RUTGERS
THE STATE UNIVERSITY OF NEW JERSEY

2018-2019 Mathematics Workshops

For Elementary School Teachers

arranged by Joseph G. Rosenstein and Neil D. Cooperman

sponsored by the Association of Mathematics Teachers of New Jersey (AMTNJ)

with the cooperation of DIMACS, the Center for Discrete Mathematics and Theoretical Computer Science,

and the Rutgers Department of Mathematics

Overview:

Would you like to:
- Better prepare your students for NJ's statewide assessments?
- Engage your students in the lessons that you teach?
- Learn more mathematics content that is relevant to your classroom?
- Incorporate standards-based hands-on activities that motivate your students?
- Relate what you are doing in the classroom to "real world" applications?

Seventeen, highly interactive, one-day professional development workshops for elementary school math teachers are offered during the 2018-2019 school year. These workshops address a broad range of topics that are applicable to all curricula taught by grades K-5 teachers of mathematics.

These workshops are sponsored by the Association of Mathematics Teachers of New Jersey (AMTNJ) with the cooperation of DIMACS (the Center for Discrete Mathematics and Theoretical Computer Science) and the Rutgers Department of Mathematics.

All workshops are connected to New Jersey's state standards in mathematics. All of these workshops will help you better prepare students for the statewide assessments and provide the resources and knowledge that you need to generate new and exciting standards-based lessons.

All workshops are full-day workshops at which participants will earn six (6) professional development hours. All workshops will take place on the Busch Campus of Rutgers University-New Brunswick. Participants may attend single or multiple workshops in any order.

The fee for each full-day workshop is $205 ($10 discount for each online registration). Discounts are available for multiple registrations on a single purchase order. Workshop registrations include eMembership in AMTNJ through December 31, 2019.

Although some workshops address overlapping issues, teachers who attend multiple workshops will benefit from experiencing the different approaches workshop leaders have to helping students meet the challenges of the state standards and assessments. Our instructors are among the most experienced and respected workshop leaders in the

state. The workshop topics are based on feedback and recommendations from New Jersey teachers and administrators.

You will leave these workshops with valuable tools to motivate your students, stimulate their curiosity, and promote a more positive attitude towards mathematics.

Workshop Titles (in chronological order):
(scroll down for workshop descriptions in alphabetical order)
(all workshops begin at 9:00 am)

- **Intervention Strategies for Struggling Learners in Mathematics, Grades 3-5**
  Date: Tuesday, November 13, 2018 (Code: W-11-13-18)
  Presenter: Irina Lyublinskaya

- **Helping All Students Master Math – Identifying and Filling the Gaps in Students' Learning, Grades K-2**
  Date: Tuesday, November 20, 2018 (Code: W-11-20-18)
  Presenter: Denise Rawding

- **Helping All Students Master Math – Identifying and Filling the Gaps in Students' Learning, Grades 3-5**
  Date: Tuesday, November 27, 2018 (Code: W-11-27-18)
  Presenter: Denise Rawding

- **Tips for Math Coaches, Math Supervisors, and Math Leaders, Grades K-12**
  Date: Wednesday, November 28, 2018 (Code: W-11-28-18)
  Presenter: Angelo DeMattia

- **Developing Number Concepts and Number Sense, Grades K-2**
  Date: Friday, November 30, 2018 (Code: W-11-30-18)
  Presenter: Makoto Yoshida

- **Mathematics and Art: Perfect Together: Don't Teach Art Instead of Math, Teach Math with Art!, Grades 3-5**
  Date: Friday, December 4, 2018 (Code: W-12-04-18)
  Presenter: Judith T. Brendel

- **Visualizing Problem Solving through Proportional and Spatial Reasoning, Grades 3-5**
  Date: Wednesday, December 12, 2018 (Code: W-12-12-18)
  Presenter: Angelo DeMattia

- **Rethinking Word Problems in Elementary School, Grades 2-5**
  Date: Friday, January 4, 2019 (Code: W-01-04-19)
  Presenter: Eric Milou

- **Standards for Mathematical Practice, Grades 2-5**
  Date: Friday, January 18, 2019 (Code: W-01-18-19)
  Presenter: Judith T. Brendel

