

The background features several decorative elements: a cluster of colorful mathematical symbols (infinity, pi, sigma) in the top left; a large, complex, multi-colored knot-like structure in the top right; a large, faint, multi-colored mathematical symbol (possibly a sigma or similar) on the left side; and another cluster of colorful mathematical symbols in the bottom right. The main title is centered and consists of the acronym 'IMMOVES' in large, multi-colored letters, followed by the year '2023' in red, and the full name 'MATHEMATICS OF VARIOUS ENTERTAINING SUBJECTS' in smaller, grey, all-caps letters below it.

**IMMOVES** 2023  
MATHEMATICS OF VARIOUS  
ENTERTAINING SUBJECTS



# MOVES Conference Schedule of Programs and Activities

Welcome researchers, educators, and families to the 2023 MOVES Conference, hosted by the National Museum of Mathematics!

## Sunday Afternoon

Meet at *Additions*, the shop at MoMath, for each of the following pre-conference activities.

### Math on Madison

Chaim Goodman-Strauss leads a mathematical walk around Madison Square Park.  
11:00 am - 12:00 pm

### My Neighbor's Garden

Take a stroll in the park to explore this unique crochet sculpture.  
1:30 pm

### Architextures Walk

Explore the neighborhood through an architectural lens with Tim Nissen.  
2:00 pm - 4:00 pm

## Sunday Evening

### Open House and Dessert Reception at MoMath

- 6:30** Museum open for conference attendees only; early registration begins.  
Enjoy more than three dozen unique, hands-on MoMath exhibits without the crowds!
- 6:45** Dessert reception, Wafels & Dinges.
- 8:45** Reception ends.

### Research Talks

MoMath is pleased to host 25 research talks over the course of the conference.

*For the research track (Proshansky Auditorium, rooms C201/202), follow the blue listings in the program.*

### Mathematical Activities

MoMath is happy to provide a change of pace with 16 guided mathematical activities intended for all audiences.

*For the activity track (rooms C203/204, C198), follow the yellow listings in the program.*



## MOVES 2023 Conference Locations

**MOVES Conference events will be held  
August 6 - 8, 2023 at the following locations:**

The National Museum of Mathematics, 11 East 26th Street

The Graduate Center, CUNY  
5th Avenue between 34th and 35th Streets

## Monday Morning

### Conference Kick-Off

Proshansky Auditorium, The Graduate Center, CUNY

- 8:30–9:20** Registration
- 9:20–9:30** Welcome and Opening Remarks  
Cindy Lawrence, Executive Director and CEO,  
National Museum of Mathematics
- 9:35–10:35** *Mathemalchemy: beauty and creativity through math* —  
Sabetta Matsumoto, Georgia Institute of Technology

#### Proshansky Auditorium

- 10:45–11:10** *Knitted Origami*  
Elizabeth Wilmer,  
Oberlin College
- 11:15–11:40** *Teaching Math with Crochets*  
Tanya Khovanova, MIT
- 11:45–12:10** *Three Moments in the History of Numerical Calculations*  
Jorge Nuno Silva,  
University of Lisbon

#### CUNY, C201/202

- 10:45–11:10** *Gluts, Knights, and Knaves*  
Ben Blumson,  
National University of Singapore
- 11:15–11:40** *Fairness on Graphs*  
Rik Sengupta, University of  
Massachusetts Amherst
- 11:45–12:10** *Polyominoes, Puzzles, Proofs, and Programming*  
Hayes Brown, Furman University  
Ellis Edinkrah, Furman University  
Joey Maness, Furman University

#### CUNY, C203/204

- 10:45–11:10** *Euler's Cat*  
Bronna Butler, QED Arts LLC  
Jessica K. Sklar, Pacific  
Lutheran University
- 11:15–11:40** *Coloring the losing positions of the game Euclid*  
Brittany Ohlinger,  
Albright College
- 11:45–12:10** *Designing Log Cabin Quilts/ Afghans*  
Marie Sheckels, University  
of Mary Washington  
Emily Sheckels, St. Thomas  
More Cathedral School

#### CUNY, C198

- 10:45–11:10** *A Tool to Think With — the Finch Robot*  
Laura Hart, Robofun
- 11:15–11:40** *The Geometry of God's Eye*  
Elana Reiser,  
St. Joseph's University
- 11:45–12:10** *Brainy Braiding*  
Skona Brittain, SB Family School

**12:15–1:45** Eat lunch with other conference attendees at The Shakespeare, 24 E. 39th St., between Madison Ave. and Park Ave. (pre-registration required) or grab a bite on your own.

