

MEGSL Fall Conference

November 13 – November 14, 2009

Parkway West High School – 14653 Clayton Road – Ballwin, MO 63011

www.megsl.org

Friday, November 13, 2009

- 4:15 – 5:00** **Registration Opens**
5:15 – 5:45 **Keynote Speaker: David Barnes, Director of Online Resources,
NCTM**
5:50—7:15 **Sessions**
7:15—8:15 **Dinner in the Cafeteria**

Saturday, November 14, 2009

- 8:00-9:00** **Registration and Breakfast**
9:00 – 12:00 **Sessions browsing among exhibits**
12:00 – 1:15 **Lunch in the Cafeteria with DOOR PRIZES!**
1:30 – 3:00 **Sessions**

Friday November 13th

4:15 PM – 5:00 PM

Registration Opens

Room: Gym Foyer

5:15 PM – 5:45 PM

Keynote Speaker: David Barnes, Director of Online Resources for NCTM **Theater**
Mathematics from the Heartland: Problems, Contexts and Contributions.

Mr. Barnes' presentation will be a short overview on *Focus in High School Mathematics: Reasoning and Sense Making*, the high school document that was spawned from the standards mentioned above by the NGA and the CCSSO.

5:50 PM – 6:45 PM

55-Minute Workshops

Dynamic Mathematics through Sketchpad LessonLinks

Room: 2413

Dorthea Sides, Key Curriculum Press

[Grades 3-12]

This powerful new online service will help you integrate dynamic mathematics into your curriculum and increase student learning for grades 3-12. This searchable library of more than 500 Sketchpad™ activities makes using The Geometer's Sketchpad® easier than ever! Sketchpad LessonLink gives you: Hundreds of classroom-tested Sketchpad activities and demonstrations aligned to your textbook and state standards. Everything you need in one place—pre-built sketches, teaching notes, and student worksheets.

That's all Logical! Logic Problems in the Mathematics Classroom

Room: 2407

Patrick Mooney, Parkway West High School, MO

[Middle/Secondary]

Since mathematics is all about thinking, this session will help teachers come up with ways to teach students how to think, from lateral thinking puzzles to Sudoku. Advantages of delivery methods will also be discussed.

5:50 PM – 7:15 PM

85-Minute Sessions

Bringing Computer Science to K-12 Using Scratch

Computer Lab

Room: 2302

Michael Goldwasser, Saint Louis University, MO

[Grades K-12]

We will introduce Scratch, a visual computer programming language developed by MIT/UCLA for ages 8 and up. We will demonstrate how Scratch can be used across the K-12 curriculum.

Tooling Around in Inverse Functions

Room: 2411

Chip Day, Florissant Valley CC, MO

[Secondary/College]

The synthesis of the concept of inverse is facilitated by the use of multiple representations on the TI-83/84. Please bring the tools you have.

Navigating Lines

Room: 2417

Aaron Hickman Parkway West High School, MO

[Middle/Secondary]

Participants will use the TI-Navigator to explore relationships with lines including developing slope-intercept form, lines of best fit, and systems of equations. Participants will explore these concepts from a student's point of view and leave with a few more ideas on how to develop these essential ideas from a conceptual standpoint.

7:15 PM – 8:15 PM

Dinner Reception

Cafeteria

Saturday November 15th

9:00 AM – 9:55 AM

55-Minute Workshops

Polyomino Activities

Room: 2413

Marilyn Hasty and Tammy Voepel, Southern Illinois U-Edwardsville [Elementary/Middle]

Participants will be engaged in several polyomino activities that can be used in your upper level elementary or middle school classrooms. Handouts and manipulatives will be provided.

Take Five!

Room: 2417

Debbie Char, St. Louis Community College at Meramec, MO

[General Interest]

Do your pearls of mathematical wisdom tend to ricochet off drooping heads with glazed eyes? Energize your class with five 5-minute activities that adapt to any age and ability level. Involve and awaken students while maximizing precious class time!

We have top billing! Six Flags' annual Math, Science, and Physics Day

Room: 2418

Steve Willott, Francis Howell High School, MO

[Secondary/General Interest]

Brainstorm, discuss, and share information, ideas, and problems related to amusement parks. Ideas for data collection and activities will be discussed and shared.

9:00 AM – 10:30 AM

85-Minute Workshops

Learning the Unit Circle by Laying Down, Sitting, and Standing Up

Room: 2404

Ruth Knop, Parkway West High School, MO

[Secondary]

Learn the unit circle using SmartNotebook, Geometer's Sketchpad, and good ole' pencil and paper: requiring very little memorization. Just an old dog with a few new tricks!

Helping Struggling Students Develop Computational Fluency by

Room: 2409

Connecting Key Math Models and Concepts

Sandu Atkins, ORIGO Education, Inc

[Elementary]

In this hands-on interactive session, we will examine the vertical progression of mathematical concepts and skills used in designing effective intervention experiences. Activities appropriate for immediate classroom use will be provided.

Experiencing Geometry with Dollar Bills and Paper Bags

Room: 2411

Kathleen Fick,

[Middle/Secondary]

Participants, through folding activities, will investigate and review geometric concepts and vocabulary. Paper folding is an interdisciplinary, 'hands-on' approach to experiencing mathematics. Participants will create, discover and explore with fabulous folding of everyday items. Methods of adapting and incorporating these activities for the different grade levels will be discussed. Handouts and materials will be provided.

GeoGebra: Seeking a Model-centered Approach to **Computer Lab** **Room: 2302**

School Mathematics

Lingguo Bu, Southern Illinois University Carbondale, IL

[General Interest]

GeoGebra (www.geogebra.com) is an open-source mathematics learning environment that supports a model-centered approach to integrating multiple domains of mathematics and science. Through a series of classical problems, we explore the features of GeoGebra and discuss its implications for mathematics teaching and learning. Please bring your laptop (if possible) to the workshop.

