Publication List of Andrei Rodin:

in English:

Monograph:
Axiomatic Method and Category Theory (Synthese Library, vol. 364), Springer 2014

Habilitation Thesis:
Axiomatic Architecture of Scientific Theories. Published by Saint-Petersburg University electronically in 2020 at https://disser.spbu.ru/zashchita-uchenoj-stepeni-spbgu/369-andrei-v-rodin.html
The original English version of the thesis is followed by the compulsory Russian translation.

Blind-refereed journal articles:
1. Kolmogorov's Calculus of Problems and Its Legacy, *History and Philosophy of Logic*, 1–38 https://doi.org/10.1080/01445340.2025.2499409 [accepted and published online in June 2025 but not yet assigned a volume number], preprint arXiv:2307.09202
2. Does Identity Have Sense?, *Manuscrito,* vol. 47, no 1 (2024), (open access: https://www.scielo.br/j/man/i/2024.v47n1/)
3. Voevodsky's Unfinished Project: Filling the Gap between Pure and Applied Mathematics, *BioSystems,* vol. 204: 104391 (May 2021)
4. Two Styles of axiomatization: Rules versus Axioms. A Modern Perspective. *Bulletin of Symbolic Logic*, vol. 24, no 2 (2018), p. 263-264
5. On Constructive Axiomatic Method, *Logique et Analyse*, vol. 61, no 242 (2018), p. 201-231, preprint arXiv:1408.3591
6. Venus Homotopically, *IfCoLOg Journal of Logics and their Applications*, vol. 4 (2017), n. 4, p. 1427-1446
7. Did Lobachevsky Have a Model of His Imaginary Geometry? *Philosophy of Science* (Novosibirsk), 3(66), 2015, preprint arXiv:1008.2667
8. Elements of Categorical Logic: 50 Years Later (with Valeria de Paiva), *Logica Universalis* 7(2013), p. 265-273
9. Categories Without Structures, *Philosophia Mathematica* 19(1), 2011, p. 20-46, preprint arXiv:0907.5143
10. How Mathematical Concepts Get Their Bodies, *TOPOI* 29(1), p. 53-60,
11. Identity and Categorification, *Philosophia Scientiae*, 11 (2), 2007, p. 27-65, preprint arXiv:0509596
12. The Vessels and the Glue: Space, Time, and Causation, *The Behavioral and Brain Sciences* 27(5), 2004, p. 633-634

Chapters:
1. 'The End of Theory' and the Topological Data Analysis in the Biomedical Research, submitted as chapter to : José Antonio Perez-Escobar and Deniz Sarikaya (editors), *Mathematical tools in the life sciences: describing, explaining, understanding, and operating*. Under review in Springer book series *History, Philosophy and Theory of the Life Sciences*. preprint https://philsci-archive.pitt.edu/26196/1/etda.pdf
2. Vladimir Voevodsky on the concept of mathematical structure in his letter exchange with Andrei Rodin, accepted for publication in: D. Sarikaya et al. (eds.), *Mathematicians at Work: Empirically Informed Philosophy of Mathematics*, Synthese Library, Springer, expected to appear in 2025, preprint arXiv:2409.02935
3. One Mathematics or Many? Foundations of Mathematics in the 20th century Mathematical

Practice, in B. Sriraman et al. (eds.), *Handbook of the History and Philosophy of Mathematical Practice*, Springer, https://doi.org/10.1007/978-3-030-19071-2_28-1 (2021)

4. Editorial to Special Issue of *BioSystems* on *Foundations of Mathematics and Theoretical Biology* (May 2021) p. 104416 (co-authored with Elena Fimmel).

5. Models of Homotopy Type Theories and the Constructive View of Theories, in D. Sarikaya and D. Kant (eds.), *Reflexions on Foundations of Mathematics: Univalent Foundations, Set Theory and General Thoughts*, Springer (Synthese Library, vol. 407), 2019, p. 191-219

6. Extra-logical proof-theoretic semantics in HoTT, in Piecha, Th. and Schroeder-Heister, P. (eds) *Proof-theoretic Semantics: Assessments and Future Perspectives*. p. 765-786, DOI: 10.15496/ publikation-35319

7. Computing in Space and Time, in W. Pietsch et al. (ed.), *Berechenbarkeit der Welt? Philosophie und Wissenschaft im Zeitalter von Big Data*, Springer 2017, p. 193-207

8. Events and Intensional Sets, in: T. Childers and O. Majer (eds.), *Logica'2002*, (Prague 2003), p.221-230

Published abstracts:

1. Proofs and Solutions, according to Kolmogorov, published abstract of talk at the workshop *Proofs and Styles of Reasoning across History and Cultures*, a part of 17th International Congress of Logic, Methodology and Philosophy of Science and Techniques (Buenos-Aires, July 28, 2023), *CLMPST17 Book of Abstracts*, p. 398-399

