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Peoria 2019



Illinois Council
of Teachers
of Mathematics

2019 MATH AND SCIENCE CONFERENCE
PEORIA CIVIC CENTER
OCTOBER 18 & 19, 2019



ISTA/ICTM 2019 Conference

General Schedule

Peoria Conference Center, Peoria, IL

Friday, October 18, 2019

7:30 a.m.— 4:30 p.m.	Registration	Civic Center Triangle Lobby
7:30 a.m.— 8:45 a.m.	Breakfast	Civic Center Triangle Lobby & Pere Marquette: Cheninee
8:00 a.m.— 8:40 a.m.	Administrators Preview Conference First Timers	Civic Center: Room 136 Civic Center: Room 135
9:00 a.m.— 10:30 a.m.	Welcome/Featured Speaker	Civic Center Exhibit Hall C
10:30 a.m.— 5:30 p.m.	Exhibitors	Civic Center Exhibit Hall A
10:45 a.m.— 12:15 p.m.	Concurrent Sessions/Workshops	Civic Center
12:10 p.m. — 1:40 p.m.	Lunch/Exhibitor Time	Civic Center Exhibit Hall C
1:50 p.m.— 5:00 p.m.	Concurrent Sessions/Workshops	Civic Center
4:45 p.m. — 5:45 p.m.	Poster Session	Civic Center Triangle Lobby
5:00 p.m. — 5:30 p.m.	Door Prizes/Refreshments	Civic Center Exhibit Hall A
5:20 p.m.—5:45 p.m.	ISTA General Business Meeting	Exhibit Hall A Seating Area
6:00 p.m. — 7:30 p.m.	ISTA Reception	Pere Marquette: Cheninee
6:00 p.m. — 7:30 p.m.	ICTM Awards Reception	Pere Marquette: LaSalle Ballroom

Saturday, October 19, 2019

7:30 a.m.— 11:00 a.m.	Registration	Civic Center Triangle Lobby
7:30 a.m.— 8:30 a.m.	Breakfast	Civic Center Triangle Lobby Pere Marquette Lobby
7:50 a.m.— 8:20 a.m.	ICTM Business Meeting	Civic Center Room 136
8:30 a.m.—10:50	IMTE Annual Business Meeting	Civic Center Room 221
8:30 a.m.— 12:30 p.m.	Concurrent Sessions/Workshops	Civic Center
11:30 a.m.— 12:45 p.m.	ICTM Past-Presidents Affiliate Leaders Luncheon	Pere Marquette: Table 19
1:00 p.m.—3:00 p.m.	ISTA Regional Directors' Retreat	Pere Marquette: Cheninee



WELCOME TO THE 2019 ICTM/ISTA ANNUAL CONFERENCE



Dear Mathematics and Science Educator,

It is an honor to serve our respective organizations, and we are eager to continue the momentum we have created during our terms. Our fellow officers, Board members, and conference planning teams are dedicated to our missions and want to continue to support mathematics and science teachers throughout our state. The major goal of our joint conference is one of support, and we are so glad you could join us today!

ICTM and ISTA together are a major force in the State of Illinois that helps foster collaboration and professional growth. Our conference offers a place for us to come together and learn about the best ways to further our collective work and sustain the enthusiasm and dedication of our members. Our organizations work to advocate for the improvement of mathematics and science education and best practices based on the growing pedagogical knowledge and research. However, we could not bring any of this to fruition without you. Whether you are a presenter, volunteer, vendor, or attendee, our efforts depend on our organizations' most valuable assets: our people. The networking opportunities that this conference provides also cannot be ignored, and we encourage you to form relationships and continue those with others after you leave the conference. Teaching is a highly collaborative endeavor. We encourage you to connect with others who will help you grow professionally, and to continue sharing new ideas and approaches.

Now more than ever, we need to address the shift in our practices where we put students in charge of their learning. Teachers can model to each other the many ways in which we can engage our students that puts them in the driver's seat. Increasing the use of real-world contexts and phenomena to bring relevance to our curricula is paramount to increasing this engagement. This allows our students to enhance their use of their problem-solving skills that will help them succeed in whatever they choose to do after they leave us. Our conference brings together some of the foremost experts and classroom practitioners to help all of our attendees see how we can create even better versions of our professional selves.

If you have traveled from afar, we encourage you to visit some of the STEM institutions that call the Peoria area home. The Peoria Zoo, the Caterpillar Visitor's Center, the Peoria Riverfront Museum, the Peoria PlayHouse Children's Museum, and the Wildlife Prairie Park provide a wealth of exciting opportunities and exciting phenomena for you to get your mathematics and science juices flowing!

Our people are our strength. Together, we can help improve mathematics and science education across our state and beyond. We need you to stand with us as we continue to work on behalf of all teachers in the STEM content areas. Please become a member of ICTM and ISTA or renew your membership as we need your support to continue this work. Encourage your colleagues to become members and communicate your needs to us so we can help you. We will continue to work with you and for you.

Thank you for your attendance today and enjoy the conference!

Aimee Park
ISTA President

Jackie Murawska
ICTM President



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**All ISTA Teachers and Administrators Are
Cordially Invited to a
Cocktail Reception Sponsored by STEMscopes
Serving Appetizers & Drinks
Pere Marquette: Cheninee
Friday 6:00 p.m.—7:30 p.m.**

**All ICTM Teacher and Administrators Are Cor-
dially Invited to
our Annual Awards Ceremony with Appetizers
and Cash Bar
Pere Marquette: LaSalle
Friday 6:00 p.m.—7:30 p.m.**

**Civic Center WiFi Information
Login: ILSTEM
Password: Stem2019**

Professional Development Hours Available at the Conference

Illinois educators can receive ISBE Professional Development Hours (formerly known as CPDUs) for the 2019 ICTM and ISTA Annual Conference with one simple, paperless process through support from the Office for Mathematics, Science, & Technology Education (MSTE) in the College of Education at the University of Illinois at Urbana-Champaign.

Look for the banner that says "Need Professional Development Hours? Talk to Us!" next to the conference registration booth. Please remember to have your IEIN ready. Computers will be available if you do not have a smart phone. Questions? Contact George Reese at reese@illinois.edu.

Friday 8:00 a.m.—8:45 a.m.

Administrators Preview and Conference First Timers Sessions

Audience: Supervisors and Administrators **Room: 136**
Title: Administrator Preview

Administrators play an important role in the development of teachers' implementation of best practices. This time will be spent networking with other administrators, sharing challenges and successes and helping to provide a lens through which to view the workshops and sessions of the day.

Jeremy Babel

Audience: Grades k-12 **Room: 135**
Title: Conference First-Timer

Is this your first time attending this conference? Want to know ways to make the most out of this conference? Our time will be spent talking about strategies and how to get the most out of your experience here today. Come join us to feel energized and ready for the day.

John O'Malley IV



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Friday 9:00 a.m.— 10:30 a.m.

Welcome/General Session with Featured Speaker

José Luis Vilson

**Teachers as Gatekeepers: How We Assure Students Feel Like They Belong
in Our Set**

How do you know your students feel like they belong in your classroom? Participants will explore topics of classroom culture and mathematics from a different perspective, including topics of equity and justice as a daily practice.



Biography

José Luis Vilson is a math educator for a middle school in the Inwood/Washington Heights neighborhood of New York, NY. He graduated with a bachelor's degree in computer science from Syracuse University and a master's degree in mathematics education from the City College of New York. He's also a committed writer, activist, web designer, and father.

His first solo project, *This Is Not A Test: A New Narrative on Race, Class, and the Future of Education*, was published by Haymarket Books in the Spring of 2014. He is the executive director of EduColor, a coalition of teachers, parents, and other concerned citizens dedicated to the uplift of people of color in education. He is a National Board Certified Teacher and a Math for America Master Teacher.

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#ICTM19 and #ISTA19

Like and follow Illinois Science Teachers Association on twitter (@ISTA_IL) and Facebook

Like and follow Illinois Council of Teachers of Mathematics on Twitter (@MathICTM) and Facebook

Friday

October 18, 2019

Friday 10:40a.m. — 11:20 a.m. Concurrent Sessions

Audience: Grades 3-5

Room: 134

Kinesthetic Science

Get your body moving! Join us in this interactive session as we demystify the process of analyzing and interpreting data through the use of games. Participants will make data come alive for the kinesthetic learner. (Strategies can be adapted for other grade levels.)

Jennifer Noncek-Eastman: Chicago Zoological Society
(jennifer.noncek-eastman@czs.org)

Audience: Grades 6-8

Room: 136

Designing Effective Storyline Instruction

Hear from middle grades teachers and curriculum developers on the challenges and successes of designing and implementing a phenomena-based storyline unit examining climate change, populations, and ecosystems. Attendees will have access to the final unit materials to use in their classroom.

Laura Hinka: Urbana Middle School
(lhlinka@usd116.org)

James Planey, Laura Hlinka

Audience: Grades 6-12

Room: 212

My Fully-Flipped Earth & Space Science Curriculum

This presentation will chronicle a classroom flipping project that has been many years in the making. Topics of emphasis will include A) The creation, editing, and production of Video Podcasts (a.k.a. "Vodcasts"); B) "Backwards Design"--Linking the assessment of learning goals to course content, labs, and activities; C) What seems to work (and what doesn't) in my flipped classroom; and D) Student and instructor expectations in a flipped learning environment.

