

# Points & Angles

Newsletter of the Metropolitan Mathematics Club of Chicago  
Volume LI No. 7 June 2022

## NCTM and a Century of Mathematics Education—A Review with Music

By Danielle Grenader

Originally scheduled for the large stage in the Arie Crown Theater, Zalman Usiskin presented “NCTM and a Century of Mathematics Education—A Review with Music” for an enthusiastic crowd at our May meeting. In a talk that was musical, comedic, and packed with information, Zal summarized the major issues and movements in mathematics education over the last 100 years of our nation’s history. Interwoven throughout his talk, Zal also pointed out connections between this history and a well-rounded shape – the circle!



Our journey through time started with the circumstances leading up to the formation of NCTM. In the late 19th century, as the nation’s population diversified, elite universities needed a way to assess students from schools they had never heard of before. This inspired a need for more uniform college preparatory standards, which included a recommendation that has stuck with us today – that all high school students study algebra and geometry. The conversation on school requirements continued, and by 1918, every state required students to complete elementary school. During this time, new mathematical societies began to emerge (including our own organization, MMC!) and on February 24, 1920, NCTM was born.

Following his detailed account of the decades before NCTM’s birth, Zal transitioned into the more modern history, taking us through the major events of the first ten decades of NCTM.

1920s — This decade marked a significant beginning. In 1923, the MAA published the National Commission on Mathematical Requirements, also known as *The '23 Report*, which stimulated interest in mathematics education.

1930s — During the Great Depression, students stayed in school longer due to a lack of work opportunities, but few jobs required high school mathematics. As a result, schools started replacing academic mathematics with vocational mathematics.

1940s — To counter the trends of the previous decade, the Progressive Education Association published the *Report on Mathematics in General Education* and NCTM released its first major policy report, *The Place of Mathematics in Secondary Education*. World War II exposed the weak mathematics education of the general populace, and by the mid-1940s, NCTM organized a commission on post-war plans, publishing three reports that detailed objectives everyone should know in mathematics and their applications.

## May Dinner Talk Summary (cont.)

1950s — By the early 1950s, the University of Illinois Committee on School Mathematics was initiated with the goal of making mathematics study in school more like math as done by mathematicians. A few years later, NCTM published *Arithmetic Teacher*, acknowledging the importance of K-8 mathematics. By the late 1950s, the School Mathematics Study Group was formed, which created materials for K-12 and popularized research in math education. Shortly after this group was formed, Sputnik was launched, and this sounded an alarm to catch up to the Russians — they were ahead of us in getting to the moon!

1960s — Sputnik became a catalyst for curriculum developments, not the least of which was the development of “New Math.” This curriculum suggested significant changes to the way mathematics was taught and required substantial investment and retraining of teachers. However, New Math was unsuccessful, and it disappeared in the 1970s.

1970s — As a reaction to New Math, this time period was highlighted by a movement to return back to basics, with an emphasis on performance objectives — just get the right answer whether you can explain it or not! This movement alarmed the NSF and the mathematics education community. As a result, the NSF funded the Conference Board of the Mathematical Sciences to sponsor a national advisory committee on mathematics education. The group produced a report stating that we need to rethink what we teach and how we teach, and in the same year, NIE had a conference on basic skills with its own report. This conference led the National Council of Supervisors of Mathematics to redefine what was meant by basic skills, which put NCSM on the map and sparked the growth that has continued today.

1980s — The success of the NCSM position paper moved NCTM to reenter the policy scene with the publication of *An Agenda for Action*. This publication asserted that rather than computational skill, problem solving was the most important goal of school mathematics. There was a need for new content to address this new focus, and in 1989, NCTM published the most influential report in its history, the *Curriculum and Evaluation Standards for School Mathematics*. This sparked the NSF to fund multiple large curriculum development projects.

1990s — This decade marked a high point in NCTM’s history. NCTM published its *Assessment Standards*, and there was widespread implementation of commercial materials that were largely influenced by the NCTM standards and NSF projects.

