POM SIGMAA

Philosophy of Mathematics Special Interest Group of the MAA

Officers

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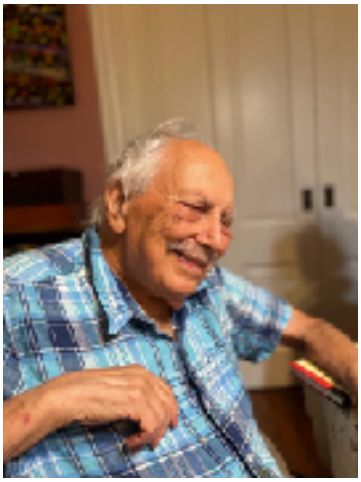
In this issue

In Memoriam: Joe Auslander 1930–2025

by Thomas Drucker, chair, POMSIGMAA



Joe Auslander died on 7 April 2025 at the age of 94. Born on the 10th of September 1930, he had a distinguished career in topological dynamics, largely at the University of Maryland. Of greater relevance to members of POMSIGMAA is his having written to Bonnie Gold about an article she had in the Mathematical Intelligencer about philosophy of mathematics. The correspondence blossomed into the plan for a special session on philosophy of mathematics at the Joint Mathematics Meeting in New Orleans in 2001. This was not just any special session on the subject—among the speakers was Saunders MacLane. The attendance was about 200, and of those 75 expressed an interest in the formation of a SIG on the subject through the MAA. From that arose the POMSIGMAA that we know and love.

Auslander had published a couple of reviews of books in the area of philosophy of mathematics, and perhaps his best-known piece on the subject is his contribution, on the roles of proof, to the collection 'Proof and Other Dilemmas' edited by Bonnie Gold and Roger Simons. He was the first secretary of the SIG and held that office from 2003 to 2008. As an active member of the Executive Board, one of his unsuccessful quests was to get Thurston as a speaker. He only spoke once himself but remained involved in the SIG during his term in office. Even if the rest of the mathematical community remembers him for topological dynamics, we can toast his memory for his founding role in POMSIGMAA.

More reminiscences on Joe Auslander here:
https://markauslander.com/2025/04/12/remembering-joe-auslander-1930-2025/

Philosophy of Math at MAA Mathfest: Sacramento

Business Meeting, Reception, and Invited talk

Thursday, August 7, 2025, 6:00 p.m. to 8:00 p.m., Location TBA

POM SIGMAA will host a reception, together with our annual business meeting, followed by the following talk.

Conventionalism and Mathematical Truth

Jared Warren, Stanford University

Abstract: Mathematics consists of various truths – two plus two equals four, there are infinitely many prime numbers, every set has a power set – yet mathematical truth is puzzling. Mathematical truths seem to describe various abstract objects – numbers, sets, functions – while also seeming objective, eternal, and necessary. But it is very difficult to understand how human beings could ever discover objective, eternal, and necessary truths about abstract objects. It is so difficult to understand that many historical philosophers and mathematicians gave up on trying to understand it. Despite this, all of the puzzling features of mathematical truth get demystified once we embrace conventionalism about mathematics. According to mathematical conventionalism, mathematics is a byproduct of our linguistic conventions and conceptual choices. Conventionalism was historically popular among scientists and empiricist philosophers but fell out of favor during the resurgence of metaphysical speculations in the late twentieth century. Whether fashionable or not, I will explain conventionalism and argue that it is the only way to correctly understand and demystify mathematical truth.

Organizer: Bonnie Gold

Invited Paper Session

Philosophy of Mathematics: The View from Paradox

Friday August 8, 2025, 8:00 a.m.-11:00 a.m., Location TBA

Logicians, it is said, abhor ambiguity but love paradox. This opening sentence of 'The Liar' by Barwise and Etchemendy captures some of the appeal of the notion of paradox, and there is no denying that paradoxes have had an influence on philosophy of mathematics over the millennia. From Zeno and the Liar through Gilbert and Sullivan to Russell and Yablo, paradoxes have been partners with which philosophers and theories have sparred. They have had an effect on mathematics as well. What is the status of a paradox like the set of all sets? At what stage does a paradox like Lowenheim-Skolem become a theorem? This session will be devoted to the role of paradoxes in the philosophy of mathematics and logic. There will be room for other topics in the philosophy of mathematics as time allows.