Dr. Chris Cummings: Millikin Univ.
(ccummings@millikin.edu)

Audience: k-12

Room: 209

Student Growth with Learning Progressions

What is student growth? It is more than just getting right answers. It is about growing in thinking to deepen understanding. In this session, participants will explore strategies for monitoring growth beyond test scores.

Jennie Winters: Walden Univ.
(jenniewinters27@gmail.com)

Friday 10:40a.m. — 11:20 a.m. Concurrent Sessions

Audience: Grades 6-8

Room: 213

Motivate Your Middle Schoolers to Talk Science

"What did you do today at school?" "Nothing" --This typical parent/child interaction will be obsolete when the classroom contains open ended activities that motivate, challenge and inspire the middle school student. Hands on, NGSS aligned, STEM activities--explore the possibilities and get your students to talk science!

Jim Grant: IL Science Olympiad
(jim.grant@illinoisolumpiad.org)

Audience: Grades 3-5

Room: 201

It's Raining Mayflies! 3rd Grade Life Cycle Unit

Hear about the pilot of a new NGSS-designed storyline unit where third grade students engage with various phenomena to "figure out" that all living organisms go through the stages of birth, growth/development, reproduction, and death. Teacher experiences and student artifacts will be shared.

Susan M. Gasper: Univ. of IL Extension
(smgasper@illinois.edu)

Amanda Drenth, Karla Schwarze, Meghan McCleary

Audience: Grades 9-12

Room: 135

Transitional Math: Exploring Task-Based Resources

We will explore the free resources available to districts as they create and implement Transitional Math programs for their students. These resources provide rich, contextualized tasks that will engage students in the Transitional Math Competencies preparing them for post-secondary experiences.

Anji Garza: Lee/Ogle/Whiteside Regional Office of Ed.
(agarza@roe47.org)

Jeanine Sheppard

Audience: Grades 6-8

Room: 202

Answering Big Questions Understanding Big Numbers

How do we get students to conceptually understand and comfortably operate with large numbers? In this session we will discuss strategies and tasks to help bring large numbers into the world of reality for our students and find the joy in answering big questions involving big numbers.

Aaron Binge: Brentano Elementary (arbinge@cps.edu)

Friday 10:40 a.m. — 11:20 a.m.
Concurrent Sessions

Audience: Grades 3-5

Room: 203

Formative Assessment in Elementary School Geometry

Explore examples of elementary students' thinking about shapes and their properties. We will share discussion-rich mini-lessons that can be used as formative assessment. Develop strategies for using information on student thinking to inform instruction.

Peter Wiles: Eastern Illinois Univ. (pswiles@eiu.edu)
Rick Anderson

Audience: Grades k-12

Room: 221

Developing a Plan for Math Achievement Growth

This session will provide an overview and framework for designing a math professional learning program grounded in research-based best practices.

Lisa Berstein: Director of Educational Services Pear School Solutions (sklunder@pearschoolsolutions.com)

Audience: Grades 7-12

Room: 210

Digital Resources in A Digital World

Participants will explore digital resources that focus on sustainability, water quality and an interactive journey of the nitrogen cycle. They can expect to walk away with a copy of the Nutrients for Life plant and soil curriculum, a poster and new ideas for their classroom.

Haley Siergiej: Nutrients for Life Foundation (hsiergiej@nutrientsforlife.org)

Friday 10:40 a.m. — 12:10 p.m.
Workshops

Audience: Grades K-12

Room: 402

Sketch Noting for Your Science Classes

In this session you will learn the basics of sketch noting. The focus will be on how teaching illustration and summary can transform student learning and teacher direction. Teachers will be given an outline for creation and basic cartooning techniques that can help them help their students. Plenty of free materials will be given out at the session as well.

Jeff Grant: Downers Grove HS (jgrant@csd99.org)

Friday 10:40 a.m. — 12:10 p.m.
Workshops

Audience: grades 9-12

Room: 404

Use Models, Bricks and the Alphabet in Chemistry

High school students use various bricks and puzzle pieces as models to visualize chemical bonds, molecular structure and synthesize simple molecules. These are compared and evaluated with 3D chemical models. Students 'act as enzymes' as they synthesize the macromolecules starch or cellulose from glucose. The English rules of spelling, grammar and punctuation also highlight enzyme specificity.

Suzanne M Cunningham, Purdue Univ. (scunning@purdue.edu)

Audience: Grades 9-12

Room: 200

NGSS Storylining for Coherent Instruction

Storylines led by engaging phenomena improve student engagement. Group hunting in lions, tusklessness in elephants, disappearing sea otters, and the plight of Tanzanian albinos can anchor instruction in meaningful ways.

Dr. Jason Crean: Lyons Township HS (jason@drcrean.com)
Kristin Rademaker

Audience: Supervisors and Administrators

Room: 211

Collaborating to Promote All Students' Learning

To improve student learning of mathematics, all students must have access and be actively engaged in mathematics. In this session, we will explore the dimensions of powerful mathematics classrooms using the TRU framework as a guide, and focus on the crucial role of the instructional supervisor.

Presenter: Mary Jo Tavormina: Univ. of IL Chicago (mjtav@uic.edu)

Audience: Grades pre-k-2

Room: 220

Empowering Early Learners in Critical Thinking

Join us as we collaboratively participate in a FUN, hands-on math learning environment playing with 3-Acts Math as well as the Three Reads Strategy. Participants will engage as learners in critical thinking and problem solving that promotes stronger mathematical identities in early learners.

Toni Galassini: Chicago Public Schools Office of Early Childhood Education (amgalassini@cps.edu)
Gavin Creaden

Audience: Grades k-12

Room: 222

Let's DIVE-in to the Engineering Design Process

Students get engaged with engineering experiences by using the DIVE-in method. This program was developed in partnership with the New York Hall of Science. Transform your classroom into an authentic makerspace with the DIVE process. Learn how to facilitate and use the design process.

Maeve Green: STEMscopes/Accelerate Learning, Inc. (green@acceleratelearning.com)

Friday 10:40 a.m. — 12:10 p.m.

Workshops

Audience: Grades: 3-5

Room: 401

Making Reasoning and Connections Explicit

Do you want to move students thinking and reasoning? Participants will explore ways to make connections and reasoning explicit while analyzing games, activities, and array of math talks.

Jennifer Mundt Leimberer: Univ. of IL at Chicago
(leimb1@uic.edu)

Audience: Grades 9-12+

Room: 403

Number Talks in HS Engage and Empower ALL Students

Get students thinking, talking, reasoning in ways that will surprise even the most experienced teacher. This workshop will provide you with the why, the how, the resources and the confidence to empower you to incorporate Number Talks in class tomorrow.

Jackie Palmquist, Metea Valley HS
(jacqueline_palmquist@ipsd.org)

Sue Ellen Voza

Audience: Grades pre-k-2

Room: 405

Support Spatial Thinking w/ Formative Assessment

This session will focus on two areas of spatial reasoning: shape understanding and spatial thinking. We will explore formative assessment tasks that can help teachers understand young children's spatial reasoning development, and classroom activities that can help them support children's learning.

Katie Flores: UChicago STEM Education
(kflores@uchicago.edu)

Liesje Spaepen, Debbie Leslie

Friday 11:30 a.m. — 12:10 p.m.

Concurrent Sessions

Audience: Grades 9-12

Room: 136

Storylining in the Inclusive Classroom

Participants will be provided with a platform to discuss their classroom dynamic, examples of modified instruction, and the opportunity to practice tailoring storylining curriculum to meet the needs of their students. We will have the audience actively participating in small and large group discussions on how modifications can be created for a set of storyline activities.

Lisa Pavic: Glenbrook South HS (lpavic@glenbrook225.org)
Madeline Thomas, Lauren Baker, Julia Navarro

Friday 11:30 a.m. — 12:10 p.m.

Concurrent Sessions

Audience: Grades 6-8

Room: 212

Got Brains? Dissections in Middle School

Kids LOVE dissections. It motivates and inspires them, and yet many children have to wait until high school to have this experience. This presentation will examine the benefits and logistics of adding dissections to a middle school science curriculum.

Shannon Helga Haugan Elementary School
(sksankstone@cps.edu)

Audience: Grades 6-8

Room: 213

Why is the Pond Green? Integrating EE and Science

Students investigate the phenomenon of an algal bloom on a neighborhood pond in this storyline developed by MSTE at the University of Illinois and the Illinois EPA. This unit integrates environmental education into science learning and focuses on real-world action and communication.

Samantha Lindgren: Office for Mathematics, Science and Technology Education, UIUC (salindgr@illinois.edu)
Kristi Morris, Amanda Price

Audience: Grades k-12

Room: 201

What can Illinois learn from the Netherlands?

A Chicago science and math teacher moved to Holland for 6 months to discover effective practices from Dutch secondary math and science education to apply in the American context. Learn about novel teacher leadership and school models while both celebrating and reimagining STEM education here in IL.

William Reed: Gwendolyn Brooks College Prep
(wgreed@cps.edu)

Audience: Grades k-12

Room: 135

Formative Assessment Tasks

The ISBE Content Specialists have created a library of Formative Assessment Tasks based on PARCC released items. Come explore how to use this resource too.

Jeanine Sheppard: Center for Educational Initiatives at Illinois State University (jsheppa@ilstu.edu)
Heather Brown

Audience: Grades 6-8

Room: 202

Why? Inspire, Spark Motivation, & Connect!

