Southern Illinois University Carbondale
is Proud to Present

The 31st Annual Conference on Teaching Mathematics

Common Core State Standards for Mathematics
Thursday, February 18, 2016

Conference Chairperson
Jerry P. Becker
Dept. of Curriculum & Instruction
Southern Illinois University Carbondale

Program Chairperson
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Conference Coordinator
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Conference and Scheduling Services
Southern Illinois University Carbondale
ACKNOWLEDGEMENTS

A mathematics conference such as this is the result of work and support of many people. Reference is made below to some of the many who contributed significantly and generously to supporting, planning and carrying out the conference... to them go our many thanks.

To SPEAKERS – they are the heart and substance of the conference program;

To Dr. George Reese, ICTM President, and Dr. Bob Mann, Past President of ICTM, for bringing greetings from ICTM to the conferees and each conducting a session in the program;

To Dr. Al Otto, for traveling from St. Louis, MO to give the main conference presentation at the Luncheon;

To Dr. Barry Hancock for his assistance in organizing the conference in the Hancock Conference Center at John A. Logan College;

To ICTM for “seed” money towards conference expenses and its continued support of our efforts;

To MONTE NEWLIN, JULIE WOLLERMAN, DONNA BOROS, KELTON DAVIS, JANE QUINLAN, LAWRENCE FILLINGIM, R. MATTHEW DONKIN, RON DANIELS, ROBERT DAIKER, MICHELLE MUELLER and SUSAN SARFATY, Regional Superintendents, for their assistance in disseminating conference information; and their support of teachers attending the conference;

To LESLIE BROCK and the Conference & Scheduling Services staff for handling a myriad of activities in organizing the conference; and

To all PARTICIPANTS in the conference, for their participation that makes it a success.
1. Building the Conceptual Understanding for Spatial Visualization & Measurement

**Room**
Grades K-5

**ANN ASSAD,** Austin Peay State University, Murray, KY

The ability to visualize spatial relationships can provide alternative perspectives in mathematical problem solving, especially measurement. Methods for building spatial reasoning will be explored.

2. Mathematical Engagement of K-5 Students

**Room**
Grades K-5

**DENISE BROWN,** Carruthers School, Murphysboro, IL

Make math the most exciting subject of your day. Presenter will offer many strategies to keep your students engaged and learning math every single day!

3. Place Value Understandings from Whole Numbers to Decimals

**Room**
Grades K-5

**DR. CHERYL ANN LUBINSKI,** Illinois State University (Emeritus), Ellisville, MO

We will discuss word problems that help students with understanding place value concepts beginning with whole numbers in Grade K to operating on decimals in Grade 5. Handouts will be provided.

4. Math Topic? No problem, we got that!

**Room**
Grades 5-8

**JUDY ROCKE,** MSTE at the University of Illinois at Urbana-Champaign, Champaign, IL

Motivation isn’t a problem as students engage in activities that enhance their mathematical understanding. Explore sample M2T2 lessons. All these resources are free!

5. The Many Folds of Area

**Room**
Grades 6-8

**KATHY FICK,** Northwest Florida State College, Niceville, FL

Examine the concept of area through folding and grid paper to create picture-proofs and arrive at an unfamiliar formula that requires investigation versus memorization.

(continued on next page)
6. What Does “Mean” Mean and Who is “MAD”?
Room
Grades 6-8
MARTHA EGGERS, McKendree University, O’Fallon, IL
Hands-on strategies to build conceptual understanding of “mean”, its relationship to and real world use of “MAD”, plus resources and a handout.

7. NO TITLE LISTED
Room
Grades 6-8
GENE POTTER, Hazelwood High School (Retired), O’Fallon, MO
This session will explore some activities used at the St. Louis Science Center to celebrate Pi on National Pi Day.

8. The Chameleon Theorems of Geometry
Room
Grades 8-12, plus Teacher Education
LANIS LENKER, Wesclin High School (Retired), Mt. Vernon, IL
Like chameleons, some geometric figures change characteristics (and names) when we apply additional constraints to them. I will use GeoGebra to demonstrate while advocating for inductive thinking in the teacher/learner dialogue.

