

2022
MOMOVES

MATHEMATICS OF VARIOUS
ENTERTAINING SUBJECTS



MOVES Conference Schedule of Programs and Activities

Welcome researchers, educators, and families to the 2022 MOVES Conference, hosted by the National Museum of Mathematics! MoMath is pleased to acknowledge MOVES sponsor



Sunday Afternoon

Million Millimeter March

Peter Winkler

Meet in *Additions*, the shop at MoMath
2:00-3:00

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 (rooms C201, C203, C204, C205), follow the blue listings in the program.

Mathematical Activities

MoMath is happy to provide a change of pace with 17 guided mathematical activities intended for all audiences.

For the activity track (room C202), follow the yellow listings in the program.

Note that masks must be worn at all times and that **all visitors ages five and up must show acceptable proof of full vaccination against COVID-19** at MoMath and the CUNY Graduate Center (vaxproof.momath.org). (Note: MoMath does not accept digital images or photocopies of vaccination cards unless they have been uploaded to the NYC COVID Safe app.)

MOVES 2022 Conference Locations



MOVES Conference events will be held August 7 - 9, 2022 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

- 8:30–9:15** Registration
- 9:15–9:25** Welcome
Cindy Lawrence, Executive Director and CEO,
National Museum of Mathematics
- 9:35–10:35** Opening keynote (presenting via livestream)
How to Invent Puzzles — Scott Kim

The Graduate Center, CUNY, C204

- 10:45–** *Combinatorial Magic with*
11:10 *the SET Deck*
Zhengyu Li
University of Toronto, Mississauga
Parker Glynn-Adey
University of Toronto,
Scarborough
- 11:15–** *Geometry and the*
11:40 *SET Daily Puzzle*
Liz McMahon
Lafayette College
- 11:45–** *QUADS: A SET-like game with*
12:10 *a twist*
Lauren Rose
Bard College

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.

The Graduate Center, CUNY, C201

- 10:45–** *Riddle Me This:*
11:10 *Human vs. Computer*
Zach Wissner-Gross
Amplify
- 11:15–** *Pieces of a Puzzle Pieces Puzzle*
11:40
Skona Brittain
SB Family School

The Graduate Center, CUNY, C202 Family Activity Fair 10:45–12:10

- Hyperbolic Rainbow*
Chaim Goodman-Strauss
University of Arkansas
- Mathematical Card Effects*
Colm Mulcahy
Spelman College

12:10–1:45 Lunch, pre-ordered to eat with others onsite at CUNY (9206 - 9207) or on your own.

Monday Afternoon

Proshansky Auditorium, The Graduate Center, CUNY

- 1:45–2:45** Keynote speaker
The Fascination of Puzzle Hunt Puzzles —
Tanya Khovanova

2:45–3:15 Coffee break, CUNY (9206 - 9207)

The Graduate Center, CUNY, C203

- 3:20–** *From Geography to Santorini:*
3:45 *Computational Complexity of Games on Graphs*
Nathan Fox
Canisius College
- 3:50–** *A Combinatoric Approach to*
4:15 *Solving Chess Puzzles*
Andrew Lee
Jericho High School
- 4:20–** *Sum Amusements with*
4:45 *Fibonacci and Other Linear Recurrence Sequences*
Ed Lamagna
University of Rhode Island

The Graduate Center, CUNY, C201

- 3:50–** *A Game and A Proof and*
4:15 *A Challenge*
Jeanine Meyer
Purchase College, SUNY
- 4:20–** *A Periodic Table of Polyform*
4:45 *Puzzles*
Kate Jones, presenting via pre-recorded video
Kadon Enterprises

The Graduate Center, CUNY, C202 Family Activity Fair 3:20–4:45

- Activity Based on the Shape Family Multi-Media Kit in Ivan Moscovich's Book*
Lauren Siegel
MathHappens Foundation
- Placing Number Tokens on Catan: A "Tour" of Smaller Islands*
Susanna Molitoris-Miller
Kennesaw State University
Brian Kronenthal
Kutztown University

The Graduate Center, CUNY, C204

- 3:20–** *A Pythagorean Triple Puzzle*
3:45
Joe Fields
Southern Connecticut State University
- 3:50–** *Parity Graphs for KenKen Puzzles*
4:15
David Nacin
William Paterson University
- 4:20–** *Surprising Sudoku Connections*
4:45
Shelly Smith
Grand Valley State University

The Graduate Center, CUNY, C205

- 3:20–** *Living on a Random Torus*
3:45
Saad Mneimneh
Hunter College
- 3:50–** *Making Paper Spheres*
4:15
David Richeson
Dickinson College
- 4:20–** *Knot Theory on the $n \times n$*
4:45 *Rubik's Cube*
David Plaxco
Clayton State University

Monday Evening

5:00 Conference Dinner – The Graduate Center, CUNY (9206 – 9207) –
Pre-registration required

Proshansky Auditorium, The Graduate Center, CUNY

Monday Night MOVES

6:30 – 8:30 PM

Miyamoto and the Machine

Screening of a documentary about KenKen, followed by a panel discussion with Robert Fuhrer and Aaron Kaswell

Performance by special guest Will Calhoun

Multiple Grammy-award winning drummer for the band Living Colour, progressive and electronic percussionist, producer, songwriter, teacher, and artist