This session will use examples from an Algebra 1 course to focus on ways to make learning interesting, create assessments that will embrace creativity and allow for individual student voice, and shift your focus to a standards-based approach to teaching, learning, and reporting.

Heather Komac: Lake Bluff Middle School
(hkomac@lb65.org)

Friday 11:30 a.m. — 12:10 p.m.
Concurrent Sessions

Audience: Grades 9-12+ Room: 203
Purposeful PLCs

The purpose of this session is to share how to create and score formative assessments to collect student data in order to differentiate to meet student needs. The session will include real examples on how to "go beyond your classroom doors" to promote mathematical understanding for all students.

Jessica John: Naperville North High School
(jjohn@naperville203.org)

Audience: Grades 3-5 Room: 209
Elevate & Engage with ACI

We will walk you through the ACI (Assessment Check In) and give you a variety of ways to evaluate students in the classroom that you can take with you and use immediately. Then take a comprehensive look at the online data tracking tool and the ways to use the reports to create small groups.

Melissa Wise: Greenwood Elementary School
(mwise@wps60.org), Megan Carlander

Audience: Grades 6-12 Room: 210
Facilitating Authentic Intellectual Challenges

Have you ever had a coworker tell you about a great activity and when you try it out, you have different results? In this session, we will explore how our teacher facilitation moves could impact student learning.

Lily Nassiri: Chicago Public Schools- Department of STEM (nnassiri-ma@cps.edu)
Chris Nho

Audience: Grades k-6 Room: 221
Collaborative & Engaging Math? Let's Do This!

Looking for ways to increase collaboration/engagement in your math workshop? Participants will interact with multiple strategies/structures and walk away with the confidence to embed them in each workshop component. Videos of 4th grade students will be shown. (Most applicable for 1st-6th).

Kristi Isaacson: Ardmore School/ School District 45
(kisaacson@d45.org)
Christina Betz-Cahill

12:10 p.m. — 1:40 p.m.
Lunch/Exhibitor Time
Civic Center Exhibit Hall A & C

Friday 1:50p.m. — 2:30 p.m.
Concurrent Sessions

Audience: Grades 6-8 Room: 136
Rigorous climate science. Kids lead parents.

There is now a better way to teach rigorous climate science to middle schoolers. A way that not only informs and inspires but fosters climate concern among parents - even those traditionally hardest to convince.

Ben Whitehouse: SkyDay (ben@skydayproject.com)
Dr. Anna Nesbitt

Audience: Grades 6-8 Room: 200
Science Olympiad: Inspiring Future Problem Solvers

Looking for an avenue to expand your science program? Learn about working with a Science Olympiad team. Experience sample events in areas of science and engineering. Learn how Science Olympiad can engage students in the scientific process, improve critical thinking, and build teamwork skills. Challenge your students to compete in wide variety of events covering all areas of science.

Stacy Martinez: Illinois Science Olympiad
(stacy.martinez@illinoisolympiad.org)

Audience: Grades pre-k-5 Room: 201
Yellow + Blue Does Not Equal Green?

In art mixing paints creates new colors. In science some chemicals are used as indicators. Acid and base indicators are great examples. The indicator for starch, iodine, is yellow as a dilute solution. Drops of indicator added to a starch solution turns the solution blue. Can they be mixed?

Suzanne Cunningham: Purdue University
(scunning@purdue.edu)

Audience: Grades 6-8 Room: 202
Supporting ELs in the Math Classroom

We will dive into the "whys and hows" of developing oral language and vocabulary tied to math content area goals, and share a variety of strategies, scaffolds and rubrics for EL students.

Nicole Coy: Skokie School District 69
(coyn@skokie69.net) **Kenji Mori**

Audience: Grades 9-12+ Room: 209
Creating a Social Justice Math Lesson

An approach to social justice in math empowers students to gain power over language, skills, and practices using and applying mathematics. This concerns the ability to use mathematics to better one's life chances.

Kwame Anthony Scott: Dehuti Ma'athematics LTD/ Benjamin Banneker Association
(mthomba@comcast.net)

Friday 1:50 p.m. — 2:30 p.m.
Concurrent Sessions

Audience: k-12 **Room: 211**
Full S.T.E.A.M. Ahead with Lux Blox
Participants will build models which demonstrate physical principles. In addition, they will learn how the experience of our world can be understood with a structural language that can help them integrate the STEAM disciplines into their classrooms.

Mike Acerra: LuxBlox LLC (mike@luxblox.com)

Audience: Grades 3-5 **Room: 210**
Number Sense and the Distributive Property
Learn how to increase your students' number sense while using the array model of multiplication to teach the distributive property. Learn how to identify students at risk for understanding from gestures, talk and written work.

Cathy Kaduk: Maplebrook (cathy.kaduk@gmail.com)

Friday 1:50 p.m. — 3:20 p.m.
Workshops

Audience: Grades 9-12 **Room: 402**
Fibonacci Sequence and Evolution. A Handy Pattern
This session will focus on a Science Friday Educational Resource. Participants will learn about the Fibonacci Sequence, Engineer the best hands for grasping multiple objects, and then analyze X-rays of a variety of animal forelimbs. Using the knowledge they gain they will deduce if the organisms they analyzed would be good at grasping. Focus will be put on animal adaptations and their possible origins. Tons of freebies will be provided and all activities are reproducible for every classroom.

Jeff Grant: Downers Grove North High School (jgrant@csd99.org)

Audience: Grades k-12 **Room: 134**
Questioning Techniques in the Science Classroom
What's up with that cup?! Come experience a hands-on phenomenon, and explore the "teacher moves" required to support students questioning, sense-making, and collaborating. We'll share strategies to immediately use in your classroom.

Emily Mathews: Northwestern University (emily.mathews@northwestern.edu)
Jennifer Lewin, Patricia Whitehouse

Friday 1:50p.m. — 3:20 p.m.
Workshops

Audience: Grades k-12 **Room: 212**
Phenomena Jam: Identifying Relevant Phenomena
Join the ISTA phenomena jam with the developers of the Phenomena Finder. Come with a group or meet new colleagues, share your instructional phenomena interests and needs, form new development connections, and engage in discussions about what makes a phenomenon relevant through multiple lenses.

James Planey: University of Illinois at Urbana-Champaign (planey@illinois.edu), Barbara Hug

Audience: Grades 3-5 **Room: 135**
I've Selected an Open-Ended Math Task – Now What?
Join us as we explore ways to support productive struggle with rich tasks. We will plan a sample task by previewing math content and practices, brainstorming students' strategies and misconceptions, and examining ways to support students while maximizing their opportunities to learn.

Amanda Zimolzak: The University of Chicago (azimolzak@uchicago.edu)
Katie Flores, Alison Whittington

Audience: Grades k-12 **Room: 203**
Sharing your innovations as scholarly articles
Do you have a great teaching practice you'd like to share? Publishing in Illinois Mathematics Teacher (IMT) journal is a great way for your colleagues to find out about it. The IMT editors will guide you through the process of creating an article. Bring an idea that you are interested in publishing.

Christopher Shaw: Columbia College Chicago (cshaw@colum.edu), Daniel Jordan

Audience: Grades 6-12 **Room: 220**
Algebra for All: STEM to STEAM
Looking for hands-on activities to engage students to learn about rotational symmetry, parallel lines and a transversal, and equivalent expressions? Join us in an exploration of paperfolding, origami, and art to dive deeper into the mathematics and experience the power of STEAM.

Jennifer Dao: Nichols Middle School (daoj@district65.net)

Audience: Grades 6-8 **Room: 404**
Evolution for Educators.
The purpose of the Teacher Institute for Evolutionary Science (TIES) is to inform interested middle school science teachers about the most up-to-date concepts of natural selection, common ancestry, and diversity for them to confidently cover the topics in their classrooms and fulfill their curriculum requirements.

Kathy Van Hoeck: Teacher Institute for Evolutionary Science

**Friday 1:50 p.m. — 3:20 p.m.
Workshops**

Audience: Grades 9-12+ Room: 221

Tasks that Promote Collaborative Learning

The Complex Instruction Consortium (an ICTM affiliate) is a network of math educators dedicated to improving math education through collaboration with a focus on rich mathematical, group-worthy tasks.

Come join us as we explore a variety of tasks that you can implement in your classrooms tomorrow!

Tina Nocella: Adlai E Stevenson HS (tnocella@d125.org)
Gary Chu

Audience: Grades k-12 Room: 401

Effective Differentiation in Mathematics

Explore a variety of easy to implement differentiation strategies that will effectively engage the diverse learners in your classroom.

Heather Brown : ISU (hmbrown2@ilstu.edu)
Jeanine Sheppard

Audience: Grades k-12 Room: 403

Equitable Access: How Little Math Could You Do?

I started asking myself a hard questions after teaching a lesson: How little math could a student get away with doing in my class? What is engagement? This led me to seek out ways to make sure all voices are valued and contribute in meaningful ways using structures, math routines, and reflection.

Annie Forest: Berwyn South District 100
(aforest@bsd100.org)

Audience: Grades 6-12 Room: 405

The Kids Are Alright: Enhancing Student Agency

Do you spend your day responding to, "Is this for a grade?" Well, using activities centering on student agency, I will highlight ways you can empower and motivate all students. "The Kids Are Alright" is often used to convey that the kids are not alright. With these strategies, maybe they will be.