2000s — NCTM introduced another major publication, *Principles and Standards for School Mathematics*. After the passing of No Child Left Behind, every state became required to test students annually in language arts and mathematics, and the development of these tests exposed the fact that states were requiring different competencies. NCTM responded with the release of its *Curriculum Focal Points*.

2010s — In a large-scale response to the lack of alignment across states, the Governors and Chief State School Officers released the Common Core. These standards were released with the goal that every student have access to a mathematics experience that prepares them for college, careers, and informed citizenship. We can see that these goals have remained with us in one way or another since the beginning of our journey, coming full circle!

Zal concluded his talk by sharing his own thoughts on math education, how else but through song?! With special thanks to Andrew Chukerman for his lively accompaniment, this was a talk that inspired reflection while keeping us entertained and laughing along the way. If you would like to hear this presentation in its entirety, you may consider a trip to the west coast! Zal shared that he will be presenting a similar rendition of this talk at the 2022 NCTM Annual Meeting in Los Angeles. Hope to see you there!

# Points from the Interior

By Aimee Hart

It has been an honor to serve as MMC president this year and I look forward to continuing on the board for the next few years. The past two years have been especially challenging for teachers. Like many of you, I am very excited that summer is just around the corner, and I will have some time to rest and recuperate.

I would like to thank the entire MMC Board for their help and hard work the past two years. I had been on the board for less than a year when the pandemic started, and we had to pivot to remote meetings. I often felt like I was learning as I went and had to ask many questions along the way. I appreciate how much fellow board members have been willing to help me figure things out and adapt to the changes.

I would like to say a special thanks to Steve Starr, who completed his term on the board, and give a big welcome to Liam Keigher, who is joining the board this year. I'd also like to welcome Dan Hall, who joins the board as President-Elect. I know he and our new president, Laura Kaplan, will continue the mission of MMC while navigating the challenges and uncertainty caused by Covid-19. In an effort to offer access to all of our members, we will continue to offer a mix of in-person and virtual meetings next year. I know Laura has an exciting slate of speakers to share with you in the next *Points & Angles*.

I hope you all have a peaceful end of the school year and get some rest this summer!

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## Congratulations to the Newly-Elected MMC Board!

### President-Elect:

Dan Hall

### Board of Directors:

Aimee Hart

Maryjoy Heineman

Liam Keigher

Janice Krause

Nicolette Norris

Mary Wiltjer

*Congratulations*

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## Follow MMC on Social Media!





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Aimee Hart, President  
 Laura Kaplan, President-Elect  
 Serg Cvetkovic, Past President  
 Sheila Hardin, Board Chair  
 Beth Ann Ball, Secretary  
 Carol Nenne, Treasurer

#### Directors

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 Maine South H.S., Park Ridge

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 Illinois Mathematics & Science Academy  
 (retired), Aurora

Sara Curran (2020-2023)  
 Homestead Elementary, Aurora

Serg Cvetkovic (2020-2023)  
 Thomas Kelly H.S., Chicago

Carrie Fraher (2021-2024)  
 Glenbrook South H.S., Glenview

Danielle Grenader (2021-2024)  
 Cicero East Elementary, Cicero

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 Oak Park & River Forest H.S., Oak Park

Aimee Hart (2019-2022)  
 New Trier H.S., Winnetka

Maryjoy Heineman (2019-2022)  
 Evanston Township H.S., Evanston

Laura Kaplan (2020-2023)  
 Regina Dominican H.S., Wilmette

Janice Krouse (2019-2022)  
 Illinois Mathematics & Science Academy, Aurora

Carol Nenne (2020-2023)  
 Lemont H.S. (retired), Lemont

Nicolette Norris (2019-2022)  
 Chicago Vocational Academy, Chicago

Steven Starr (2019-2022)  
 Lakeview H.S. (retired), Chicago

Mary Wiltjer (2019-2022)  
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# Metropolitan Mathematics Club of Chicago