Time	Presenter	Title
8:00 a.m.	Martin Flashman Cal Poly Humboldt (emeritus)	Mathematical Paradoxes and the Evolution of Philosophical Commitments
9:00 a.m.	Daniel Sloughter Furman University (emeritus)	Algorithms and Neoplatonism in an Old Norse Algorismus
9:30 a.m.	Amy Ackerberg-Hastings MAA Convergence	The Paradoxical Philosophy of American Mathematics Education, 1790–1840
10:00 a.m.	Paul Zorn St. Olaf's College (emeritus)	An Ample Budget of Paradoxes
10:30 a.m.	Thomas Drucker University of Wisconsin-Whitewater (emeritus)	Truth Standing On Its Head

Organizers: Steven Deckelman, Thomas Drucker, Bonnie Gold

Other talks at Mathfest with Philosophy of Math content

Thursday August 7, 8:00 – 9:20 a.m., Meeting room 3
Workshop: **We integrate differentials, not functions**

Thursday August 7, 11:00-11:50 a.m., Ballroom A1-6
Terrence Tao, Hedrick lecture I, **Machine Assisted Proofs**

Thursday August 7, meeting room 11:
Invited paper session: **Advancing Justice through Research in Undergraduate Mathematics**
2:30-2:50 p.m. **Rachel Roca**, Michigan State University, "**Data Dilemmas: Ethics in an Algorithmic World"**
4:00-4:20 p.m. **Tenchita Alzaga Elizondo**, The University of Texas Rio Grande Valley, "**Creating More Inclusive Proof Courses through Uncertainty Discourse"**

Friday August 8, 1:00-1:50 p.m. Ballroom A1-6
MAA Invited Address, **Tadashi Tokieda**, Stanford University. **Calculating with No Numbers, No Formulas**

Saturday August 9, 2:00-2:50 p.m., Ballroom A1-6
Martin Gardner lecture, **Persi Diaconis**, Stanford University, **The Magic of Charles Sanders Peirce**

Call for Officer Nominations

Do you want to help guide our POM SIGMAA? Do you have organizational and leadership skills that can benefit this organization and its members? Does being an officer benefit your tenure file or your department's willingness to fund your travel to POM SIGMAA events?

We are always looking for members who are willing to be a bit more involved in running POM SIGMAA. And we're taking nominations for officers. Officer positions do not generally take a huge about of time, but responsibilities tend to come in a few somewhat concentrated periods of at least several hours over the course of a few days.

The positions we will have up for election are:
Chair: (terms: 1/2026-1/2027: Chair elect, 1/2027-1/2029: Chair, 1/2029-1/2030: Past Chair)
Program Coordinator: (2 year term 1/2026-1/2028)
Public Information Officer: (5 year term 1/2026-1/2031)

Here is what our Charter says about the duties of the officers:

The **chair** chairs the meetings, oversees the SIGMAA's activities, serves as liaison with the MAA Board of Directors, staff, and other organizations, and is the chief spokesperson for the SIGMAA. The **past-chair** acts as advisor to the SIGMAA generally and to the Executive Committee in particular and will serve in the chair's place if the chair is temporarily unable to fulfill his/her duties. The **chair-elect** becomes chair one year after being selected as chair-elect and will serve in the chair's place if the chair is temporarily unable to fulfill his/her duties.

The **public information officer** is responsible for maintaining the SIGMAA's web page, moderating the SIGMAA's listserv, editing the SIGMAA's newsletter and notifying SIGMAA members of a new edition of the newsletter or sending it to members electronically, and other informational communications with members. The program coordinator is responsible for coordinating the programs at the meetings and carrying out all correspondence related to these programs.