Brandon Thornton: Bloomington High School
(THORNTONB@DISTRICT87.ORG)

**A Special Thanks goes out
to Ball Horticulture
for supporting ISTA and this conference!**

**Friday 2:40 p.m. — 3:20 p.m.
Concurrent Session**

Audience: Grades 6-8 Room: 213

Don't Throw It! Food Waste at School and at Home

40% of our food is wasted, yet 1 in 8 are hungry. Learn how to use multiple food waste audits for school and home as part of a storyline about decomposition and food waste science. Developed by MSTE and the IL EPA, engage with authentic data to empower students to make meaningful and lasting change.

Samantha Lindgren: Office for Math, Science, and Technology Ed. (MSTE), UIUC (salindgr@illinois.edu)
Kristi Morris, Amanda Price

Audience: Grades k-12 Room: 200

Inquiry and NGSS Phenomena through Field Trips

Learn about how plant phenomena is used to create inquiry-based field trips at the Garfield Park Conservatory in Chicago. We offer learning experiences on pollination, adaptations, and decomposers through an NGSS lens. Learn how to use our methods to enhance classroom learning with any field trip.

Morgan Lunde: Garfield Park Conservatory Alliance
(mlunde@garfieldpark.org)

Audience: Grades 6-8 Room: 222

Consensus Modeling: Building Toward Understanding

Modeling is at the heart of NGSS. The next step in modeling is consensus modeling. When students build consensus models their understanding of the phenomenon process is deepened. This session will look at two different phenomena from the Earth Science strand and show participants how to build a group consensus model. Participants will be able to use session information to create consensus models in any science domain.

Brian Klaff: Activate Learning (gnantj@newtrier.k12.il.us)

Audience: Grades k-12 Room: 202

Let's Get Messy!!! Mathematical Modeling

Further your understanding of the research behind and the meaning of Mathematical Modeling. By the end of this workshop, you will have ideas that can be used immediately in your classroom to meet required modeling standards!

Katie Winer: Pearson Education
(katie.winer@pearson.com)
Monica Wadler

Friday 2:40 p.m.— 3:20 p.m.
Concurrent Sessions

Audience: Grades 9 -12+ Room: 209
Algebra I Block - Expanding on Algebra I Support
We will address the structure of our Algebra I Block (Algebra I and "Algebra Academy") and provide suggestions for how to structure an Algebra I support course that keeps students on track and motivated. We will also discuss changes we have progressively made to better the course for students.
Alyssa Schneider: Metea Valley HS
(alyssa_schneider@ipsd.org)
Jennifer Mayerik

Audience: Grades 9 -12+ Room: 210
Activities That Engage and Assess Students
We will share activities that engage students and assess their understanding of the material being covered in class. The ideas that will be shared can be used in many different classes at many different levels.
Vicki Kieft: Stevenson HS (vkieft@d125.org)
Steven Soszko

Audience: Grades k-6 Room: 211
Guided Math
Are you trying to meet the needs of a diverse group of students? Then guided math might be for you. In this session, participants will explore how to structure small group instruction based upon student needs.
Jennie Winters: Walden Univ.
(jenniewinters27@gmail.com)

Audience: Grades 3-5 Room: 201
Digital Portfolios take over the Science Classroom
We have successfully transitioned to online portfolios and are excited to show you how easy it is. Students capture hands-on labs using video, pictorial, and written notes and submit to teachers for review and easy grading. We will show examples and include hands on practice to get you started.
Lynn Gorey: Maercker School District #60
(lgorey@maercker.org)
Sheri DeCarlo

Friday 3:30 p.m. — 4:10 p.m.
Concurrent Sessions

Audience: Grades k-12 Room: 134
Illinois Science Assessment & Teacher Partnerships
Information about STEM learning and research partnerships/opportunities such as the Illinois Science Assessment (an ISBE partnership), the Illinois Junior Science and Humanities Symposium (an NSTA partnership), and other programs for teachers and students will be discussed.
Angela Box: Southern Illinois University Carbondale
(box@siu.edu)

Audience: Grades 6-8 Room: 213
Biochemistry of Being Hangry
Learn about a storyline that introduces students to biological and chemical changes in the body as a result of what we consume. (Food, oxygen, etc.) A goal of the storyline is for students to develop an understanding of the relevant life and physical science DCIs related to cellular respiration.
Elizabeth Kane : Northwestern University
(elizabethkane2019@u.northwestern.edu)
Michelle Zhang

Audience: Grades k-12 Room: 200
How to Use Phenomena to Make Gains in Inquiry
Are you looking for a strategy to introduce an anchor phenomenon to your students? Join us as we model presenting an anchor phenomenon and creating a driving question board. Participants will be working in collaborative groups to identify anchoring, investigative, and everyday phenomena.
Maeve Green: STEMscopes / Accelerate Learning, Inc.
(mgreen@acceleratelearning.com)

Audience: Grades k-12 Room: 201
Problem Based Doing
Learn how your students can identify an everyday problem and create new technologies to solve them. Follow with us the engineering design process to invent and prototype what might be humanities next big thing. We will explore classroom implementation and assessment of problem based learning.
Ivan Ochoa: Hernandez Middle School (idochoa@cps.edu)

Audience: Grades k-12 Room: 202
#ICTMchat Tweetup
Unsure how Twitter can help you professionally?
Need to connect with teachers beyond your district or gain new classroom ideas? Curious about the #MTBoS or #ICTMChat hashtags? Just want to meet the people behind the Twitter handles? If so, come join us for an in-person "Tweet and Greet!"
Annie Forest, Justin Brennan

Friday 3:30 p.m. — 4:10 p.m.
Concurrent Sessions

Audience: Grades k-12 **Room:** 209
Bring #publicmath to the Public: #MKEmath2020
Inspired by the #publicmath hashtag, find out how Milwaukee cultural institutions, corporate outreach, community organizations, and math educators are connecting to create opportunities for math awareness, exploration, and discourse for students and families for a Year of Math 2020. #MKEmath2020.
Mary Langmyer: LearnDeep (mlangmyer@gmail.com)
Pete Reynolds, Joost Allard

Audience: Grades 9-12 **Room:** 210
Formulas I've Forgotten
This session will explore the formulas that your high school math class can do without. Hear about my classroom's journey away from formula memorization towards a deeper and more accessible understanding of mathematics.
Melissa Walton: Metamora Township HS (mwalton@mths.us)

Audience: Teacher Educators **Room:** 211
Finding the Right Angle Blending HS Math Class
HS math classrooms are evolving. We will share our successes and struggles from year 1 of 'blending' math class. Defining blended as an instructional strategy using a variety of learning platforms and student choice to differentiate instruction takes learning beyond traditional classroom walls.
Jackie Palmquist: Metea Valley High School (jacqueline_palmquist@ipsd.org)
Tania Moneim

Audience: Grades 6-12 **Room:** 221
Be Quiet?! No Thanks, Let's Try Student Discourse.
Would you like to transform a quiet or off-task classroom into one rich in student mathematical discourse? Learn instructional methods for increasing the quantity and quality of student discourse and utilizing student home languages to promote mathematical learning.
James Dobrzanski: Morton East High School
Michelle Perryman, Dalton Elkins

Friday 3:30 pm — 4:10 p.m.
Concurrent Sessions

Audience: Grades k-12 **Room:** 405
Composing and Decomposing Fractions and Hip-Hop!?!
Looking for innovative strategies to increase student engagement while teaching how to make use of structure? Stop by for a brief history in one of the world's most diverse and influential cultures as we make connections with fractions and remix your thinking of teaching mathematics.
Reggie Duncan: Wingate Elementary School

Friday 3:30 p.m. — 5:00 p.m.
Workshops

Audience: Grades 9-12 **Room:** 402
Why Don't Electrons Fall into the Nucleus Activity
Students often memorize facts about electrons but struggle to understand what the facts mean conceptually. This session will introduce you to a series of learning activities designed for high school and introductory college students to better understand the fundamental nature of electrons.
Laura M Barden-Gabbei: Western Illinois University (lm-barden@wiu.edu)
Shawn Farrar

Audience: Grades 6-8 **Room:** 404
Formative Data on the Fly!
Effective educators monitor student growth. How, though, can that be done efficiently in a lab science environment? This presentation will work with you to design a data capturing tool, using Google apps, that will facilitate progress monitoring in real time WITHOUT task loading the teacher.
Shannon Sankstone: Kilmer Elementary School (sksankstone@cps.edu)

Audience: Grades 3-5 **Room:** 212
Young Minds, BIG STEM Concepts
Motivate children to explore and problem solve in an interactive STEM environment. Activities provide frameworks for NGSS standard aligned learning in an open ended format. Students will be motivated to complete challenges in a team environment and to try creative ideas to complete tasks. Young minds will be tackling big science phenomena.
Kent Schielke: Illinois Science Olympiad (kentschielke@illinoisolympiad.org)
Kim Dyer

**Friday 3:40 p.m. — 5:00 p.m.
Workshops**

Audience: Grades 6-8 Room: 135

Mathivate...Be the Best Fraction of a Kid's Day!!

M-A-T-H Best subject ever! Math Muscles will make daily problems fun + meaningful. Fracordiddles will have students excited about mathabulary. MathO'lanterns + Mathentine's are hands on projects for surface area and volume. Circlize Yourself introduces properties of a circle. Let's celemathbrate!

Kim Thomas: Peoria County Alternative School
(kimthomath@gmail.com)

Audience: Grades k-12 Room: 203

Reception: Illinois Mathematics Teacher Journal

The editors of the Illinois Mathematics Teacher, official journal of the ICTM, invite conference attendees to discuss mathematics, teaching, and article ideas over light refreshments.