9. Unraveling the Mystery of the Common Core Standards in Mathematics
Room
Grades K-12
GREG GIERHART, Murray State University, Murray, KY
Participants will be actively involved with what is the intention of the common core standards. We’ll find out what the students are to know and do from the common core. We’ll see what other states are doing with the implementation of the standards. Participants will leave the session with materials to use in their classrooms.

10. A Look Inside Integrated Math 1
Room
Grades 9-12
TERESA EHLERS, Murphysboro High School, Murphysboro, IL
KELLY KOBERTSTEIN, Murphysboro High School, Murphysboro, IL
HEATHER YOKOM, Murphysboro High School, Murphysboro, IL
This session includes discussion of standard progressions and key topics taught in Integrated Math 1. Teachers will share experiences from teaching the Integrated Pathway and answer questions about the course.
1. Working with LEGO Bricks to Teach Basic Mathematics Concepts
   Room Grades K-5
   EUNMI JOUNG, Southern Illinois University Carbondale, Carbondale, IL
   Most elementary students are at the stage of concrete operations. To build the students’ understanding of
   basic mathematics concepts and how they work, I will demonstrate how to apply a wide variety of basic
   mathematics fundamentals behind addition & subtraction, multiplication & division, fractions, square
   numbers, perimeter & area, etc. using LEGO bricks or blocks.

2. Fractions Begin with Geometry
   Room Grades K-5
   DR. CHERYL ANN LUBINSKI, Illinois State University (Emeritus), Ellisville, MO
   We will discuss word problems to help students be successful with fraction concepts beginning with
   partitioning shapes in Kindergarten to operating on fractions in Grade 5. Handouts will be provided.

3. Unlocking the Mystery of Fractions with Fraction Keys
   Room Grades 4-8
   STEPHANIE SACLARIDES, University of Illinois at Urbana-Champaign, Champaign, IL
   Do your students struggle to add, subtract, simplify and find equivalent fractions? In this session, we will
   discuss how fraction keys can help your students understand these important fractions concepts.

4. Using the Number Line to Meet Common Core
   Room Grades K-6
   WILLIAM MCNEARY, Southeast Missouri State University, Cape Girardeau, MO
   Number lines are common in early grades for introducing arithmetic operations and in middle
   grades for integers, but they can be used for much more

(continued on next page)
5. **The Importance of Challenging our Brightest Math Students**
   
   **Room**
   
   Grades 9-12
   
   **TREVOR STANLEY**, Southern Illinois University Carbondale, Carbondale, IL
   
   Several challenging and interesting problems suitable for advanced secondary students will be discussed.

6. **Algebra and Geometry: Connections that Enhance Understanding**
   
   **Room**
   
   Grades 6-12
   
   **CRAIG ROBERTS**, Southeast Missouri State University, Cape Girardeau, MO
   
   Explore connections between algebra and geometry that deepen our students’ understanding of topics such as completing the square, the Pythagorean Theorem, factoring and square roots.

7. **EZ Tangrams**
   
   **Room**
   
   Grades 6-10
   
   **DR. BOB MANN**, Western Illinois University, Macomb, IL
   
   In the talk, teachers’ grades 6-10 will learn about some easy activities with simple tangrams (just 2 pieces) that help students investigate perimeter and area while reviewing other important geometry concepts.

8. **Bringing Mathematics Vocabulary ALIVE in the Classroom**
   
   **Room**
   
   Grades K-12
   
   **GREG GIERHART**, Murray State University, Murray, KY
   
   In this active, hands-on presentation, participants will determine the math vocabulary that is essential with regard to the common core for mathematics. We’ll investigate the six step process for the teaching of vocabulary. The participants will leave with vocabulary instruction ideas for the classroom.

