

Philosophy of Mathematics Seminar: Annotated Bibliography

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I have grouped the cites by various categories. I couldn't figure out how to make my comments appear with the actual bibliographic entries.

Certainly some article belong in two groups and others didn't have a natural place with my categories.

I haven't listed my own papers which are on <http://homepages.math.uic.edu/~jbaldwin/model111.html>

1 background

These contain general background works generally in the style of the philosophy of mathematical practice.

[Zalamea, 2009] [Zalamea, 2012]

The only book to attempt a philosophical analysis of a 8 major 20th century mathematicians: Grothendieck, Shelah ...

[Ferreirós and Gray, 2008] The introduction gives another overview of what philosophy of mathematical practice means.

[Gillies, 2008]

[Corfield, 2003] One of the pioneers.

[Mancosu, 2008] The suggested book for the seminar.

[Lakatos, 1976] The original: analysis of the 200 year development of defining Euler characteristic.

2 Axiomatics

[Hilbert, 2005] [Giovannini, 2016][Grosholz, 1985]

[Tarski, 1959] What did Descartes really mean?

[Schlimm, 2013]

[Schlimm, 1985]

Both papers by Schlimm are excellent.

[Detlefsen, 2014]

3 Case Studies

[Arana and Mancosu, 2012] geometry

[Wilson, 1992] Geometry Frege's background in geometry and the origins of Projective Geometry. What are points at infinity?

[Schliemer, 2016] a) justifying duality; b) Were Hilbert's interpretations semantic or syntactic? I have preprint.

[Marquis, 2008] epistemology and homotopy theory

[Pambuccian, 2005] geometry

[Vaught, 1961] Not philosophy but a paper every logician should read –on my web site

3.1 What is the continuum

[Ehrlich, 2012][Ehrlich, 1997] [Feferman, 2008]

3.2 Computer Proof

I haven't had a chance to look in to this but here <http://www.phil.cmu.edu/~avigad/formal/> is Jeremy Avigad's website for a course on formal verification with includes downloadable papers by him, which have further bibliography.

3.3 Number theory and Algebra

[Avigad and Morris, 2014]

[McLarty, 2010][Macintyre, 2003]

[Kazhdan, 2006]

[Eklof, 1976] Not philosophy but as accessible as it gets

Motivic integration and model theory

3.4 set theory

[Maddy, 2011] Philosophy of Set theory from someone who knows some set theory.

[Väänänen, 2012] Internal categoricity - a modern view of Quine's quip that 2nd order logic is set theory in sheep's clothing

4 Category Theory and Univalent Foundations

[Awodey et al., 2013] [Tsementzis, 2016]

no univalent foundations in the following

[Carter, 2008]

[Carter, 2004] Despite the title, this is about K-theory. online

5 Epistemology

[Manders, 1987] [Manders, 1984][Manders, 1989] Insightful look into how model theory clarifies.

[Grosholz, 2007] productive ambiguity in reading mathematics: the many uses of equality and the minus sign. Plus deeper issues

[Kennedy, 2013] Mathematics: formal or informal?

[Crippa, 2014] What is an impossibility proof?

[Werndl, 2009] definition

6 Programmatic

Most of these are ICM addresses by model theorist talking about connections with the rest of mathematics.

[Bourbaki, 1950] An amusing attempt by Bourbaki.

[Pillay, 2010][Pillay, 1995][Scanlon, 2012] [Zil'ber, 1984]

[Scanlon, 2002] Differential algebra and model theory

[Teissier, 1997] what is tame mathematics?

[Weil, 1950] [Peterzil and Starchenko, 2010] [Hrushovski, 1997]

7 Purity

[Arana, 2008][Detlefsen and Arana, 2011] [Arana, 2014] [Hallett, 2008]

8 Structuralism

[Sieg and Morris, 2017] [Burgess, 2010]

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