Daniel Jordan: Columbia College Chicago
(djordan@colum.edu)

Christopher Shaw

Audience: Grades k-12 Room: 220

Creating Powerful Thinkers and Learners

What is a "Math Person"? How does your mathematical identity influence students' identities? Participants will collaboratively look beyond the "what" of a good math activity to explore the "how", by focusing on "teacher moves" embedded within a vibrant mathematical learning experience for students.

Gavin Creaden: Chicago Public Schools
(grcreaden@cps.edu)

Audience: Grades k-6 Room: 401

Incorporating Games Into Daily Instruction

Well conceived math games can produce strategic, flexible thinking in fluency. They can provide a greater DOK level of practice than a simple set of worksheet problems alone. Games can be differentiated and articulated for grade levels and enable student discussions for formative evaluation.

Matthew Foster: Waukegan Public Schools
(mfoster@wps60.org)

Audience: Grades 9-12+ Room: 403

Creating and Implementing Open Ended Questions

Are you looking for ways to enhance questioning in your classroom? Come experience a variety of types of questions that promote student thinking and learn how to create questions that facilitate student discussion.

David Sladkey: Naperville Central HS
(dsladkey@naperville203.org)

Rachel Fruin, Scott Miller

**Friday 4:20 p.m. — 5:00 p.m.
Concurrent Sessions**

Audience: Grades 6-8 Room: 136

Thinking About Assessments Using an NGSS Storyline

Using assessments from "How do eggs become chickens or other living things?", participants will examine alignment of 3D assessment. Participants will develop an understanding of how assessment is used to evaluate student learning as a result of engaging with coherent lessons.

Barbara Hug: University of Illinois (bhug@illinois.edu)
Dawn Novak, Jamie Noll

Audience: Grades 6-8 Room: 213

Virtual Lab Reports and You

Learn how to shoot, edit, and create virtual lab reports so you are better at teaching your students how to do it. Nothing promotes learning like using technology to tell a story of what was learned in an activity.

Andrew Bean: Dever Elementary School (apbean@cps.edu)

Audience: Grades k-12 Room: 200

Using Argumentation to Discuss Phenomena

Reduce teacher talk and increase purposeful student talk as we model consensus building through argumentation around engaging science phenomenon. ELA skills and 21st Century Skills are a must in the STEM classroom. This successful instructional strategy is changing how students understand concepts.

Maeve Green: STEMscopes / Accelerate Learning, Inc.
(mgreen@acceleratelearning.com)

Audience: Grades 6-12 Room: 202

Walking Towards a Winning Combination

Are you seeking new ideas to get students motivated? Do you want your students to have fun while engaged in mathematics? Together we will walk through the essentials of effective instructional routines that build/support an engaging learning environment, while fostering productive student discourse.

Sue Ellen Vozza: Adlai E. Stevenson HS (svozza@d125.org)
Carly Pietro, Mary Smaga

Audience: Grades 3-5 Room: 209

We have the Assessment Data.... Now What?

We will go over how we can use data to set up and create small groups based on what students need. We will cover getting the data, and then what you can do with the data once you have it. Also the timing in a classroom and also activities that can be done and where to find them.

Megan Carlander: Greenwood Elementary School
(mcarlander@wps60.org)

Melissa Wise

**Friday 4:20 p.m. — 5:00 p.m.
Concurrent Sessions**

Audience: Grades pre-k-2 Room: 210

Making Effective Assessment Habits Routine

Teachers understand the importance of formative assessment and thoughtfully observe students engaged in math. However, without efficient ways to gather data, they may struggle to establish a routine. We will explore a "Quick Check" tool and how it is practically used in primary math classrooms.

Katie Flores: UC STEM Education (kflores@uchicago.edu)
Amanda Zimolzak. Denise Porter

Audience: Supervisors & Administrators Room: 211

Using Ambitious Goals to Drive Teacher Practice

We will engage in a rich analysis of particular moments of teaching, and explore how to make powerful connections between the "what," "how," and "why" of teaching mathematics.

Zachary Herrmann: University of Pennsylvania (zsh123@upenn.edu)

Audience: Grades k-12

Room: 221

Math Trivia!

The name says it all! We will be spinning your beats and making you think in a bar-style trivia, with questions that involve math. Come with a group of friends and be ready to tackle quick calculations, estimations, and figure out the union of math and pop culture!

John Riddle, Metea Valley HS (john_riddle@ippsd.org)
Patrick Fox, Colin Hayes

Audience: Grades 6-12

Room: 405

Delightful Feedback with Desmos

Few things are as important to learning as feedback. Whether checking for understanding, creating interpretive feedback to assist a student through a skill, or even using feedback to drive the lesson, the feedback options in Desmos Activity builder are robust and delightful.

Justin Brennan: St. Charles North HS (justin.brennan@d303.org)

Friday 5:00 p.m. — 5:30 p.m.

Audience: Scholarship Winners

Room: 203

Scholarship Winners Gathering

For recipients of the 2018 Equitable Access Educator Scholarship Fund, join the leaders of ICTM to connect with your fellow awardees, reflect on your conference experience, and plan for the future.

George Reese, Matthew Foster

**5:00 p.m.— 5:30 p.m.
Door Prizes/Refreshments
Civic Center Exhibit Hall A**

**Friday 4:45 p.m. — 5:45 p.m.
Poster Session
Civic Center Triangle Lobby**

Creating STEM Activities Using the EQUIP Rubric
Sebastian Szyjka (sp-szyjka@wiu.edu)

The C-R-A Approach to Math Instruction
Sara Coombs: Joliet Public School District 86 (scoombs@joliet86.org)

The Ingredients for Creating Mini-Mathematicians
Amanda Kaplan: Great Minds

Stepping Toward Addition and Subtraction Fluency
Rob Nickerson: ORIGO Education (r_nickerson@origomath.com)

The Problem with Problem Solving
Jennie Winters: Walden University (jenniewinters27@gmail.com)

Fractions + Computational Thinking (with Scratch)
Andy Isaacs: University of Chicago (aisaacs@uchicago.edu)
Diana Franklin Carla Strickland

Discovering the Pythagorean Theorem
George J. Marino: Proviso West HS (georgejmarino@aol.com)

Chords and secants and tangents, oh my!
Tami Martin: Illinois State Univ. (tsmartin@ilstu.edu)
Craig Cullen, Roger Day

A Graphical Interpretation for Imaginary Roots
Craig Roberts: Southeast Missouri State University (croberts@semo.edu)

Motivating Instructional Change
Lisa Bernstein: Pear School Solutions (lbernstein@pearschoolsolutions.com)

Students Leading The Way
Elvia UriosteguiDaniel: Webster Middle School (toledomathworld@yahoo.com)

Noyce Program at SIUE: Preparing STEM Teachers
Tammy Voepel: Southern IL University Edwardsville (tvoepel@siue.edu)

Mathematics in Music: Logarithms and Aural Skills
Jamel Williams: Mt Carmel HS (jwilliams@mchs.org)

Use of Informal and Formal Fraction Strategies
Eunmi Joun: Midwest Univ. (eunmij38@gmail.com)
Cheng-Yao-Lin

6:00 p.m.—7:30 p.m.
ISTA Reception
Pere Marquette: Cheninee

6:00 p.m.— 7:30 p.m.
ICTM Awards Reception
Pere Marquette: LaSalle Ballroom



Presidential Awards for Excellence in Mathematics and Science Teaching

Rewarding & Inspiring Great Teaching Since 1983



Call for Nominations

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) are the highest honors bestowed by the United States government specifically for K–12 science, technology, engineering, mathematics, and/or computer science teaching. Awardees serve as models for their colleagues, inspiration to their communities, and leaders in the improvement of STEM education. Since 1983, more than 4,800 teachers have been recognized for their contributions to STEM education. Up to 108 teachers are recognized each year.

Presidential Awardees receive:

- A citation signed by the President of the United States
- A trip to Washington, D.C. to attend a series of recognition events and professional development opportunities
- A \$10,000 award from the National Science Foundation

Who Can Nominate?

Anyone—principals, teachers, parents, students, or members of the general public—may nominate.

NOMINATION DEADLINE: March 1, 2020

Who Can Apply?

Elementary school teachers (K–6) can apply this year. Secondary school science, technology, engineering, mathematics, and/or computer science teachers (7–12) will be eligible to apply during a future cycle.

APPLICATION DEADLINE: May 1, 2020

To nominate or apply, visit: www.paemst.org

The National Science Foundation administers PAEMST on behalf of
The White House Office of Science and Technology Policy.



Presidential Awards for Excellence in Mathematics and Science Teaching

Rewarding & Inspiring Great Teaching Since 1983

Congratulations to the 2018-2019 Illinois Finalists (Grades 7-12)

Holly Chapman (Math Finalist)
Highland Middle School, Libertyville

Jeff Grant (Science Finalist)
Downers Grove North High School

Tanya Katovich (Science Finalist)
Hoffman Estates High School

Kelly Koberstein (Math Finalist)
Murphysboro High School

Misty Richmond (Science Finalist)
James Ward Elementary School, Chicago Public Schools

David Sladkey (Math Finalist)
Naperville Central High School

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) are the highest honors bestowed by the United States government specifically for K–12 science, technology, engineering, mathematics, and/or computer science teaching. Awardees serve as models for their colleagues, inspiration to their communities, and leaders in the improvement of STEM education. Since 1983, more than 4,800 teachers have been recognized for their contributions to STEM education. Up to 108 teachers are recognized each year.