2. Truth and Justification in Knowledge Representation (with S. Kovalyov), in S.O. Kuznetsov, A. Napoli and S. Rudolph (eds.) *Proceedings of the 7th Workshop "What can Formal Concept Analysis do for Artificial Intelligence?"* (August 10-17, 2019, Macao, China) , in *CEUR* vol. 2529 p.45-56

3. Formal Proof-Verification and Mathematical Intuition: the Case of Univalent Foundations, in the *16th International Congress on Logic, Methodology and Philosophy of Science and Technology (Prague, August 5-10, 2019), Book of Abstracts*, p. 418

4. Univalent Foundations and the Constructive View of Theories, *Studia Logico-Philosophiae* (Saint Petersburg), 16(1-2), 2018, p. 119 ; Abstract of a talk at the *12th International Conference "Logic Today: Developments and Perspectives"*, Saint-Petersburg State University, June 22-24, 2018

5. Rules versus Axioms: a Constructive View of Theories, in J.-Y. Beziau, A. Buchsbaum, Ch. Rey (Eds.), *Handbook of 6th World Congress and School on Universal Logic (June 16-26, 2018, Vichy, France)*, University of Clermont Auvergne, 2018, p. 541-542

6. Categorical Model Theory and the Semantic View of Theories, extended abstract of talk presented at *Smirnov Readings in Logic 2017 (Moscow, MSU, June 15-17, 2017), Book of abstracts*, p. 205-206

7. What is a Formal System? The Idea of Geometrical Characteristics from Leibniz to Voevodsky, *Studia Logico-Philosophiae* (Saint Petersburg), 13 (2) (2016), p. 133, abstract of a talk at the *12th International Conference "Logic Today: Developments and Perspectives"*, Saint-Petersburg State University, June 22-24, 2016

8. What is a Constructive Theory?, published abstract of contributed talk at the *9th Smirnov Readings in Logic (Moscow, MSU, June 17-19, 2015), Book of abstracts*, p. 92

9. Constructive Axiomatic Method and Modern Physics, Published abstract at the international workshop *New Mathematical Methods in Today's Physics: Logical, Epistemological and Computational Aspects (Moscow 21-22 September 2015), Book of abstracts*, p. 8

10. Constructive Identities for Physics, *Proceedings of Science*, Proceedings of international conference *Frontiers of Fundamental Physics 2014* (Marseille July 15-18, 2014)

11. Lawvere and Hegel, in J.-Y. Béziau (ed.) *Handbook of the 4th World Congress and School on Universal Logic (March 29 – April 07, 2013 Rio de Janeiro, Brazil)*, p. 331-332

12. Renewing foundations, extended abstract of a talk at the conference *Philosophy, Mathematics, Linguistics: Aspects of Interactions (Saint-Petersburg, Euler International Mathematical Institute, Nov. 20-22, 2009)*, p. 171-175

13. Category Theory and Mathematical Structuralism, *Proceedings of the XXII World Congress of Philosophy* (2008), vol. 41 (Philosophy of Mathematics), p. 37-40

Published review:

Review of *Mathematics of the Transcendental* by Alain Badiou, translated from French by A.J. Barlett and A. Ling, Bloomsbury Academic, London, 2017, published in *Mathematical Reviews* by the American Mathematical Society on October 3, 2018.

in Russian (the titles are translated into English):

Monographs:

1. *Axiomatic Architecture of Scientific Theories*, Direct-Media 2025
https://www.directmedia.ru/book-723196-aksiomaticheskaya-arhitektura-nauchnyih-teoriy/
2. Euclid's Mathematics in the Context of Plato's and Aristotle's Philosophy, Moscow, Nauka, 2003

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1. Kolmogorov's Calculus of Problems and Homotopy Type Theory, *Vestnik of Perm University*, series «Philosophy, Psychology and Sociology», issue 3, 2022, p. 368-379

2. Computer-assisted proofs and their understanding by a human, *Intellectual Systems: Theory and Applications*, v. 25, n. 4 (2021), p. 337-342

3. Computations in Nature and the Nature of Computations, *Questions of Philosophy* (Voprosi Filosofii), 11, 2020, p. 129-132

4. Martin-Löf's Type Theory as a Multi-Agent Formal Epistemic System, *Epistemology and Philosophy of Science*, 55 (4), 2018, p. 44-47

5. Problem of Justification in Knowledge Representation (with S. Kovalyov), *Vestnik of Tomsk State University*, 46 (2018), p. 22-29

6. Knowledge and its Representation in the Computer Era (with S. Kovalyov), *Human* (Chelovek) 30(4), p. 94-112

7. Logical and Geometrical Atomism from Leibniz to Voevodsky, *Questions of Philosophy* (Voprosi Filosofii) N6 (2016), p. 134-142

8. Axiomatic Method in Today's Science and Technology: Pragmatic Aspects, *Epistemology and Philosophy of Science* (with S. Kovalyov), 47 (1), 2016, p. 153-169

9. Programmatic Realism in Physics and Foundations of Mathematics, *Questions of Philosophy* (Voprosi Filosofii) N4 (2015), p. 58-67 (part 1) and N5 (2015), p. 58-68 (part 2).

