Southern Illinois University Carbondale
is Proud to Present

The 34th Annual Conference on
Teaching Mathematics

Illinois Council of Teachers of
Mathematics/Southern Section

Common Core State Standards for Mathematics
Standards, Processes, and Topics

Thursday, February 21, 2019

Conference and Program Chairpersons
Jerry P. Becker & Dr./Ms. Eunmi Joung
Southern Illinois University Carbondale / Midwest University, Wentzville, MO

Conference Coordinator
Rebecca Dycus
Conference and Scheduling Services
Southern Illinois University Carbondale

HANCOCK CONFERENCE CENTER
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 all PARTICIPANTS in the conference, for their participation that makes it a success.

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

To Jackie Murawska, ICTM President, George Reese, Past President and Annie Forest, President-Elect of ICTM, for bringing greetings from ICTM to the conference and conducting sessions on the program;

To Drs. Ken Clements and Nerida Ellerton for giving the main conference presentation at the Luncheon;

To Rebecca Dycus and her Conference & Scheduling Services staff for handling a myriad of activities in organizing the conference;

To Janada Schaubert and Rose May for their 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, KELTON DAVIS, JANE QUINLAN, LAWRENCE FILLINGIM, LORIE LEQUATTE, CHERYL GRAFF, RON DANIELS, ROBERT DAIBER, MICHELLE MUELLER and SUSAN SARFATY, Regional Superintendents, for their assistance in disseminating conference information and support of teachers attending the conference.
1. Small Group Math Activities for Young Students
   Room
   Grades Pre-K-K
   JOANNA LEE, Unity Point School, Makanda, IL
   This session will suggest pre-service teachers simple math activities to teach number recognition, counting, shapes, pattern, measurement, and data analysis for pre-K and Kindergarten students.

2. Be the Second Grader: Why is Adding and Subtracting with Regrouping Difficult?
   Room
   Grades Pre-K-3
   JACKIE MURAWSKA, ICTM President and Saint Xavier University, Palos Park, IL
   Come and play with "Candy Factory" manipulatives to simulate how second graders learn place value and unitizing-foundational concepts for fluency in standard written algorithms.

3. How Geometry Concepts Connect to Understanding Fractions
   Room
   Grades K-5
   CHERYL ANN LUBINSKI, Elementary Teacher and University Professor of Mathematics (Retired), Ellisville, MO
   Handouts will be provided and discussed that help teachers with teaching fractions and operations with fractions from pictures to symbols.

4. Learn Zearn
   Room
   Grades K-5
   GREG GIERHART, Murray State University, Murray, KY
   Participants will explore the free curriculum Zearn and see what it can do for their classroom and their instruction. Zearn is a tool to use in the mathematics classroom for curriculum and differentiation to help the teacher with students below benchmark, on benchmark and above benchmark. Participants will leave with information to begin their own Zearn classroom.

5. Teaching Through Problem Solving
   Room
   Grades K-12
   JEANINE SHEPPARD, ISBE Math and Science Specialist, Saint Libory, IL
   Explore a variety of easy to implement differentiation strategies that will effectively engage the diverse learners in your classroom.

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6. All Sorts of Fun with Desmos Card Sorts  
   Room  
   Grades 3-12  
   ADAM POETZEL, University of Illinois at Urbana-Champaign, Champaign, IL  
   Card sorting activities have wonderful potential to help students make meaningful connections between representations. Come learn more about implementing, editing, and creating these activities within the Desmos Activity Builder.

7. Paper Folding in Math Class  
   Room  
   Grades 4-12  
   JANA SEBESTIK, University of Illinois at Urbana-Champaign, Champaign, IL  
   Participants will explore geometry concepts through paper folding. Activities will include easy polygons, beautiful boxes, and maybe a magic trick.

8. Patterns with Algebra I  
   Room  
   Grades 6-12  
   GEORGE REESE, ICTM Past President, MSTE Office at the University of Illinois at Urbana-Champaign, Champaign, IL  
   This presentation will share our knowledge of how teachers and students experience Algebra I through a pattern-finding approach.