Who Can Nominate?

Anyone—principals, teachers, parents, students, or members of the general public—may nominate exceptional teachers.

NOMINATION DEADLINE: March 1, 2020

To nominate or apply, visit: www.paemst.org

The National Science Foundation administers PAEMST on behalf of
The White House Office of Science and Technology Policy.

Congratulations to the 2019 ICTM Awards Winners

**Distinguished Life Achievement
in Mathematics Award**



Carol Nenne
North Central College, Naperville

**Illinois Promising New Teacher
of Mathematics Award**



Stephen Cimaglia
Lake View High School, Chicago

**Excellence in Elementary
Mathematics Teaching Award**



Melissa Wise
*Greenwood Elementary,
Waukegan*

**Excellence in Middle School
Mathematics Teaching Award**



Sunya Coleman
*Daniel Webster Middle School,
Waukegan*

**Lee Yunker Mathematics
Leadership Award**



Scott Miller
Naperville Central High School

**Max Beberman Mathematics
Educator Award**



Martin Gartzman
University of Chicago

**Fred Flener Award: Engaging Students in Math
Beyond the Classroom**



Steve Shaff
Sauk Valley Community College

**Excellence in Secondary Mathematics Teaching
Award (T.E. Rine Award)**



Amy Clyne
Waukegan High School

ICTM 2019 Scholarship Awardees



Cerys Boston
Eastern Illinois University



Ryan Dela Cruz
Elmhurst College



Kayla Smock
Olivet Nazarene University

JOIN OUR TEAM OF NEXT GENERATION TEACHING & LEARNING

Professional STEM Educators

Cultivate the
innate curiosity
of youth by
nurturing their
interests and
engaging them
as active
participants in
their education!



At YCCS, teachers have more time to help students learn. The average class size is 20 students, with an average 10 to 1 youth-to-adult ratio.



Connect YCCS Students to:

- Real world learning experiences that require them to solve problems within their own communities
- Multiple and diverse learning options that develop their competencies as Critical Thinkers, Effective Communicators, Active Contributors and Creative Explorers
- Engaging and challenging lessons that prepare them for college and careers

The entire education community is taking notice of the Level One impact of YCCS, educating and graduating Chicago's at-risk youth since 1997!

With over 3,800 students and 19 campuses throughout the City of Chicago's diverse communities, YCCS stands as a respected model both nationally and internationally. YCCS is a leader in alternative education programming, offering youth ages 16 to 21 years STEM, STEAM, College, Career and Vocational pathways.

Qualifications:

- Bachelor's degree minimum requirement
- Professional Educator's License with Secondary Endorsement preferred
- Dual credit teaching options with City Colleges of Chicago for qualified individuals

YCCS offers:

- Competitive salaries
- Comprehensive health benefits
- Collegial environments

Visit YCCS.us for more information or contact
Ken Morsby: kmorsby@yccs.org, 312-328-0799-Ext. 231

Saturday

October 19, 2019

Saturday 8:30 a.m. – 9:10 a.m. Concurrent Sessions

Audience: Grades 6-12 **Room: 134**
Sharknado: Adventures in Geometry
 Use basic Geometry constructions and transformations to turn a rectangle into a hungry shark. Along the way, 4th graders and beyond would incorporate academic language and have "Geometry Talks" about shapes, perimeter, and area. Then, they would investigate tessellations to build the Sharknado!
Bob Mann: Western Illinois University
 (rr-mann@wiu.edu)

Audience: Grades k-12 **Room: 136**
Not Just a Bunch of Old Dead White Dudes
 ICYMI, much of the US education system is structured around whiteness and Eurocentrism. Come join us as we discuss underrepresented figures in math, and how we can work towards creating a more inclusive environment where all students see themselves as mathematicians.
Gary Chu: Niles North High School, (garchu@d219.org)
Tina Nocella

Audience: Grades 6-8 **Room: 212**
Storylining in Middle School Chemistry
 Experience a NGSS unit in which students engineer a solution to the real world problem of providing life-saving care to pre-mature infants in the developing world by designing an economical incubator that can be deployed in locations without electricity. Students explore many physical science standards in meaningful context that motivates student learning.
Jill Wulff: Lovington (wulffj@cusd305.org)
Jennifer Smith, Jenny Brewer, Joe Muskin

Audience: Grades 912 **Room: 213**
Let's Blog About It: Student Blogs in Science
 Online blogs are a popular way for people to communicate ideas and share opinions. Blogs also offer students the opportunity to share their knowledge and connect their learning outside the classroom. In this session, participants will get ideas on how to use student blogs in their own classrooms.
Crystal Peirce: Harper College
 (cpeirce@harpercollege.edu)

Saturday 8:30 a.m. — 9:10 a.m. Concurrent Sessions

Audience: Grades k-12 **Room: 200**
Three Dimensional Strategies: Implementing NGSS
 Discover strategies to move your classroom towards three dimensional teaching and learning. Participants will learn about the shifts between three dimensional classrooms and traditional classrooms, explore discussion techniques, and look at tools to help students engage in argumentation.
Nicole Vick: Abingdon-Avon High School
 (nicole.vick78@gmail.com)

Audience: Grades 3-5 **Room: 201**
4th Graders + STEM + Designing Parachutes = FUN
 In this STEM workshop fourth graders engineer a parachute, test its design and incorporate math into its evaluation. Students read about the Berlin airlift and learn about the special air drops of candy to children. Students blend science with the eight practices of engineering and use NGSS cause/effect and structure/function cross cutting concepts as they evaluate their parachute models.
Suzanne M Cunningham: Purdue University
 (scunning@purdue.edu)

Audience: Grades 9-12 **Room: 222**
Growing Student Understanding with PlantingScience
 Do your students struggle to understand photosynthesis? Do they have trouble seeing themselves as scientists? Try using PlantingScience modules to get your students planning & conducting their own inquiry investigations under the mentorship of real scientists through the PlantingScience website.
Aubrey Mikos: Ottawa Township HS
 (mikosteachesbio@gmail.com)

Audience: Grades 9-12+ **Room: 135**
21st Century Skills and Self-Assessment in HS Math
 What do you want your students to leave your classroom with? Solving a quadratic equation? Finding exact trig values? How about being able to be an effective leader? Or being a skilled critical thinker? Join this session to help your students make connections between content and real life skills.
Betsy Schlimgen: Jacobs HS (betsy.schlimgen@d300.org)

Saturday 8:30 a.m. — 9:10 a.m.

Concurrent Sessions

Audience: Grades 6-12
Enriching Engagement

Room: 202

The way you introduce a topic or utilize problems for kids to solve can have a powerful impact on their level of engagement within the classroom. Come see various techniques I have employed that have encouraged all of my kids to interact more often and increased student talking time.

John O'Malley IV: Glenbrook South HS
(jomalley@glenbrook225.org)

Audience: Grades k-12

Room: 203

Digital Breakouts: How-to's & Engagement Benefits

Want to engage your students in a new & interesting way? We branch out from the Breakout EDU series. Learn how to use Google Apps to create a digital scavenger hunt that will have students engaged an entire class period! It is recommended that you have some experience using Google Docs & Forms.

Jill Casey: Waubonsie Valley HS(jill_casey@ipsd.org)
Molly Owles, Jennifer Bokermann

Audience: Grades 9-12+

Room: 209

Making Geometry Clear

I will share some of the many things I learned during my forty years teaching high school Geometry. Many of these things will make it easier for your students to succeed and hopefully many will help them appreciate the beauty of geometry and the joy it brings to many students.

John Benson: Evanston Township HS
(j-benson2@comcast.net)

Audience: Grades 6-12

Room: 210

Using "Real Problems" for Authentic Assessment

First, we'll take on a real-life complex problem using mathematics. Next, we'll explore how "real problems" can be the seeds for powerful authentic assessments.

Zachary Herrmann: University of Pennsylvania
(zsh123@upenn.edu)

Audience: Grades 9-12+

Room: 211

Implementing Open Source Digital Curriculum

Have you wondered what it's like to replace printed textbooks with digital resources that students actually use? Come explore how a district researched, selected, and implemented open source mathematics curricula that provides flexibility in instruction and learning.

Scott Miller: Naperville Central HS
(smiller@naperville203.org)

David Sladkey, Rachel Fruin

Saturday 8:30 a.m. — 9:10 a.m.

Concurrent Sessions

Audience: Grades 6-8

Room: 220

Going Deeper Than Area = Length x Width

Explore students' thinking about area and surface area measurement prior to and after students draw area units on the object. Focus on student examples of changes in students' thinking when asked to show how area units fit on the object.

Pamela S Beck: Illinois State University/Ladd CCSD 94
(pambeck1@gmail.com)

Audience: Grades k-6

Room: 401

Supporting Fluency with Number Talks

Are you looking for a way to help students with mathematical fluency during math time? Incorporating Number Talks into your daily routine aids with fluency and also supports language development. Come learn some tips so you can get started and see student success in your own classroom!

Karina Zurita: Joliet Public Schools (kzurita@joliet86.org)
Sara Coombs

Saturday 8:30 a.m. — 10:50 a.m.