*Affiliate of ICTM & NCTM*

## SAVE THE DATE! MMC Virtual Conference

given by teachers for teachers

Saturday, February 4, 2023  
 8:30 am – 12:10 pm

OPTIONAL POST SESSION DISCUSSION  
 12:10 to 1:10 pm

**Call for proposals will open in September.**

Please consider being a presenter for 2023 or presenting with a co-speaker. Share this with your colleagues, and check the website for updates at [www.mmcchicago.org](http://www.mmcchicago.org)

# May Board Notes

By Beth Ann Ball

The last regularly scheduled meeting of the MMC Board for 2021-22 and the first scheduled meeting for 2022-23 were held Wednesday, May 11, 2022, at 6:30 p.m. over Zoom. To close out the 2021-2022 year, President Aimee Hart thanked the members of MMC who attended both the virtual and in-person meetings during COVID. She shared that throughout this time, MMC was able to offer quality programming through their flexibility. It was discussed that the MMC Scholarship presentation will be delayed until 2023.

The first regularly scheduled meeting of the 2022-2023 MMC Board began with the appointment of officers and committee chairs. The remainder of the meeting concentrated on the meeting format for 2022-2023. While the board had already decided the Conference of Workshops would be virtual in 2023, the decision about monthly meeting formats remained. After a lengthy discussion, the board voted upon having three meetings in person at the Des Plaines Elks Lodge and three meetings virtually over Zoom. The Zoom meetings are currently scheduled for the winter monthly meetings.

The next regularly scheduled meeting of the MMC Board will be on Thursday, August 18, 2022, at 6:30 p.m. over Zoom. Please contact President Laura Kaplan, [lkaplan@rdpanthers.org](mailto:lkaplan@rdpanthers.org), for the Zoom link if you would like to attend. All members are welcome.

**Is your membership current? Check your mailing label to see when your membership expires.  
You can renew by mail with the form below or renew in person at the next dinner meeting.**

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CITY	STATE	ZIP	
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<b>ELECTRONIC-ONLY MEMBERSHIP</b> Check the box below for electronic-only membership. You will receive an email with a direct link to each issue of <i>Points &amp; Angles</i> when it is posted on the web site, often before paper copies are mailed. You will no longer receive <i>Points &amp; Angles</i> by mail. <input type="checkbox"/> Electronic-Only Membership		<b>MEMBERSHIP TYPE</b> Check one: <input type="checkbox"/> 1 year (\$35) <input type="checkbox"/> student*, 1 yr (\$22) <input type="checkbox"/> 2 years (\$65) <input type="checkbox"/> 1 <sup>st</sup> yr teacher*, 1 yr (\$22) <input type="checkbox"/> 3 years (\$90) <input type="checkbox"/> retired, 1 yr (\$28)	
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* The student and 1 <sup>st</sup> -year teacher memberships are only available as electronic-only.		DONATIONS	
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		TOTAL AMOUNT OF CHECK \$	

Make check payable to **MMC**

**MMC Membership and Change of Address Form**  
Mail completed form and check to:  
**MMC**  
1644 Portage Run  
Glenview, IL 60025

# Upcoming Events

Fri., Sept. 16	James Tanton	MMC Dinner Meeting (at the Des Plaines Elks Lodge)
Sat., Sept. 17	James Tanton	MMC Saturday Workshop
Fri., Nov. 4	Peter DeCraene	MMC Dinner Meeting (via Zoom)
Fri., Dec. 9	Annie Forest	MMC Dinner Meeting (via Zoom)

Send upcoming event items to [sburnett\\_308@yahoo.com](mailto:sburnett_308@yahoo.com) no later than the date of the MMC dinner meeting preceding the issue in which the item should appear. All items are subject to editing.

Your membership renewal date appears in the upper right corner of the label