9. Geometric Figures that Enhance Algebraic Understanding  
   Room  
   Grades 6-12  
   CRAIG W. ROBERTS, Southeast Missouri State University, Cape Girardeau, MO  
   Basic geometric figures have important historical connections to the concepts studied in today’s algebra classes. Illustrative geometric examples that enhance algebraic understanding will be presented.

10. Look For and Make Use of Structure, Symmetry, and Similarity  
    Room  
    Grades 9-12  
    DR. JIM OLSEN, Western Illinois University, Macomb, IL  
    I’ll share some beautiful geometry problems which connect geometry and algebra to important mathematical ideas and help our students look for and make use of structure and develop problem-solving strategies.
1. How Grouping and Partitioning Problems Help with Understanding Place Value
   Room
   Grades K-5
   DR. CHERYL ANN LUBINSKI, Elementary Teacher and University Professor of Mathematics (Retired), Ellisville, MO
   Handouts will be provided and discussed that help teachers with teaching place-value concepts from whole numbers to decimals

2. Intersections of Math and Art
   Room
   Grades 5-8
   GRICELDA MONROY, Nightingale Elementary, Chicago,
   JOSEPHINE TADROS, Saint Xavier University, Palos Park, IL
   ERIN BYRNE, Saint Xavier University, Palos Park, IL
   Discover how middle school students can explore connections between mathematics and art using hands-on activities. Participants will create and analyze unique mathematical designs!

3. Meaningful Formative Assessment Ideas
   Room
   Grades K-12
   GREG GIERHART, Murray State University, Murray, KY
   We need to end the assess-score-file away cycle that is a dead-end, and replace it with assess-evaluate-teach. The goal can then be the focus of the individualized, personalized instruction that occurs during conferring and small group lessons, and class trends can help inform whole group instruction. Participants will walk away with formative assessment ideas to use in their classrooms immediately.

4. Multiple Personalities: Discussing the Different Faces of Fraction Division
   Room
   Grades 4-6
   WILLIAM McNEARY, Southeast Missouri State University, Cape Girardeau, MO
   Most students remember fraction division as flip and multiply. Do they really understand fraction division? Discussion and modeling of measurement and fair share division.

5. Building Fluency with Dice, Dominoes, and Decks of Cards
   Room
   Grade 6-8
   JILL WINTHROP, ICTM Board and Elverado Junior High, Elkville, IL
   Learn some new strategies for building fluency and share some of your own.
6. Active Learning in a Southern Illinois Math Classroom
Room Grades 6-12
JON WILHELM, Vienna High School, Vienna, IL
We will discuss ways to encourage problem solving, collaboration, and discussion in a Southern Illinois math classroom. This session will address how to transition from a traditional teaching model, of giving examples then working on homework, to a more problem based, interactive model. I will share techniques, problems, and resources that have worked for me in my classroom and hope you will share as well!

7. Go from "Leading" to "Facilitating"
Room Grades 6-12
ANNIE FOREST, ICTM President-Elect and Berwyn South District 100, Brookfield, IL
In some class discussions, we ask questions and a few students might respond. Many students aren't involved. Instead, we can facilitate discussions to encourage agency, include all voices, push thinking forward, and develop a culture of meaningful learning conversations. We will use several strategies, including technology, like Desmos [Bring your devices to this session].

8. Computer Science in High School
Room Grades 9-12
JODI CHILDRESS, Salem Community High School, Salem, IL
I will discuss the advantages of teaching computer science at the high school level, and show how I use code.org curriculum to Computer Science Principles.

9. Try Flow Proofs for Geometry
Room 10 or Teacher Education
LANIS L LENKER, Wesclin High School (Retired), Mt Vernon IL
2-column proofs can feel disconnected and disjointed. Flow proofs can connect ideas better. Hands-on experience.

10. Learning with Desmos in Secondary Math
Room Grades 9-12
ALISON CHILDERS, Carmi-White High School, Carmi, IL
If you've never tried Desmos activities in your classroom, come learn about it! Way more than just a graphing calculator, Desmos has amazing class activities for all levels of math. Bringing a device would be highly recommended.
1. All Things Elementary Math
   Room
   K-2
   CHELSEA GILLIAM, Trico Elementary School, Campbell Hill, IL
   Teachers will be given online resources, activities, and ideas to enhance their current curricula.