IMTE Annual Business Meeting

Audience: Teacher Educators

Room: 221

IMTE Annual Business Meeting

Please attend the annual meeting of the IL Math Teacher Educators to discuss current issues and changes at ISBE in addition to election of officers. This is a time set aside to network with the math educators in the state and share local issues and brainstorm solutions. All K-16 educators invited.

Mary T. McMahon: North Central College
(mtmcmahon@noctrl.edu)

Adam Poetzel

Saturday 8:30 a.m. — 10:00 a.m.
Workshops

Audience: Teacher Educators **Room: 403**
AP Calculus - Ditch That Lecture
See what an active calculus curriculum looks like in action. Experience first hand an activity-driven, inquiry based approach where we pose problems or situations, consider possibilities, and then ask students to investigate and explore. Gain access to over 200 activities and 500 exercises.
Jim Pardun: Vernon Hills High School

Saturday 9:20 a.m. — 10:00 a.m.
Concurrent Sessions

Audience: Grades 9-12+ **Room: 134**
Equity Assessment and Data Collection Tools
Learn how to use teacher assessment tools to improve teaching and increase equity in the classroom. Collection tools will be provided as well as analysis examples of data from the collection tools. Teachers, mentors and administrators can use these to help improve teaching, questioning and equity.
Erin Smith: University Laboratory HS
(erines3@illinois.edu)

Audience: Grades k-12 **Room: 136**
Expand Your Teaching Through Travel
Many students have never left far beyond their towns, which is a barrier when content reaches past your region. Your travel stories can connect content to real-life situations that are engaging. Learn how affordable travel can be a reality and how your adventures can bring a spark to your classroom!
Alyssa Weisenstein: Marion HS
(aweisenstein@marionunit2.org)

Audience: Grades 6-8 **Room: 212**
STEM in the Makerspace
A makerspace provides teachers with an excellent opportunity to introduce and reinforce STEM practices with students. This session will focus on engineering challenges designed to provide students of all ability levels with high interest learning opportunities in math, science, technology, and engineering.
Jennifer Smith: Monticello Middle School
(smije@sages.us)

Saturday 9:20 a.m. — 10:00 a.m.
Concurrent Sessions

Audience: Grades 9-12 **Room: 213**
Thematic Learning through Virtual Reality
The journey of a British High School Drama and English Teacher moving from the classroom to developing a virtual reality platform (YouToring) which utilizes thematic learning to engage middle and high school students on three continents. A discussion of the research which got YouToring from an abstract idea in a living room in London to a company which is poised to help thousands of children by 2020, including useful takeaways for teachers day to day.
Adam Bevan: YouToring LLC (adam@youtoring.com)

Audience: Grades 9-12 **Room: 201**
Helping students make sense of significant digits
Hands-on activities and strategies to help students makes sense of the concept of significant digits
David Fetty: Hinsdale South High School
(drfetty@gmail.com)

Audience: pre-k-2 **Room: 202**
Mathematizing Your School
How can math and literacy share the center stage in your school? How can you create a school environment in which math is enjoyed and celebrated? Family Math Nights and Mathematicians of the month can be just the start in this journey! Let's start "mathematizing" your school!
Katie Hurckes: Downers Grove School District 58
(khurckes@dg58.org)

Audience: Grades 9-12+ **Room: 203**
Competency Based Math to Provide Equity
We are in our 3rd year of competency based math. We are able to meet students where they are at and provide equity and access to all. In this session we will share our journey and our resources with you.
Eric Lasky: Ridgewood High School (elasky@ridgenet.org)
Lisa Balata

Audience: Grades pre-k-2 **Room: 209**
Every Operation Tells A Story
When teachers DON'T prescribe strategies to problem situations children are able to build on what they have learned and apply it to more difficult problems. This session will investigate the early development of strategies for number operations using a variety of problem structures and literature.
Lynn Rule: MathRack (teachgoldenrule@comcast.net)

Saturday 9:20 a.m. — 10:00 a.m.
Concurrent Sessions

Audience: Grades 6-8 **Room: 210**

5 Easy Shifts for Increasing Student Discourse

Have you been looking for ways to get your students talking math? This session will focus on specific strategies that will increase student status and identity in your classroom. Each strategy will be accompanied by photos and videos.

Steven Shadel: Niles Township District 219
(sshadel17@gmail.com)

Audience: Grades 6-8 **Room: 211**

Math Warm-up Routines in Grades 5-8

Are you looking to add some spice to your lessons? Come learn about three math warm-up routines that will help you spiral through the middle school curriculum: Venn Diagrams, Number Talks, and Daily Data. Participants will leave with examples to use in their own classrooms on Monday.

Jennifer Talbot: Thomas Metcalf Laboratory School
(jkane@ilstu.edu)

Amanda Cullen, Carrie Lawton

Audience: Grades 9-12+ **Room: 405**

calcul US: Resetting the Stigma of AP Math

Participants will get to see a fresh approach to AP Calculus that focuses on relationships first.

Lucas Leavenworth : Niles West HS (luclea@d219.org)

Saturday 9:20 a.m. — 10:50 a.m.
Workshops

Audience: Grades 9-12 **Room: 200**

Who Wins the Race?

We will present an NGSS-aligned storyline that focuses on tools that help students quantitatively assess the roles of genetics and environment on running ability in both humans and mice.

Becky Fuller: University of Illinois
(fuller@life.illinois.edu)

Kevin Knapik, Zach Boehmke

Audience: k-12 **Room: 401**

Excursion to the World of 3D Design and Printing

In the context of making, tweaking, and guided inventing, we explore the world of the 3D design and printing and further discuss the pedagogical implications for STEAM education.

Lingguo Bu: Southern Illinois University (lgbu@siu.edu)

Saturday 9:20 a.m. — 10:50 a.m.
Workshops

Audience: Grades 3-5

Room: 135

Facilitating Fact Fluency

Timed tests are used as the main measure of computational fluency for the vast majority of educators. How effective are they? Come hear what research says about this tried and failed approach and learn alternative ways to support your students in genuinely increasing their computational fluency.

Alfreida S. Jamison: Posen-Robbins School District 143.5
(ajamison@prsd1435.org)

Audience: Grades k-6

Room: 220

Teaching with a Full Deck: Card Sorts

Card sorts make students do the "thing" we value most: talk. They also provide opportunities to classify, rank, sequence, and mind map while setting a natural context for argumentation. Join me for a series of math and science card sorts that will make your students reason and think critically.

Lindsey Herlehy: Illinois Mathematics and Science Academy (lherlehy@imsa.edu)

Saturday 10:10 a.m. — 10:50 a.m.
Concurrent Sessions

Audience: Grades 3-5

Room: 134

All Sorts of Success

Sorts and other open-ended group tasks are a great way to build student conceptual understanding as well as build their confidence and perseverance. Various open-ended, low floor/high ceiling tasks will be introduced as well as advice for implementing them in the elementary classroom.

Nicolette Staley: Joliet #86

Audience: Grades k-12

Room: 136

Trauma Informed Teaching in Mathematics

Have student behaviors made you wonder "What was she thinking?" or "I never would have said that to an adult" or "He just sat there, not speaking, completely shut down." As a teacher and parent through foster care and adoption, I will share what I've learned about how trauma can impact learning.

Jeremy Babel: Leyden High School District 212
(jbabel@leyden212.org)

**Saturday 10:10 a.m. — 10:50 a.m.
Concurrent Sessions**

Audience: Grades k-12 Room: 212

Discussing Race & Gender in the Science Classroom

How do we discuss race, gender, and their impact on science inquiry without detracting from the content our curricula demand? Discussion centers on topics that lend themselves to conversations about how race, gender, and science intersect. Leave with a list as well as a better understanding of how to recognize these opportunities and develop your own lessons around them.

Jackie Gnant: New Trier High School
(gnantj@newtrier.k12.il.us)

Audience: Grades k-12 Room: 201

National Geographic's Geo-Inquiry Process

National Geographic invites you to empower students to think like explorers. Join us for a hands-on session to learn how the Geo-Inquiry Process connects students to real-world questions, phenomena, and National Geographic explorers in the field. The Geo-Inquiry Process is designed to inspire educators to teach students about the world in innovative, experiential, and authentic ways.

Elaine Larson: National Geographic Society
(elarson@ngs.org)

Audience: Grades k-9 Room: 203

Changing the Conversation with Lesson Study

Lake View High School has embarked on a series of Lesson Study cycles to examine classroom practices, build a culture of collaboration, and to hold authentic conversations about instruction. Learn about the practice of Lesson Study, the benefits, and the impact on instruction and the department.

Stephen Cimaglia: Lake View High School
Matthew Rosenberg

Audience: Grades 9-12+ Room: 209

Using a Flipped Model in your AP Classroom

In a flipped classroom, students learn lessons outside of class and have class time to do problems/tasks. In this session, participants will examine the flipped classroom model, examine methods for creating instructional materials, and begin a plan for one unit of instruction in their classroom.

Jason Mead: Waubonsie Valley High School
(jason_mead@ipsd.org), Jill Casey

**Saturday 10:10 a.m. — 10:50 a.m.
Concurrent Sessions**

Audience: Grades 6-12 Room: 210

The Power of Learning Names

A teacher's interaction with students on day one sets the tone for the entire school year. This session relates learning of students' names to demonstrating interpersonal empathy and a growth mindset to students. It is even applicable for teachers who see more than 100 students during their day.

Carolyn Frye: Northwood Junior High School
(cabramble@gmail.com)

Mark Frye

Audience: Mathematics Coaches Room: 211

Data Driven Math Coaching

This panel discussion will highlight the role of assessment in math coaching. In particular, you will hear from coaches in the field with their insights into what works, what doesn't, and how to move teaching practice forward.