10:35 AM – 11:30 AM

55-Minute Workshops

That's all Logical! Logic Problems in the Mathematics Classroom

Room: 2407

Patrick Mooney, Parkway West High School, MO

[Middle/Secondary]

Since mathematics is all about thinking, this session will help teachers come up with ways to teach students how to think, from lateral thinking puzzles to Sudoku. Advantages of delivery methods will also be discussed.

Reasoning about and Making Sense of Algebraic Symbols

Room: 2409

Albert Otto, Professor Emeritus of Mathematics, MO

[Secondary]

Examples will be provided to illustrate the ideas in the new NCTM's *Focus in High School Mathematics: Reasoning and Sense Making*.

Developing vs. Collecting Strategies in the K-5 classroom

Room: 2411

Cheryl Lubinski, Professor Emerita of Mathematics, MO

[Elementary]

Examples will be provided on how to use literature or students' interests to develop thinking strategies for understanding mathematics.

Setting Your Algebra Students Up for Success:

Room: 2418

Setting goals and making math "real" and accessible.

Aletta Speegle, St. Louis Community College, MO

[Secondary/College]

Study skills activities and real-life examples for the algebra classroom.

What's That APP Button Do?

Room: 2417

Donna Harris, Retired, TX

[Middle]

Take advantage of the APPS feature on your TI-84 plus. We will explore a few applications that can enhance the learning experience of your students.

10:35 AM – Noon

85-Minute Workshops

Let Them Eat Pi (Cake and Cookies, too!)

Room: 2408

Pam Burke, Potosi High School, MO

[Middle/Secondary]

Presenters will share a variety of relevant and fun activities to be used in a classroom or school-wide celebration of "Pi Day" (March 14). Attendees will receive a handout and may bring jump drives to copy PowerPoint activities.

Tantalizing Tangrams **Room: 2413**
Tammy Voepel, Southern Illinois University Edwardsville **[Elementary/Middle]**
We will go through several activities that can be used to incorporate tangrams into your upper elementary and middle school classrooms. Materials and handouts will be provided.

“I’ve Turned It On, Now What?”...Getting Started with TI-Nspire. **Room: 2417**
Sherry Everding, Cor Jesu Academy, MO **[Secondary]**

What Is Out There for the Plucking in E-Space? **Computer Lab** **Room: 2302**
Nancy English, Fontbonne University, MO **[Secondary]**
The purpose of this presentation is to introduce participants to some of the goodies that are out there for the taking. Discussion will revolve around GeoGebra, Wolfram Alpha, WinPlot, Wikimedia, Cuttheknot, MobileMath, YouTubeEDU, Demos With Positive Impact, Sage, Google Sketchup, and Delicious.

Lunch and Door Prizes: 12:00 p.m. – 1:15 p.m.

1:30 – 2:25 PM 55-Minute Workshops

Teaching Only Girls: Reflections on How I Teach Differently Now...Or Do I? **Room: 2409**
Bonnie Frank, MICDS, MO **[Elementary/Middle]**
After teaching boys and girls together, I now teach three girls-only classes (grades 5-7). Based on several areas of research, this is a first-hand account of how a female math class gets “mathy.”

Dynamic Mathematics through Sketchpad LessonLinks **Room: 2411**
Dorthea Sides, Key Curriculum Press **[Grades 3-12]**
This powerful new online service will help you integrate dynamic mathematics into your curriculum and increase student learning for grades 3-12. This searchable library of more than 500 Sketchpad™ activities makes using The Geometer’s Sketchpad® easier than ever! Sketchpad LessonLink gives you: Hundreds of classroom-tested Sketchpad activities and demonstrations aligned to your textbook and state standards. Everything you need in one place—pre-built sketches, teaching notes, and student worksheets.

High School Geometry Projects **Room: 2413**
Kevin Voepel, McCluer High School **[Secondary]**
In this presentation, I will discuss several of the projects used in my geometry and honor geometry classes. I will share the student directions and rubrics used from grading them as well as several student samples. Handouts provided.

Transformation with Manipulatives**Room: 2408****Candide Walton, Southeast Missouri State University, MO****[Middle]**

Practitioners will participate in hands-on transformational geometry activities (flips, slides, turns, etc.) using a variety of tools including patty paper, geodot paper, grip paper, and Miras.

Additionally, the presenter will demonstrate various geometric transformations using GeoGebra software.

Using the TI-Nspire Lists and Spreadsheet Application, Students**Room: 2417****"Discover" and Understand Key Topics in Precalculus****Sherry Everding, Cor Jesu Academy, MO****[Secondary]**

My Pre-calculus students have “caught” on to the power of the Lists & Spreadsheet application to not only to solve problems numerically, but also to “discover” and understand new mathematical concepts. I will share some of my activities, as well as the challenges and successes I have faced, as I provide my students with the opportunity to make deeper mathematical connections and refine their critical thinking skills.

Making Algebra Child’s Play®**Room: 2418****Ellen Montney****[Secondary]**

Learn about the visual and kinesthetic system for introducing algebraic concepts to young adults. Balancing two-step equations becomes child’s play. See how it applies to verbal problems.

An Introduction to GeoGebra**Computer Lab****Room: 2302****Mike May, S.J., Saint Louis University, MO****[Secondary]**

GeoGebra is software for dynamically linking algebra, geometry, calculus, and statistics. It can be used for classroom demonstrations, for student exercises, to create web applets, and to make graphics exported for inclusion on tests and worksheets. The software is free and will be provided on a CD