- **Algebra: an Equity Issue, Grades 3-12**
  Date: Wednesday, January 30, 2019 (Code: W-01-30-19)
  Presenter: Debra Gulick

- **Fraction and Decimal Concepts and Their Calculation, Grades 3-6**
  Date: Thursday, February 14, 2019 (Code: W-02-14-19)
  Presenter: Makoto Yoshida

- **Geometry Investigations with GeoGebra, Grades 2-5**
  Date: Tuesday, February 26, 2019 (Code: W-02-26-19)
  Presenter: Irina Lyublinskaya

- **Multiplication and Division Concepts and Development of Calculation Fluency, Grades 3-5**
  Date: Friday, March 1, 2019 (Code: W-03-01-19)
  Presenter: Makoto Yoshida

- **Differentiating Instruction in Math: "It's not as hard as you think!", Grades 2-5**
  Date: Tuesday, April 09, 2019 (Code: W-04-09-19)
  Presenter: Judith T. Brendel

- **Making Meaning of Fractions, Grades 3-5**
  Date: Tuesday, April 23, 2019 (Code: W-02-23-19)
  Presenter: Mark Russo

- **Memorable Hands-On Activities for the Middle School Classroom, Grades 5-8**
  Date: Friday, April 26, 2019 (Code: W-04-26-19)
  Presenter: Coshetty Vargas

- **Number Sense, Fluency, & Operations in the K-5 Classroom, Grades K-5**
  Date: Wednesday, May 1, 2019 (Code: W-05-01-19)
  Presenter: Debra Gulick

Workshop Descriptions (in alphabetical order):

- ## Algebra: an Equity Issue, Grades 3-12

  Date: Wednesday, January 30, 2019 (Code: W-01-30-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Debra Gulick
  Audience: Grades 3-12 Mathematics Teachers and Supervisors

  Algebra appears as a standard at every grade level from 1 through high school. This session will address what algebraic thinking looks like at the elementary level, and why what happens in the elementary classroom is critical to the success of all students in future years. This session will also explore algebra in the middle school and the algebra content in the grade eight standards. Algebra is not just a course, it's an entire way of thinking and asking questions that spans grade levels.

- ## Developing Number Concepts and Number Sense, Grades K-2

  Date: Tuesday, December 4, 2018 (Code: W-12-04-18)
  Time: 9:00 am – 3:30 pm
  Presenter: Makoto Yoshida
  Audience: Grade K-2 Mathematics Teachers and Supervisors

  In this session, teachers will learn how to develop a strong number sense and reliable calculation skills in their young students. They will learn ways to help students firmly establish cardinality by demonstrating meaningful counting to quantify totals, while understanding that numbers to 10 are composed of smaller parts. Then,

teachers will discuss how to develop calculation strategies and the skills of addition and subtraction up to 10 and 20. From this base, they will learn how to help students develop a deep flexible understanding of multi-digit addition and subtraction algorithm calculations. Lastly, they will learn a system for targeted and tailored student practice, including how to assess systematically students' progress toward developing fluency. The session will engage teachers in activities and games to help students develop fluency in these basic but important calculations.

- **Differentiating Instruction in Math: "It's not as hard as you think!", Grades 2-5**

  Date: Tuesday, April 09, 2019 (Code: W-04-09-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Judith T. Brendel
  Audience: Grades 2-5 Mathematics Teachers and Supervisors

  How can we, as caring, dedicated professional educators, teach students at different levels of understanding and backgrounds at the same time? Can we realistically meet the needs of each student while meeting expectations of NJSLS (New Jersey Student Learning Standards)? Have fun while you learn and experience a range of effective instructional and learning strategies with specific activities to keep ALL students motivated, engaged, learning and succeeding. Yes, we can meet their needs. Leave with a wealth of ready-made original material to use now and with digital access to modify later. Participants are encouraged to bring a digital device such as a laptop or tablet.