The **program coordinator** will solicit proposals for sessions such as contributed paper sessions and minicourses at MathFest and JMM, as well as other workshops, conferences, etc., from the SIGMAA membership. The program coordinator will also submit the proposals for sessions that are to be part of the MAA scientific program at MathFest and JMM via MAA's online proposal submission system by the posted deadlines. The program coordinator will arrange sessions at MathFest and JMM that are directed primarily at the SIGMAA membership, such as guest lectures and business meetings, by contacting the MAA associate secretary.

Report on CSHPM meeting

by Thomas Drucker

There was somewhat more philosophy at the annual meeting of the Canadian Society for the History and Philosophy of Mathematics in Toronto (31 May-2 June) than is usual. This may have been due to the May Lecture's being given by Patricia Blanchette of Notre Dame. She addressed the relationship between logical consequence and independence as the latter notion evolved and the effects of the use of formal languages a century ago. (It may be mentioned that she stayed for all the talks at the conference, not always characteristic of May lecturers in earlier years.)

Doug Marshall (Minnesota Center for Philosophy of Science) talked about multiple proofs and purity of methods. In other words, once a result was proved by any means, there is an inclination to search for a proof that somehow uses the language and ideas of the result being proved. That, for example, is why Wiles's proof of Fermat's Last Theorem has not led to a shortage of attempts to find something closer to Fermat's language by way of a proof.

Francisco Martinez-Avina of UC-Davis stressed the importance of understanding as a component of mathematical progress. Dirk Schlimm of McGill followed up his recent book from Cambridge on the relationship between notational change and conceptual change. Thomas Drucker (UW-Whitewater, emeritus) compared features of the lives of Felix Klein and Gottlob Frege on the centenary of their deaths and noted Frege's readiness to abandon the logicist position towards the end of his life in favour of a reliance on geometric intuition.

Josh Lalonde tackled the idea of Menge as it proceeded from Cantor to Lawvere. This fit in well with the next talk by Jean-Pierre Marquis of the Universite de Montreal who talked about the ways in which Stone duality can be expressed in categorial language (again invoking the name of Lawvere). Bradley Dart (Memorial University of Newfoundland) paid attention to definitions that were more than mere abbreviations and asked whether it was possible to justify such definitions.

Zoe Asthon (Ohio State University) looked at the issue of the acceptability of a proof based on external factors, and her examples were quite convincing. Nic Fillion of Simon Fraser endorsed backward error analysis as a way handling problems that are slight variants on problems not capable of a direct approach. On the philosophical side, the final talk was by Koray Akcaguner (University of Calgary), who tried to list the characteristics besides validity that a proof needs to have in order to be accepted.

Other Upcoming Events

Truth and Meaning in Mathematics

June 25-27, 2025, Reykjavik, Iceland

The conference "Truth and Meaning in Mathematics" aims to explore the fundamental philosophical questions surrounding the nature of mathematical truth and the interpretation of mathematical statements.
https://sites.google.com/view/truthinmath/

8th International Meeting of the APMP (Association for the Philosophy of Mathematical Practice)

Chapman University, CA, USA
12-15 January 2026

The APMP aims to foster the philosophy of mathematical practice, that is, a broad outward-looking cluster of approaches to understanding mathematics. Relevant themes include issues in the methodology and epistemology of mathematics, history of mathematics, applications of mathematics, mathematical education, and cognitive science.
https://www.chapman.edu/scst/graduate/apmp-conference-2025.aspx

Contributed Papers for Special Issue of Philosophia Scientiæ

Philosophia Scientiæ invites contributions for the following special topic: **The contingency of mathematical proofs and results?** Exploring the arguments for inevitabilist versus contingentist views about the formal sciences by comparison with the natural sciences

Special Issue of Philosophia Scientiæ 31/1 (February 2027)

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Submission addresses: lena.soler@univ-lorraine.fr, andrew.arana@univ-lorraine.fr, S.D.Zwart@tudelft.nl,bart.van.kerkhove@vub.be