2. Developing Mathematical Concepts Using a Number Line
   Room
   Grades K-6
   ANN ASSAD, Professor Emeritus, Austin Peay State University, Paducah, KY
   The number line provides graphic representations of essential mathematics concepts. Number line activities will be used to develop number sense, operations, and measurement ideas.

3. Effective Differentiation in Mathematics
   Room
   Grades K-12
   JEANINE SHEPPARD, ISBE Math and Science Specialist, Illinois State University Center for the Advancement and Support of Educational Initiatives, Saint Libory, IL
   Explore a variety of easy to implement differentiation strategies that will effectively engage the diverse learners in your classroom.

4. Engaging Students in the Work of Mathematics
   Room
   Grades K-12
   GREG GIERHART, Murray State University, Murray, KY
   How do we engage students in the work of mathematics? How do we get them to have productive talk with their peers? Involving them to participate in the classroom is a solution. This session will focus on total participation techniques to involve and engage students in the mathematics classroom. Participants will leave with ideas to implement in their classroom immediately.

5. Multiple Ways of Finding Solutions in Integer Operations
   Room
   Grades 6-8
   EUNMI JOUNG, Midwest University, Wentzville, MO
   During this presentation, participants will have an opportunity to analyze a variety of strategies demonstrated in solving each integer operation with understanding.

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6. Facilitating Mathematical Conversations with Desmos Activities
Room
Grades 6-12
ADAM POETZEL, University of Illinois at Urbana-Champaign, Champaign, IL
Desmos Activities can be powerful tools to engage students in meaningful mathematics discussions. Experience a mini-lesson and learn strategies for implementing these free computer-based activities in class.

7. Mathematics and Card Tricks
Room
Grade 6-12
Dr. ALBERT OTTO, Professor Emeritus, Illinois State University, Normal, IL
All tricks can be explained. We will focus on using mathematics to explain some card tricks. Please come with a deck of playing cards.

8. Challenging our Brightest Students
Room
Grades 9-12
TREVOR STANLEY, Sesser-Valier High School, Sesser, IL
Though the talent of gifted math students is often recognized, many are not taught in a manner that maximizes their mathematical potential. This talk will discuss general philosophies and specific problems used to help challenge these students.

9. Engaging Students in the Mathematics Classroom
Room
Grades 9-12
KEENAN CLARK, Carterville High School, Carterville, IL
Create an environment where students want to learn math. Concrete applications for managing an efficient and productive class period will be a primary focus of the discussion.

10. Raising the Bar and Providing Support: Helping Underprepared Students Succeed in Dual Credit Courses and Beyond
Room
Grades 9-12
DR. ERIN SAGASKIE, Mathematics Teacher, Carbondale Community High School, Carbondale, IL
MELANIE NELSON, Health Educator, Carbondale Community High School, Carbondale, IL
We will discuss concrete strategies to help students learn time management, perseverance, and basic study skills to achieve the proper mindset to succeed in Dual Credit courses and beyond.
Greetings from John A. Logan College

Dr. Barry Hancock, Dean
For Community Education

Luncheon
12:30 a.m. – 2:00 p.m.
Conference Center Banquet Room

LUNCHEON MENU

FRESH MEX, includes Chicken Fajitas, Seasoned Beef Fajitas
Flour Tortillas – Chips, Sour Cream, Cheese Pico De Gallo
Served with Refried Beans
Brownie
Ice Tea/ Water

Greetings from ICTM

Jackie Murawska, ICTM President

Introduction of Speakers

Jerry P. Becker

Luncheon Speakers

Drs. Nerida Ellerton / Ken Clements
Illinois State University
Normal, IL

“Meaningful and Exciting, PreK to 14 Algebra for Children, Teachers and Teacher Educators”
Nerida and Ken will engage all present in a series of activities which take up the challenge of making school algebra meaningful and exciting

Adjournment

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