- **Fraction and Decimal Concepts and Their Calculation, Grades 3-6**

  Date: Thursday, February 14, 2019 (Code: W-02-14-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Makoto Yoshida
  Audience: Grades 3-5 Mathematics Teachers and Supervisors

  Expectations for teaching fractions and decimals as given in the Common Core State Standards for Mathematics (CCSS-M) and many CCSS-based state standards are very different from previous standards. In this session, teachers will learn how to teach fractions and decimals within a focused and coherent instructional sequence of content and activities. Teachers will learn how to teach important concepts such as unit fractions, equivalent fractions, and calculations (addition, subtraction, multiplication, and division) to help students understand the content deeply.

- **Geometry Investigations with GeoGebra, Grades 2-5**

  Date: Tuesday, February 26, 2019 (Code: W-02-26-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Irina Lyublinskaya
  Audience: Grades 2-5 Mathematics Teachers, Mathematics Supervisors

  Come to learn how you can use GeoGebra in your classes to address geometry and measurement standards. This free multi-platform software/APP will engage your students in dynamic explorations, problem solving, and doing math!

- **Helping All Students Master Math – Identifying and Filling the Gaps in Students' Learning, Grades K-2**

  Date: Tuesday, November 20, 2018 (Code: W-11-20-18)
  Time: 9:00 am – 3:30 pm
  Presenter: Denise Rawding
  Audience: Grade K-2 Mathematics Teachers, Mathematics Supervisors

  When Math is presented as a life skill that broadens career choice and inspires critical thinking, students embrace the learning of reasoning and problem-solving skills while building confidence and persistence. While

many students will not major in science or engineering in college, all students benefit from the challenge and discipline of Math. This positive attitude can help teachers, administrators and students to meet the challenges of “teaching to the test” by viewing it as an opportunity to address common errors and misunderstandings without formally reviewing. In fact, the comparison of multiple-choice answers can help students to “think on their feet” while increasing accuracy, logic and frustration tolerance skills Ð assets in high school, college and the workplace. Worksheets will cover common secondary content incorporating HSPA and SAT content (including algebra, geometry, trig and precalc) and will use multiple representations and technology to appeal to diverse learning styles creating a path to success for all.

- **Helping All Students Master Math – Identifying and Filling the Gaps in Students’ Learning, Grades 3-5**

  Date: Tuesday, November 27, 2018 (Code: W-11-27-18)
  Time: 9:00 am – 3:30 pm
  Presenter: Denise Rawding
  Audience: Grade 3-5 Mathematics Teachers, Mathematics Supervisors

  Do you want to learn how to address gaps in students' math understanding and skills while still moving forward with the curriculum? In this workshop, you will gain a deeper understanding of how to tailor instruction based on progressions of learning and discover ways to identify prerequisite skills that support the current grade level's math work. You will also explore ways to support students in building necessary prior understandings and skills through engaging activities, math stations, and scaffolded lessons. Please bring a charged laptop.

- **Intervention Strategies for Struggling Learners in Mathematics, Grades 3-5**

  Date: Friday, November 13, 2018 (Code: W-11-13-18)
  Time: 9:00 am – 3:30 pm
  Presenter: Irina Lyublinskaya
  Audience: Grades 3-5 Mathematics Teachers, Mathematics Supervisors

  In this workshop participants will learn about specific research-based recommendations to address the needs of struggling learners in math; discuss how to carry out each recommendation; review examples illustrating specific intervention strategies for different recommendations, and develop strategies based on these recommendations for teaching specific topics of elementary school mathematics.

- **Making Meaning of Fractions, Grades 3-5**

  Date: Tuesday, April 23, 2019 (Code: W-04-23-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Mark Russo
  Audience: Grades 3-5 Mathematics Teachers, Mathematics Supervisors

  This session will focus on the grades 3 - 5 fractions standards. We will discuss how to introduce key fractional ideas to students in a way that helps them make meaning for themselves, by connecting new ideas with prior knowledge. We will explore manipulatives and technology, discuss multiple ways to discover standard algorithms, and consider multiple representations as a tool to strengthen understanding.