## Monday Afternoon

### Proshansky Auditorium, The Graduate Center, CUNY

- 1:45–2:45** *The mathematics and computer science behind games and puzzles* — Érika Roldán, MPI MIS and ScaDS.AI Leipzig University

#### 2:45–3:05 Break

#### Proshansky Auditorium

- 3:05–3:30** *Sculpting Mapping Cylinders: Seamless Crochet of Topological Surfaces*  
Shiying Dong
- 3:35–4:00** *Randomizing Your Digits: Generatively Knit Mittens*  
Emily Dennett,  
Columbus Academy
- 4:05–4:40** *Best practices for creating data embroidery*  
Shemsi Alhaddad,  
USC Lancaster

#### CUNY, C201/202

- 3:05–3:30** *Exploring Bipartition Dominoes*  
Brian Hopkins,  
Saint Peter's University
- 3:35–4:00** *Probabilistic chip-collecting games with modulo winning conditions*  
Wing Hong Tony Wong,  
Kutztown University  
of Pennsylvania
- 4:05–4:40** *Self-similar structure of  $\mathcal{P}$ -positions of the game Euclid*  
Brittany Ohlinger,  
Albright College

#### CUNY, C203/204 Family Activity Fair

- 3:05–4:35** *Weaving Meaningful Patterns*  
Jordan Emmart,  
Discovery Homeschool
- 3:05–4:35** *Bayesian Murder Mystery: Visualizing Likelihood with New Evidence*  
Adam Shavit,  
Hunter College CUNY  
Jonathan Shavit
- 3:05–4:35** *Magic Key-Ring-Chain*  
Vanessa Landgraf, Technical  
University of Munich, Germany

### SPACE CHIPS DIE CUT®

Toy inventor Dick Esterle will be on hand throughout the conference with a simple make-and-take system of slot-together, flat pieces of up-cycled, die-cut cardboard triangles, squares, and pentagons with equal length edge-slots around their perimeter that connect with each other. Come build simple polyhedra or try your hand at creating higher-order spherical forms.

All MOVES attendees are welcome to enjoy FREE admission to MoMath throughout the conference; please just show your badge in *Additions*, the shop at MoMath, when you arrive.

## Monday Evening

5:00-6:30 Enjoy dinner with other conference attendees at Nomad Girl, 1151 Broadway, between 26th and 27th Streets (pre-registration required), or grab a bite on your own.

Proshansky Auditorium, The Graduate Center, CUNY

### Monday Night MOVES

7:00 – 9:00 PM

#### Tim and Tanya Chartier

Tim and Tanya Chartier introduce mathematical ideas via mime, making the often invisible world of mathematics more visible. Trained in master classes with Marcel Marceau, the Chartiers have performed throughout the United States as well as internationally.

#### *Mathemalchemy*, where math is transforming

Join a lively and engaging discussion of *Mathemalchemy*, a room-sized math exhibit that was the brainchild of mathematician Ingrid Daubechies and fiber artist Dominique Ehrmann. Groundbreaking in the breadth of its content, the project was driven by the energy and enthusiasm of twenty-four mathematical artists and artistic mathematicians, including moderator Kim Roth, Juniata College, and panelists Bronna Butler, QED Arts, LLC; Ingrid Daubechies, Duke University; Sabetta Masumoto, Georgia Institute of Technology; Henry Segerman, Oklahoma State University; and Jessica K. Sklar, Pacific Lutheran University.

#### Special Performance by

##### Dunn Pearson

Producer, Keyboardist for Rock-n-Roll Hall of Fame O'Jays. Award-winning Pianist, Composer, and Arranger. Recipient of the Decathlon of Music Award for Movies, Television, Broadway, Music, and Commercials.

##### Marcus Miller

Jazz saxophonist, songwriter, producer, and engineer in the New York music scene. Performed at the Obama White House, Madison Square Garden, *The Late Show with Stephen Colbert*, *The Blue Note*, *Dizzy's*, and even Carnegie Hall.

## Tuesday Morning

Proshansky Auditorium, The Graduate Center, CUNY

9:00-10:00 *How the World Fits Together: Tiles and Tessellations* — Chaim Goodman-Strauss, University of Arkansas

#### Proshansky Auditorium

10:15- *Mathematical Dice Design*  
10:40 Henry Segerman, Oklahoma State University

10:45- *A New Two-Person*  
11:10 *Mathemagical Entertainment with Coins*  
Colm Mulcahy, Spelman College

11:15- *Investigating the*  
11:45 *Australian Shuffle*  
Robert Vallin, Lamar University

#### CUNY, C201/202

10:15- *The SET Daily Puzzle:*  
10:40 *Combinatorial and Geometric Structure*  
Liz McMahan, Lafayette College  
Gary Gordon, Lafayette College

10:45- *Harmony in Hanabi: Fireworks*  
11:10 *without the Fireworks*  
John Harris, Furman University

11:15- *Gerrymandering is Not a Game*  
11:45 *— Except When It Is*  
Ed Lamagna, University of Rhode Island  
Ventsi Gotov, University of Rhode Island  
Madhukara Kekulandara, University of Rhode Island

#### CUNY, C203/204 Family Activity Fair

10:15- *Oloidmania*  
11:45 Eric Olson, State University of New York - Oswego

10:15- *Fish and Fowl: Weaving Ribbon*  
11:45 Suzanne Sumner, University of Mary Washington

#### CUNY, C198 Family Activity Fair

10:15- *Bucky's Circus*  
11:45 Melissa Silk, JMC Academy  
Lisa Giles, STEAMpop

10:15- *Games, Gamers,*  
11:45 *and Mathematics*  
Érika Roldán, MPI MiS and ScaDS.AI Leipzig University  
Manuel Estevez, MPI MiS and ScaDS.AI Leipzig University

### Take home a little bit of MoMath!

We'll be setting up an outpost of *Additions*, the shop at MoMath, for all your summer gift needs.

