the canyon walls, to dangling ropes, to towering arches, to the grand design of the canyon itself, we'll find the beauty of math everywhere. We will finish by recreating 63 million years of geologic time to create a sandstone arch.

David Whittaker (Cascadia Community College)
Making Learning Visible in First-Quarter Calculus

This presentation describes the experience of faculty and students in a lab-based calculus course taught at Cascadia Community College since Spring 2005. Postulating that students might better learn and retain the conceptual framework in calculus by engaging concepts directly, the course asks students to explore mathematics numerically, graphically, and analytically using Maple software within a computer lab. Students then present their findings to the class each week and respond to questions and discussion.

Pete Wildman (Casper College)
Activities to make Developmental Math Fun!

Do you feel that even though you are a terrific speaker your developmental math students are not as excited about learning mathematics as they could be? Come to this presentation and get some games and activites that both reinforce skills and develop concepts.

Andre Yandl (Seattle University)
Pythagorean Angles

If cos A = x and sin A = y where (x,y) is a rational point on the unit circle, then A is called a Pythagorean angle. Suppose ABC is a Pythagorean triangle. Does there exist a point M in the interior of ABC so that the segments MA, MB, and MC divide the three angles of the triangle ABC to form six Pythagorean angles? The answer is yes. This is a follow up to a question posed by a high school teacher to his geometry class.

Check the conference website (www.wvc.edu/mathconference) for links and electronic copies of handouts from some of the talks.

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WASHINGTON MATH CONFERENCE HISTORY

The first Washington State Community Colleges Mathematics Conference and Retreat was held in 1969. The organizers were Phil Heft, Jim Reif, Larry Larson, and John Van Duff. We are told that the per-person cost at the time was $16.68 and that 33 people attended the conference. It was held at "The Lodge" at Ashford where accommodations required sleeping bags. The menus for the first banquet as well as the name of the first guest speaker remain unsolved mysteries. Today's retreats, usually referred to as Spring Math Conferences, involve more than 200 mathematicians from both two and four-year colleges. There are usually a few invited talks, but the bulk of the program is contributed by inspired volunteers. Responsibility for conference planning is passed among the 34 Washington community colleges. There's no particular formula for who hosts when; and there is no set location where the meetings are held. As if by magic, volunteers appear (usually a few years in advance) and destination meeting sites are found in the Cascade Mountain corridor, on the Olympic Peninsula, or in the Columbia Gorge. There is a traveling fund, the Washington State Math Conference Foundation that helps the host institution with start-up costs.

Year	Conference Host Schools	Location of Conference
1969	Green River/Highline/Ft. Steilacoom CC's	The Lodge
1970	Spokane Falls CC	The Lodge
1971	Everett CC	Snoqualmie Pass
1972	Everett CC	Snoqualmie Pass
1973	Seattle Central CC	Snoqualmie Pass
1974	Green River CC	Lake Wilderness
1975	Highline CC	Providence Heights
1976	Bellevue CC	Snoqualmie Pass
1977	Shoreline CC	Providence Heights
1978	Edmonds CC	Providence Heights
1979	Olympic College	Port Ludlow
1980	Spokane Falls CC	Sun Mountain
1981	Spokane Falls CC	Sun Mountain
1982	Highline CC	Lake Chelan
1983	Olympic College	Port Ludlow
1984	Green River CC	Alderbrook
1985	Shoreline CC	Sun Mountain
1986	North Seattle CC	Alderbrook
1987	Lower Columbia CC	Alderbrook
1988	Olympic College	Port Ludlow
1989	Bellevue CC	Lake Chelan
1990	Clark College	Alderbrook
1991	Pierce College and Tacoma CC	Lake Chelan
1992	Yakima CC	Yakima

1993	Highline CC	Wenatchee
1994	South Seattle CC	Silverdale
1995	Skagit Valley and Whatcom CC	Wenatchee
1996	Spokane Falls CC and ORMATYC	Skamania Lodge
1997	Green River CC	Lake Chelan
1998	Tacoma CC & Big Bend	Lake Chelan
1999	Edmonds CC	Ocean Shores
2000	Bellevue CC	Wenatchee
2001	Peninsula College & ORMATYC	Skamania Lodge
2002	Clark CC	Yakima
2003	Spokane CC and North Idaho CC	Wenatchee
2004	Pierce CC	Yakima
2005	Highline CC	Ocean Shores
2006	Olympic College and ORMATYC	Skamania Lodge
2007	Wenatchee Valley CC and Big Bend CC	Wenatchee
2008	North Seattle CC	Lake Chelan
2009	Columbia Basin College	Pasco
2010		

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BBCC Foundation

WVC Foundation

Thompson Learning

Transition Math Project

W.H. Freeman & Company

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Houghton Mifflin

Stemilt Growers

Liberty Orchards

Caffe Mela

Aplet & Cotlets of Cashmere

David Lippman for sticky pads

GoUSA for mug design

Mark Planchak for web design

Donna Brown for Apple π logo

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