- **Mathematics and Art: Perfect Together: Don’t Teach Art Instead of Math, Teach Math with Art!, Grades 3-5**

  Date: Friday, December 4, 2018 (Code: W-12-04-18)
  Time: 9:00 am – 3:30 pm
  Presenter: Judith T. Brendel
  Audience: Grades 3-5 Mathematics Teachers, Mathematics Supervisors

  This hands-on workshop is designed for teachers of mathematics with or without any particular visual-arts skills. See what arts-integration looks and how it will improve your student's understanding of math concepts? Visual art activities, lessons, and projects: Experience: (1) simple projects done in your math class that will

develop critical thinking skills; (2) activities that address relevant Math Process and Content Standards; (3) student success; see the increase in self-esteem and willingness to persevere; (4) problem solving creatively in pairs, groups or teams; (5) use of effective rubrics, and (6) online free-resources for use in class or at home. Participants are encouraged to bring a digital device such as a laptop or tablet.

- **Memorable Hands-On Activities for the Middle School Classroom, Grades 5-8**

  Date: Thursday, April 26, 2019 (Code: W-04-26-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Coshetty Vargas
  Audience: Grades 6-12 Mathematics Teachers and Supervisors

  Explore the different areas of common core standards by using hands on manipulatives to engage students in your math lessons in a fun memorable way. Apply Algebra, Geometry, Number Sense, Ratios, Proportions, Data and Probability by using basic materials such as post its, spaghetti, marbles, sugar cubes, skittles, monopoly boards... to name a few.

- **Multiplication and Division Concepts and Development of Calculation Fluency, Grades 3-5**

  Date: Friday, March 1, 2019 (Code: W-03-01-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Makoto Yoshida
  Audience: Grades 3-5 Mathematics Teachers, Mathematics Supervisors

  In this session teachers will learn how to help students understand multiplication concepts, use strategies to develop multiplication tables, and practice strategically to become fluent. In addition, they will learn how to help students understand division concepts and the use of the inverse operation (multiplication) to find quotients. Teachers will study how a strong conceptual understanding of multiplication and division is the foundation for middle school mathematics (i.e., proportional relationships, proportion, ratio, and rate). This foundation includes understanding how to use models and standard algorithms for multi-digit multiplication and division calculation processes. Finally, teachers will learn a system of practice and assessment of students' progress toward fluency with multiplication and division. Through this session, teachers will learn many activities and games to help students develop the basic calculation skills and an assessment system for monitoring students' learning progress.

- **Number Sense, Fluency, & Operations in the K-5 Classroom, Grades K-5**

  Date: Wednesday, May 1, 2019 (Code: W-05-01-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Debra Gulick
  Audience: Grades 6-12 Mathematics Teachers, Mathematics Supervisors

  During this session, we will explore ways to build number sense by building routines that ask students to take risks. Students build their number sense by estimating and revising their estimates with pictures, video, measurement and operations. Additionally we will connect the visual and verbal representations of various addition, subtraction, multiplication and division algorithms, traditional and others, and understand how they are all connected. Strategies for communicating with parents will be shared.

- **Rethinking Word Problems in Elementary School, Grades 2-5**

  Date: Friday, January 4, 2019 (Code: W-01-04-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Eric Milou
  Audience: Grades 2-5 Mathematics Teachers and Supervisors

  This session will have teachers engaging in rethinking how to teach word problems and problem solving tasks

by asking students to wonder about problems by peeling back the layers of a problem: eliminating the text, eliminating the jargon/structure and using technology to engage the learner.

- **Standards for Mathematical Practice, Grades 2-5**

  Date: Friday, January 18, 2019 (Code: W-01-18-19)
  Time: 9:00 am – 3:30 pm
  Presenter: Judith T. Brendel
  Audience: High School Mathematics Teachers and Supervisors

  It sounds like just another education buzzword, but it's so much more. When it comes to the Common Core State Standards, standards for mathematical practice describe the very foundation of what CCSS are all about: helping students achieve at a higher level. In this workshop you will not only become familiar with these eight practice standards; for each standard you will also experience teaching strategies + activities and resources for students that will enforce and enrich their understandings and success in learning. It's not just about content! Apply new strategies to material you already have, practice to better understand expectations, and receive new grade-specific resources to use with your students throughout the year.