Annie Forest: Berwyn South District 100
(aforest@bsd100.org)

Audience: Grades 6-8 Room: 405

Building Identity and Community through Four Norms

How can classroom norms help increase participation, risk-taking, interest, and pro-social behaviors in your class? How does an intentional focus around universal norms help build student identity and community? We will look at how a norms based classroom can improve culture and engage students.

Kenji Mori: Middle School (mori@sd74.org)

**Saturday 10:10 a.m. — 11:40 a.m.
Workshops**

Audience: Grades k-12 Room: 213

Rebranding STEM: Including Manufacturing & Trades

We will explore STEM career pathways for middle school students, that will lead to career and technical education. By using innovation, problem solving, power tools, field trips to factories, blueprint reading, and computer programming in the classroom, students will be exposed to future careers.

Elana Jacobs: Prieto Math and Science Academy
(erjacobs@cps.edu)

Saturday 10:10 a.m. — 11:40 a.m.
Workshops

Audience: Grades 3-5 **Room: 202**
Social Justice Lessons in the Elementary School
Learn how historical settings can support social justice learning in a math setting appropriate for younger students.
Cathy Kaduk: Maplebrook (cathy.kaduk@gmail.com)
Jennifer Mundt Leimberer

Saturday 11:00 a.m. — 11:40 a.m.
Concurrent Sessions

Audience: Supervisors & Administrators **Room: 134**
Student + Choice = Inspired Learners
Tired of the same old review worksheet? Increase student engagement by implementing a student choice model. Engage students in activities that require them to synthesize, analyze, summarize and reflect. When given choice, students will deepen their understanding and enjoy their learning journey.

Justine Repplinger: Lake Zurich High School
(justine.repplinger@lz95.org)
Rachel O'Connor

Audience: Grades k-12 **Room: 136**
Teachers of Color
Navigating the dominant culture within mathematics education is different for teachers of color. This time will be devoted to reflecting in a safe space within the conference. This time will be facilitated and meant to produce "an exhale" from many of the challenges specific to teachers of color.

Esther Song

Audience: Grades 3-12 **Room: 212**
Girls Who Code: Closing the Gender Gap in Tech
Girls Who Code Clubs are FREE after-school programs for 3rd-5th or 6th-12th grade girls to join a sisterhood of supportive peers and role models and use computer science to change the world. We will discuss how to start a Girls Who Code Club and provide a deep dive into the program curriculum.
Chelsey Echevarria
(chelsey.echevarria@girlswhocode.com)

Saturday 11:00 a.m. — 11:40 a.m.
Concurrent Sessions

Audience: Grades k-6 **Room: 200**
Human Impact Projects
Human Impact Projects are a great way to introduce students to real world problems, utilize the practices in order to develop possible solutions and become invested in something bigger than the classroom. Although this program is labeled for biology teachers, Human Impact Projects may be tailored to any science discipline.

Erica Wapole

Audience: Grades k-12 **Room: 201**
Expand Your Teaching Through Travel
Many students have never left far beyond their towns, which is a barrier when content reaches past your region. Your travel stories can connect content to real-life situations that are engaging. Learn how affordable travel can be a reality and how your adventures can bring a spark to your classroom!

Alyssa Weisenstein: Marion HS
(aweosenstein@marioununit2.org)

Audience: Grades 6-12 **Room: 135**
Discovering Fantastic Numbers
Using only very basic mathematics, you will discover some truly fantastic numbers-radical 2, pi, phi, (the golden ratio), and e (Euler's constant). Each is discovered in a setting that emphasizes the importance of that number to mathematics.

George J. Marino: Proviso West HS
(georgejmarino@aol.com)

Audience: Grades 6-12 **Room: 203**
The Algebra of Invisibility
It's all about the bend. What we see and don't see through different media can be measured and predicted. This session will start with some invisibility activities and then move to measurement with lenses. We will use Snell's law and investigate the "Rochester Cloak".

George Reese: MSTE at University of Illinois
(reese@illinois.edu)
Jana Sebestik, Sammy Lindgren

**Saturday 11:00 a.m. — 11:40 a.m.
Concurrent Sessions**

Audience: Grades k-12 Room: 209
Shifting from Math Talk to Math Discourse

Many times as teachers, we struggle engaging students in having Math Talks. In this session, participants will explore various instructional strategies that could assist shifting a math classroom culture from having math talks to authentic math discourse.

Asma Akhras: (aakhras@yahoo.com)

Audience: Grades 9-12+ Room: 210
Teaching Struggle can be Real + We're Here to Help

As younger teachers in our profession, we have reflected upon what we learned (and wish we would have learned) before entering our first years of having our own classrooms. Come join us for conversations about how to best support new(er) teachers as they join our community of life-long learners.

Tina Nocella: Adlai E Stevenson HS
(tnocella@d125.org)

Gary Chu

Audience: Supervisors & Administrators Room: 211
Eradicating "Double Dose": Equitable Intervention

Will focus on a transformational shift in thinking that led to changes in course structure and outcomes to better support below-grade level students as they access appropriate grade level content. Structure includes: SEL, Math Talks, goal setting, reading strategies, pre-teach, re-engagement.

William Brown: Thornridge HS
(brown.william@district205.net)

Jennifer Mitchell

**Saturday 11:00 a.m. — 12:30 p.m.
Workshops**

Audience: Grades 6-8 Room: 220
Does your Math Problem Spark Joy?

Should mathematics classrooms center joy and creativity? In this session, participants will actively engage in math problems designed to spark joy. Math teachers will learn how to provide low-floor, high ceiling problems for students that require creative engagement & collaboration.

Sara Rezvi: The University of Illinois at Chicago
(sara.rezvi@gmail.com)

Joe Ochiltree

**Saturday 11:00 a.m. — 12:30 p.m.
Workshops**

Audience: grades 6-12 Room: 221
Making Connections and Strengthening Learning

Participants will experience team building exercises geared for the whole class and for small groups within the class. We will also share strategies for creating groups and for humanizing our classrooms through these collective-building, content-related activities.

Cory Gilroy: Evanston Township HS
(gilroyc@eths.k12.il.us)

Kayla Goldenberg

Audience: Grades 6-8 Room: 401
STEM-ulating Activities on People and the Planet

Connect students' growing math and critical thinking skills to the trends shaping the world around them from changing global demographics to carbon emissions to resource management. Engage in simulations, mathematical modeling, measurement and data analysis using current events and real-world data.

Leah Nillas, Ph.D.: Illinois Wesleyan University
(lnillas@iwu.edu)

Audience: Grades 6-12 Room: 405
Who's Hiding? Empathizing and Expanding for All

Join us for an experience in empathizing with our most marginalized students. We'll reflect on who those students might be in our classes and plan on how we can better teach them.

Matt Rosenberg: Chicago Public Schools
(mrosenberg@cps.edu)

Chris Nho

Audience: Grades 6-12 Room: 202
To Infinity and Beyond: the Mathematics in Music

In this session, we will find connections between mathematics and music that we can bring to our classrooms. Without prior knowledge of music theory, participants will explore such topics as rhythm, song composition, transposition, lyrical composition, and sound construction.

Martin Funk: New Trier HS (funkma@nth.net)

**Saturday 11:50 a.m. — 12:30 p.m.
Concurrent Sessions**

Audience: Grades 9-12+

Room: 203

Tasks to Engage Algebra to PreCalculus Students

Entice your students using a variety of activities to introduce new mathematical topics. During this session we will share tasks and instructional strategies we have used to engage students in algebraic content. We will share our experiences and ideas to build these activities into courses.

Valerie Tomkiel: Adlai E. Stevenson HS
(vtomkiel@d125.org)

Megan Trant, Sydney Hendricks

Audience: Grades 9-12+

Room: 209

Using Tasks to Push Geometric Understanding

In this session, participants will be introduced to several tasks that have been used for students to apply geometric reasoning to problems outside the normal depth of knowledge required by the textbook. You will be given some tasks to take and use, as well as strategies in group building.

Steven Pavlakis: Urbana HS (spavlakis@usd116.org)

Audience: Grades 6-12

Room: 210

Creating a Laser Light Show to Teach Coordinates

Get hands-on creating a laser light show to teach coordinates. In this activity, students create a path using coordinates for a laser to follow that generates their design. A simple apparatus you can make uses mirrors and a laser projects the image on fluorescent paper for the class to see.

Joseph Muskin: University of Illinois
(jmuskin@illinois.edu)

Adam Poetzel, Dr. Arend van der Zande

**ICTM Conference Advisory Meeting
Room: 135**

**SAVE THE DATE:
ICTM 2020 Annual Conference
Saturday, November 14, 2020**

**SAVE THE DATE:
NSTA 2020 Annual Conference
April 2-5, 2020
Boston, MA**

The Illinois Council of Teachers of Mathematics and Metropolitan Mathematics Club of Chicago are hosting the NCTM Centennial Annual Meeting & Exposition at McCormick Place in Chicago! Join us, your colleagues, and education leaders Wednesday, April 1-Saturday, April 4 for high-quality professional development and networking opportunities, compelling exhibits, updates on best practices, and the latest strategies to engage your students and get them excited about mathematics. Make your plans to attend this celebration of NCTM's 100th anniversary: nctm.org/100/



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Go to www.ilscience for more information

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