

POM SIGMAA

Philosophy of Mathematics Special Interest Group of the MAA

Greetings

Greetings from the Executive Board of POMSIGMAA, the Special Interest Group of the Mathematical Association of America for the Philosophy of Mathematics. If you have items to include in the newsletter – interesting events coming up in the philosophy of mathematics, for instance – please contact our new Public Information Officer, Kevin Iga, kevin.iga@pepperdine.edu.

Officers

Chair

Carl Behrens, Alexandria, VA,
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Past Chair

Thomas Drucker, University of Wisconsin-Whitewater,
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Bonnie Gold, Monmouth University, bgold@monmouth.edu

Secretary-Treasurer

Sally Cockburn, Hamilton College,
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Public Information Officer

Kevin Iga, Pepperdine University, kiga@pepperdine.edu

Elections for Chair-Elect and Program Director are coming this Fall. If you have an interest in serving, contact Secretary-Treasurer Sally Cockburn above.

POMSIGMAA at MathFest

Mathfest 2017, Chicago, IL, July 26 - 29, 2017

POMSIGMAA reception and guest lecture, July 27: reception at 5:30 p.m., guest lecture at 6 p.m., **John Baldwin**, Emeritus Professor at the University of Illinois at Chicago, on "Philosophical implications of the paradigm shift in model theory." Mathfest website: <http://www.maa.org/meetings/mathfest-2017>

Abstract: Traditionally, logic was thought of as 'principles of right reason'. Twentieth century philosophy of mathematics focused on the problem of a general foundation for all mathematics. In contrast, the last 70 years have seen model theory develop as the study and comparison of formal theories for studying specific areas of mathematics. For example, in a rough sense, algebraic geometry is the study of the first order definable subsets of the complex numbers. Moreover, syntactical information about the theories for different areas can uncover common strains. Thus, Abraham Robinson found a common framework for the Artin-Schreier theory of ordered fields, Hilbert's nullstellensatz and differentially closed fields. Shelah's stability theory leads to a classification of such theories that makes more precise the idea of a 'tame structure'. Thus, logic (specifically model theory) becomes a tool for organizing and doing mathematics with consequences for combinatorics, diophantine geometry, differential equations and other fields.

POMSIGMAA at Joint Math Meetings San Diego, CA, January 10-13, 2018

Invited Speaker

POMSIGMAA will hold a business meeting, reception, and guest lecture on the evening of Thursday, Jan. 11. Our speaker will be **Rafael Núñez**, of UCSD, on "Towards a Philosophy of Mathematics Informed by the Sciences of the Mind." Professor Núñez co-authored, with George Lakoff, *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics Into Being*.

JMM Contributed Paper Session

Our Contributed Paper Session will be on Friday morning (January 12); the topic is "Philosophy of Mathematics as Actually Practiced", and is being organized by Bonnie Gold, Sally Cockburn and Tom Drucker.

Description: The philosophy of mathematics has often failed to account for actual mathematical practice, concentrating only on the finished product, theorems and proofs, and even then, not proofs as mathematicians give them, but the formal proofs by which they could be replaced. In the last quarter of the 20th century, many philosophers of mathematics began to be interested in considering mathematics as it is actually developed, leading to the formation,

Calendar

June 29–July 1, 2017: Visual Reasoning and Intuition in Mathematics: From Kant's Euclidicity to Digitalization, Berlin, Germany.

July 1, 2017: Deadline for abstracts, ArisMath 2017

July 26–29, 2017: Mathfest 2017, Chicago, IL

Aug. 28, 2017: Deadline for proposals for talks for MWPMW 18

September 9–10, 2017: ArisMath2017: Oxford, UK.

Sep. 14–15, 2017: Savoir faire mathématiques, Clermont, France

Sep. 26, 2017: Deadline for abstracts for contributed papers for JMM 2018

Oct. 14–15, 2017: Midwest PhilMath Workshop

Oct. 23–27, 2017: APMP in Salvador da Bahia, Brazil

Jan. 10–13, 2018: Joint Math Meetings 2018, San Diego, CA

PhilMath-Archive

PhilSci-Archive has launched the free PhilMath-Archive, <http://philsci-archive.pitt.edu/philmath.html>, a preprint server specifically for the philosophy of mathematics. New papers and monographs can be posted here and people can view them without needing to register. "PhilMath-Archive invites submissions in all areas of philosophy of mathematics, including general philosophy of mathematics, history of mathematics, history of philosophy of mathematics, history and philosophy of mathematics, philosophy of mathematical practice, philosophy and mathematics education, mathematical applicability, mathematical logic and foundations of mathematics."

To submit to PhilMath-Archive, submit to PhilSci-Archive. Directions at <http://philsci-archive.pitt.edu/help/>

in 2009, of the Association for the Philosophy of Mathematical Practice. This kind of approach requires that the philosopher of mathematics have a good understanding of mathematics, how it develops, and how it is taught and learned. It therefore requires a significant interaction with the mathematical community. This session invites contributions that discuss philosophical issues involved with mathematics as it is actually practiced. Papers that bring out issues that have not yet been discussed by philosophers but that involve philosophical issues with current mathematical practice are especially welcome. Other topics in the philosophy of mathematics will be considered as time allows.

Abstracts may be submitted electronically at

<http://jointmathematicsmeetings.org/meetings/abstracts/abstract.pl?type=jmm>

The deadline for submission of abstracts is Tuesday, September 26, 2017.

Questions concerning the submission of abstracts should be addressed to absCOORD@ams.org.

Midwest PhilMath Workshop

The eighteenth annual Midwest PhilMath Workshop (MWPMW 18), will be held at Notre Dame the Oct. 14–15, 2017. Full day on Saturday, half-day Sunday. Workshop lunch and a workshop dinner on Saturday, with all participants invited to attend as guests of the university.

To propose a talk, email a pdf of your talk or a substantial summary of it by Aug. 28 to Paddy (pblanche@nd.edu), Tim (tbays@nd.edu), Curtis (cfranks@nd.edu) and Michael (mdetlef1@nd.edu). Talks should be 35–40 minutes in length, with 15–20 minutes left for discussion.

See: <https://mdetlefsen.nd.edu/midwest-philmath-workshop/midwest-philmath-workshop-18/>

Assoc. for the Philosophy of Mathematical Practice

The 4th annual international meeting of APMP will be Oct. 23–27, 2017 in Salvador da Bahia, Brazil. Registration by Sep. 30. Conference fee US \$50. For details, see: <http://www.philmathpractice.org/>

New Book on POM and Teaching Undergraduates

There is a new book in the MAA Notes series, "Using the Philosophy of Mathematics in Teaching Undergraduate Mathematics", edited by past and current POM SIGMAA officers Bonnie Gold, Carl Behrens, Roger Simons, and including essays from many of you in the POM SIGMAA community. The book discusses philosophical issues in a wide range of courses. It is downloadable for free for MAA members, and \$26 for non-MAA members. It is also available for Print on Demand for \$52. <http://www.maa.org/press/ebooks/using-the-philosophy-of-mathematics-in-teaching-undergraduate-mathematics>

Review about Philosophy of Mathematics

Professor of Philosophy **Alan Baker** of Swarthmore College has written a review on Philosophy of Mathematics for the American Mathematical Monthly in their February 2017 issue. He reviews some of the most important positions, past and present, about the nature of mathematical objects, and lists some books and articles for each. A great introduction to Philosophy of Mathematics. Downloadable for free for MAA members. (Login to the MAA website and look at My Subscriptions)