Post-performance discussion hosted by Steven Strogatz

Join the conversation with Will Calhoun and Steven Strogatz, MoMath's 2021-2022 Distinguished Visiting Professor for the Public Dissemination of Mathematics

Tuesday Morning

Proshansky Auditorium, The Graduate Center, CUNY

8:30–9:30 Keynote speaker (presenting via livestream)
Experiencing math through mechanical puzzles and puzzling mechanisms — Oskar van Deventer

9:40–10:40 Keynote speaker
Playing with Puzzles: a presentation to honor the memory of Maki Kaji — Yoshi Anpuku

The Graduate Center, CUNY, C203

10:55– *The License Plate Challenge*

11:20 Lidia Gonzalez
York College, CUNY

11:25– *Solving Soluna*

11:50 Lily Li
University of Toronto

11:55– *An Impartial Two-player*

12:20 *Pebbling Game on Complete Graphs*
Wing Hong Tony Wong
Kutztown University of Pennsylvania

The Graduate Center, CUNY, C205

10:55– *Counting Variations of Knights*

11:20 *and Knaves Puzzles*
Taisha Charles
Albright College

11:25– *Counting Socially-Distanced*

11:50 *Catan Configurations*
Brian Kronenthal
Kutztown University
Susanna Molitoris-Miller
Kennesaw State University

The Graduate Center, CUNY, C201

10:55– *Lewis Carroll's Amazing*

11:20 *Card Trick*
Jonathan Matte

11:55– *Li'l Jacob, the Kid Brother*

12:20 *Version of the Jacob's Ladder*
Paula Krieg
Artist

The Graduate Center, CUNY, C202

Family Activity Fair
10:55–12:20

Introduction to the card game QUADS

Lauren Rose
Bard College

Flexagon Fun

Ann Schwartz
Fantastic Flexagons

12:20–1:50 Lunch, pre-ordered to eat with others onsite at CUNY (9206 – 9207) or on your own
Optional field trip to Tannen's Magic Shop (45 W 34th St. #608) led by Robert Vallin: meet at 12:30 pm in front of C204.

Keep the magic of math going
all year long!
Join **MO**  **MATH** today!



momath.org/join

Tuesday Afternoon

Proshansky Auditorium, The Graduate Center, CUNY

1:50–2:50 Keynote speaker
Unbelievable Math Puzzles — Peter Winkler

The Graduate Center, CUNY,
Proshansky Auditorium

3:05–3:30 *Variants of the 15-puzzle and the effects of holonomy*

Henry Segerman
Oklahoma State University

3:35–4:00 *Gears that turn and Archimedean solids*

Gary Gordon
Lafayette College

4:05–4:30 *The Fractal Beauty of Compound Symmetry Groups*

Bob Hearn

The Graduate Center, CUNY, C205

3:05–3:30 *The Derivative of Dolly: Iconic Graphical Analyses of Iconic Songs*

Brooke Tortorelli
Monmouth University

4:05–4:30 *An Accidental Flexagon*

Ann Schwartz
Fantastic Flexagons

The Graduate Center, CUNY, C201

3:35–4:00 *Rubik's Snake Loopology*

Mircea Draghicescu
ITSPHUN

The Graduate Center, CUNY, C202

Family Activity Fair
3:05–4:30

Log In! Exploring Logarithms through Experimentation and Play
Andrew Davidson

Origins and Implementation: Engagement with Ratio and Proportion: Building a Tool to Deepen Understanding
Lauren Siegel
MathHappens Foundation

Puzzling Pythagorean Proofs
Joe Fields
Southern Connecticut State University

MOVES Closing

Proshansky Auditorium, The Graduate Center, CUNY

4:30–4:45 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

Robert W. Vallin, Lamar University

Cindy Lawrence, Executive Director & CEO, MoMath

Skona Brittain, SB Family School

Tim Chartier, Davidson College

Darren Glass, Gettysburg College

Ed Lamagna, The University of Rhode Island

Ron Lancaster, University of Toronto

Liz McMahon, Lafayette College

Tony Nance, The Ohio State University

Ron Taylor, Berry College

Ricardo Teixeira, University of Houston — Victoria

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

Recommended eateries

Anita La Mamma del Gelato – 1141 Broadway at the corner
of 26th Street and Broadway

Bravo Pizza – 360 7th Ave at the Corner of 30th St and 7th Ave

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

MEXICUE – 225 5th Ave between 26th and 27th Streets

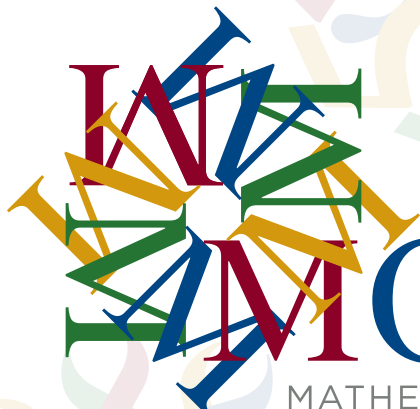
Novitá – 102 E 22nd Street between Park & Lexington Aves

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





Save the date!



**2024
MOVES**

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moves.momath.org

August 11-13, 2024

