

Geometry via Logic: References

January - March 2019

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 - Lecture Notes: Introduction to Categorical Logic, Steve Awodey. pdf
 - Handbook of Categorical Algebra, Volume 1, Francis Borceux.
 - Introduction to Category Theory and Categorical Logic, Thomas Streicher. pdf
- *Video Lectures:*
 - Oregon Programming Languages Summer School, Category Theory, Steve Awodey. summer school website
- *Expository Works:*
 - From a Geometrical Point of View, Jean-Pierre Marquis.
 - Tool and Object: A History and Philosophy of Category Theory, Ralph Krömer.

Theory of Locales:

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 - Stone Spaces, Peter Johnstone.
 - Topology via Logic, Steve Vickers.
 - Frames and Locales: Topology without points, Jorge Picado, Aleš Pultr.

- Handbook of Categorical Algebra, Volume 3, Francis Borceux.
- Sheaves in Geometry and Logic - A first introduction to topos theory, S. Mac Lane, I. Moerdijk.
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- The Point of Pointless Topology, Peter Johnstone. pdf
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- Constructivism in Mathematics, an introduction. Studies in Logic and the Foundations of Mathematics, Volumes 1, 2, A.S. Troelstra, D. van Dalen.
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- Categorical Logic, Jacob Lurie. course website
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- Categorical Logic and Type Theory, Bart Jacobs.

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- Five Stages of Accepting Constructive Mathematics, Andrej Bauer. pdf

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- Elementary Categories, Elementary Toposes, Colin McLarty.
- Sheaves in Geometry and Logic - A first introduction to topos theory. S. Mac Lane, I. Moerdijk.
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- *Video Lectures:*

- Topos l'IHES, Andre Joyal's and Olivia Caramello's Lectures. YouTube video
- Toposes in Como 2018, Francis Borceux's, Olivia Caramello's and Laurent Lafforgue's Lectures. YouTube video
- Topos theory and Logic Seminar, Daniel Murfet. seminar website

- *Expository Works:*

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- An Informal Introduction to Topos Theory, Tom Leinster. pdf
- Locales and Toposes as Spaces, Steve Vickers. pdf
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- Model Categories, Mark Hovey. pdf
- Higher Categories and Homotopical Algebra, D. Cisinski. pdf
- A Short Course on ∞ -Categories, Moritz Groth. pdf
- Homotopy Type Theory: Univalent Foundations of Mathematics, Univalent Foundations Program.
- Tutorial on Homotopy Type Theory, Young Set Theory, Copenhagen, 2016, Nicola Gambino. web

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- A tutorial in Leeds (July 2016) presenting univalent type theory, Thierry Coquand. Coquand's Homepage

- An Introduction to Univalent Foundations for Mathematicians, Daniel. R. Grayson. pdf
- Homotopy Type Theory: A synthetic approach to higher equalities, Michael Shulman. pdf
- An Introduction to n-Categories, John Baez. pdf
- For a very gentle introduction to notions of higher categories, try The Tale of n-Categories, which begins in “week73” of This Week’s Finds and goes on from there... keep clicking the links. (Excerpted from nLab.)

General Expository Works:

- The Uses and Abuses of the History of Topos Theory, Colin McLarty. pdf
- Physics, Topology, Logic and Computation: A Rosetta Stone, John Baez, Mike Stay. pdf
- Numbers Can Be Just What They Have To, Colin McLarty. web
- The Last Mathematician from Hilbert’s Göttingen: Saunders Mac Lane as Philosopher of Mathematics, Colin McLarty. web
- Theology and its Discontents: David Hilbert’s Foundation Myth for Modern Mathematics, Colin McLarty. pdf
- Emmy Noether’s “Set Theoretic” Topology: From Dedekind to the First Functors, Colin McLarty. pdf
- Colin McLarty, Grothendieck’s 1973 Topos Lectures, Sminaire Lectures Grothendieckiennes. YouTube video
- New Variations on the Notion of Topos, Andre Joyal. YouTube video
- Logic and Topology, Thierry Coquand. YouTube video
- Using the Internal Language of Toposes in Algebraic Geometry, Ingo Blechschmidt. pdf, YouTube video. (For a more detailed exposition, see his PhD thesis at pdf)
- Three Mutations of Topos Theory, Andre Joyal. YouTube video

Must Read/Must Watch

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