9. **A Look Inside Integrated Math 2**
   
   **Room**
   
   Grades 9-12
   
   **TERESA EHLERS**, Murphysboro High School, Murphysboro, IL
   **KELLY KORDERSTEIN**, Murphysboro High School, Murphysboro, IL
   **HEATHER YOKOM**, Murphysboro High School, Murphysboro, IL
   
   This session includes discussion of standard progressions and key topics taught in Integrated Math 2. Teachers will share experiences from teaching the Integrated Pathway and answer questions about the course.
1. Teaching Key Math Concepts through Children’s Literature
   Room
   Grades K-1
   JOANNA H. LEE, Southern Illinois University Carbondale, Carbondale, IL
   This session provides a list of children’s literature suggested by The Early Math Collaborative Team of Erikson Institute.

2. What does literacy have to do with Math?: Making Connections Explicit
   Room
   Grades K-6
   HEIDI BACON, Southern Illinois University Carbondale, Carbondale, IL
   This interactive, hands-on session focuses on content area literacy strategies in the math classroom that engage students in “doing math.”

   Room
   Grades K-3
   SELENA SASSER, Southern Illinois University Carbondale, Carbondale, IL
   MinecraftEdu is a special version of Minecraft designed for classroom use. Learn how to install MinecraftEdu server software and use downloadable lesson resources. No Minecraft experience necessary!

4. Getting Started with Minecraft in the Classroom
   Room
   Grades 3-8
   REBECCA BYRD, MSTE at the University of Illinois at Urbana-Champaign, Champaign, IL
   MICHAEL MCKELVEY, MSTE at the University of Illinois at Urbana-Champaign, Champaign, IL
   MinecraftEdu is a special version of Minecraft designed for classroom use. Learn how to install MinecraftEdu server software and use downloadable lesson resources. No Minecraft experience necessary!

5. Financial Literacy
   Room
   Grades 6-12
   EILEEN QUINN KNIGHT, St. Xavier University, Chicago, IL
   One of the issues that has come to the forefront is our students need to deal with financial literacy. This literacy focuses on the way students understand how numbers behave. Often students don’t understand the difference between a credit and debit card. This session will investigate questions students have.

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6. Accurate Assessment in the Common Core Era
   Room
   Grades K-12
   ERIC BRIGHT, Charleston Middle School, Charleston, IL
   How can we make measuring for mastery more manageable? We need a better understanding of the purposes and practical uses of formative and summative assessments.

7. Math Through Science: Activities for Middle School
   Room
   Grades 6-8
   GEORGE REESE, MSTE at the University of Illinois at Urbana-Champaign, Champaign, IL
   We will share a set of classroom-ready activities for connecting middle school mathematics with science activities from the elementary physics.

8. Using Technology to Help with Differentiation
   Room
   Grades K-12
   GREG GIERHART, Murray State University, Murray, KY
   Participants will actively participate in a presentation where we’ll focus on the importance of technology in the classroom. Come to this workshop to investigate what quantiles are and how to use those in the classroom. We’ll see what xTRA math might be able to do for us in our classrooms. These are just a few. We’ll see many more websites to help the classroom teacher bring technology into their classrooms.

9. Death by Group Work
   Room
   Grades K-12
   MEAGAN MUSSELMAN, Murray State University, Murray, KY
   Learn proper structures and strategies to change group work into engaging cooperative learning in your classroom!
LUNCHEON (12:20 PM – 2:00 PM)

Presiding.................................................................................................................. Cheng-Yao Lin

Luncheon
12:20 p.m. – 2:00 p.m.
Conference Center Banquet Room

LUNCHEON MENU

Boxed lunches include:
Roasted vegetable w/ cucumber and sundried tomato aioli sandwiches
Turkey and provolone sandwiches
Roast beef and cheddar sandwiches
Apples
Bananas
Potato Chips
Cookies
Sodas

*Additional Beverages
Orange Juice, Coffee, Water

Greetings from ICTM ................................................................. Dr. George Reese, ICTM President

Introduction of Speaker............................................................ Dr. Cheng-Yao Lin

Luncheon Speaker........................................................................ Dr. Al Otto
Illinois State University (Emeritus)
Normal, IL

“And What Do I Do Next?”

Adjournment

Continuing Professional Development Unit documentation will be available at the registration table.

LUNCHEON (12:20 PM – 2:00 PM)