11:45-1:10 Lunch on your own.

Optional field trip to Tannen's Magic Shop (45 W 34th St. #608) led by Robert Vallin: meet at 11:50 am in front of C204.

## Tuesday Afternoon

Proshansky Auditorium, The Graduate Center, CUNY

1:10–2:10 *Temari Balls at Mathemalchemy and Beyond* —  
Ingrid Daubechies

### Proshansky Auditorium

2:25– *From Pixels to Play: Creating Image Approximations with Tangle Fidget Toys*  
Daniel Cowan, Caterpillar  
Tim Chartier, Davidson College

2:55– *Oh What a Complex Rug We Weave...*  
Barry Cipra, Freelance

3:25– *Modeling Equations in Origami Using the Miura-ori Pattern*  
Uyen Nguyen, WINWIN

3:55– *Imaginary Numbers in Binary! Using Doilies?!?!?*  
Hester Graves, IDA/CCS

### CUNY, C201/202

2:25– *Rep-tiles and the Geometric Mean*  
Leon Brin,  
Southern CT State University

2:55– *How Less is More: Origami in Mathematics*  
Medha Ravi,  
Saratoga High School

3:25– *Three Points Make a Right Triangle*  
Saad Mneimneh,  
Hunter College of the City University of New York

### CUNY, C203/204 Family Activity Fair

2:25– *PENTRAM — the next-level of Tangram*  
3:55  
Emil Simeonov,  
UAS Technikum Wien

2:25– *Using Origami to Introduce the Properties of a Square*  
3:55  
Helen Rodney

2:25– *Crochet a hyperbolic plane*  
3:55  
Cindy Zhang, MIT

### CUNY, C198 Family Activity Fair

2:25– *Mobifold*  
3:55  
Melissa Silk, JMC Academy  
Lisa Giles, STEAMpop

### FREE post-conference events

7:00 pm, Tuesday, August 8  
*How Maths Saved My Life*  
Aylean MacDonald  
[momath.org/saved](http://momath.org/saved)

4:00 pm or 7:00 pm,  
Wednesday, August 9  
*Unsolved Mystery: Understanding and playing with an open problem in mathematics*  
Elise Raphael  
[mathcounters.org](http://mathcounters.org)

### MOVES Closing

Proshansky Auditorium, The Graduate Center, CUNY

4:30–4:40 **Concluding Remarks**, Cindy Lawrence, MoMath

The National Museum of Mathematics  
wishes to thank the following  
**MOVES** supporters:

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## MOVES Conference Committee

Josh Laison, Willamette University

Cindy Lawrence, Executive Director & CEO, MoMath

Kim Roth, Juniata College

Robert W. Vallin, Lamar University

Bob Bosch, Oberlin College

Skona Brittain, SB Family School

Tim Chartier, Davidson College

Ása Jóhannesdóttir, Reykjavik University

Ron Lancaster, University of Toronto

Liz McMahan, Lafayette College

Tony Nance, The Ohio State University

Jessica K. Sklar, Pacific Lutheran University

Ricardo Teixeira, University of Houston - Victoria

Keep the magic of math  
going all year long!

# Join MO MATH today!



## Members receive:

- Free access to all MoMath program videos.
- A 10% discount in *Additions*, the shop at MoMath!

[momath.org/join](http://momath.org/join)

## Recommended eateries with discounts

Show your MOVES badge to receive the following discounts:

Kosher In Midtown - 43 E 34th St between Madison & Park Aves, 10% off

Sabai - 432 Park Avenue South between 29th & 30th Streets, 15% off

## Other recommended eateries

Anita Gelato - 1141 Broadway at the corner of 26th Street and Broadway

Bravo Pizza - 360 7th Ave at the Corner of 30th Street and 7th Ave

ilili - 236 5th Ave between 27th & 28th Streets

MEXiCUE - 225 5th Ave between 26th and 27th Streets

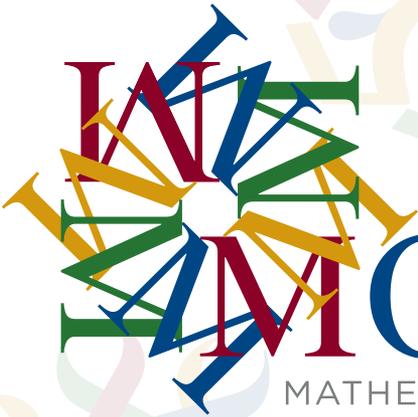
Novitá - 102 E 22nd Street between Park & Lexington Aves

Sarabeth's - 381 Park Ave South between 29th and 30th Streets





**See you next time!**



2025  
**MOMOVES**

MATHEMATICS OF VARIOUS  
ENTERTAINING SUBJECTS  
[moves.momath.org](https://moves.momath.org)

**August 2025**