- **Tips for Math Coaches, Math Supervisors, and Math Leaders, Grades K-12**

  Date: Wednesday, November 28, 2018 (Code: W-11-28-18)
  Time: 9:00 am – 3:30 pm
  Presenter: Angelo DeMattia
  Audience: Grade 6-10 Mathematics Teachers and Supervisors

  How can Math teachers be supported on their journey to provide quality learning for their students? This workshop will help participants explore various support structures that will help attain the above goal. If you are new to math leadership, this session helps clarify this enormous task and helps to gain confidence as where to begin – especially in supporting teachers in the implementation of the mathematical practices and understanding the intent of conceptual understanding and how it supports retention and procedural fluency. If you are experienced, this session will help you rethink the menu and your training. Ultimately, you will improve as a knowledgeable practitioner, capable of using your extensive math understanding and teaching experiences to help children from varied cultural backgrounds become convincing mathematicians. Time will be reserved for sharing leadership dilemmas, solutions, and ideas, as well as examining effective math lessons.

- **Visualizing Problem Solving through Proportional and Spatial Reasoning, Grades 3-5**

  Date: Wednesday, December 12, 2018 (Code: W-12-12-18)
  Time: 9:00 am – 3:30 pm
  Presenter: Angelo DeMattia
  Audience: Grades 8-12 Mathematics Teachers and Supervisors

  Help students remember their Math concepts well beyond their elementary school years. This workshop will help teachers develop more visually based lessons that will include the use of strip (or bar) models, double line models, and spatial reasoning models such as paper-folding. Research has shown that spatial thinking is a predictor of success in STEM, and that this emphasis will help students, including SE & ELL – make an effective transition from the concrete/visual to the abstract. The emphasis will be on applying the PAW process, a problem solving strategy that employs: P is for Pictures, A is for Abstract, and W is for Words. Ample hands-on lessons will highlight the process that helps teachers to help students attain a higher level of achievement on PARCC Assessments as well as to gain a better understanding of the Common Core Standards. Time will also be reserved for Number Talks as well as sharing ideas and your questions/concerns. Bring a laptop.

Registration Information

Payment Information

To encourage implementation at your school, we are offering discounts to schools or districts that send multiple registrations on a single purchase order and to individuals who sign up for four (4) or more workshops.

1-3 Workshop Registrations = $205 each

4-9 Workshop Registrations (one or more individuals) = $175 each (15% discount)

10 or more Workshop Registrations (one or more individuals) = $155 (25% discount)

THERE IS A $10 DISCOUNT FOR EACH ONLINE REGISTRATION

Workshop fees include all materials.

Payment may be made by purchase order or personal check; purchase orders and/or checks should be made out to **AMTNJ (Association of Mathematics Teachers of NJ)** and mailed to the address below. Admittance to the workshop may be denied if no payment method is submitted by the day of the workshop or if billing information is not completed.

Registration Information

You can register by:

Phone:	(732) 788-1257 from Monday through Friday, from 9:30 a.m. to noon.
Online:	http://tinyurl.com/AMTNJ-DIMACS-2018-2019
FAX:	FAX Registration Form to (732) 399-5388, 24-hours a day.
Mail:	Send Registration Form to:

AMTNJ/DIMACS K-12 Math Workshops
PO Box 264
Bay Head, New Jersey 08742

Please do not assume that your district is registering for you; they often fail to notify us that teachers are planning to attend. Please register with us and tell us that your district will be sending additional materials; we will then be able to send you a confirmation letter.

Once your registration is received, you will receive an email confirmation letter at least 10 days before your workshop; attached to this letter will be a map, directions, and parking information.

If you have not received a confirmation letter 10 days prior to your workshop, please call 732-788-1257 to confirm that your registration has been received and that the workshop will take place.

Click here for Registration Form

Click here to Register Online

Cancellation Policy

A full refund (minus a $25 processing fee per registrant) will be issued to the appropriate party if this office is notified **in writing** at least five (5) business days prior to the workshop date. If you cancel within five (5) business days, or if neither you nor a substitute attend the workshop without notifying us, no refund will be issued.

All workshops are subject to cancellation for insufficient enrollment.

If you register less than one week before the conference, you may not be registered because of over enrollment or because the workshop has been canceled. Please contact our office to verify that your registration has been processed, that you are indeed registered, and that the workshop has not been canceled.

To obtain information about other programs, call 732-788-1257 or visit the AMTNJ website at http://www.amtnj.org