10. Kant and New Mathematics Hundred Years Later, *Kant Studies* (Kantovskii Sbornik), 1(51) (2015), p. 7-16

11. Scientific Realism and History of Science : an attempt of synthesis, *Epistemology and Philosophy of Science*, 35 (1), 2013, p. 79-81

12. Category Theory and New Mathematical Principles of Physics, *Questions of Philosophy* (Voprosi Filosofii), 7, 2010, p. 67-82

13. Rationality and Relativism, *Questions of Philosophy* (Voprosi Filosofii) N9 (2008), p. 55-76 ;

14. Theorem, *Questions of Philosophy* (Voprosi Filosofii) N9 (1998), p. 105-119;

15. Geometrical definitions of the First Book of Euclid's 'Elements' in the Context of Platonism, *Questions of Philosophy* (Voprosi Filosofii) N3 (1996), p. 117-142;

16. The Second Book of Euclid's 'Elements' and the so-called 'geometrical algebra of the

Ancients', *Philosophical Sciences*, N1 (1995), p. 99-112

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1. The concept of permanent scientific revolution and foundations of mathematics, in I.T. Kasavin (ed.) *Revolution and evolution: models of development in science, culture and society*, Nizhni Novgorod University 2017, p. 34-36
2. Quentin Meillassou, an article in the encyclopaedic dictionary *Philosophers of France*, Saint-Petersburg, Center of Humanities, 2016, p. 308-310
3. The theory of objectivity by Thomas Nagel and Scientific Realism, in V.A. Lektorsky, *Perspectives on Realism in Today's Philosophy*, Moscow, Canon+, 2017 p. 275-296
4. Doing and Showing, in V.A. Bazhanov et al. (eds.) *Proofs in Mathematics*. Moscow: Librokom 2014, p. 222-255
5. The idea of intrinsic geometry, in A.G. Barabashev et al. (eds.) *Mathematics and Experience*, Moscow State University 2004, p. 502-532
6. Event and Form: a Project of Morphogenetic Epistemology, the editor's postscript to the Russian edition of *Structural Stability and Morphogenesis* by R. Thom (Moscow, Logos, 2002)
7. Entries 'Euclid', 'Eudoxus', 'Ptolemy', 'Nicomachus' and 'Theon of Smyrna' in the *Encyclopaedia of Philosophy*, Russian Academy of Sciences, 2000
8. What is a style in mathematics?, in A.G. Barabashev et al. (eds.) *Styles in Mathematics*, Saint-Petersburg State University 1999, p. 25-36
9. On the concepts of number and infinity, in A.G. Barabashev et al. (eds.) *Infinity in Mathematics: Philosophical and Historical Aspects*, Janus-K Publishing 1997, p. 308-324
10. Philosophical Mathematics of D.D. Mordukhai-Boltovskoi, the editor's introduction to: A. Rodin (ed.), *Collected works of D.D. Mordukhai-Boltovskoi*, Moscow, Serebryannye Niti, 1998 [the second edition is due to appear in 2025]

Published abstracts:
1. V.V. Tselishev on the Epistemology of Mathematical Proofs, in A. Khlebalin et al. (eds.), *Proceedings of the conference dedicated to the 80 anniversary of V.V. Tselishev* (Novosibirsk, Feb. 25-26, 2022), p. 84-87;
2. A critique of Stepin's historical epistemology, in I.T. Kasavin et al. (eds.), *Proceedings of conference 'First Stepin Readings''* (Moscow, Nov. 5-6, 2019), p. 281-284;
3. How the effectiveness of mathematics turned out to be 'unreasonable'?, Extended abstract of talk presented at the *conference 'Mathematics and Reality' (Moscow State University, Sept. 27-28, 2013), book of abstracts*, p. 95-96.

In French: (the titles are translated into English)

Published abstract:
A.N. Kolmogorov sur la controverse Hilbert-Brouwer (A.N. Kolmogorov on Hilbert-Brouwer Controvery), abstract of talk presented and *8th Congress of French Society of History of Sciences and Techniques* (Nancy, April 9-11, 2025). *Book of Abstracts*, p. 95

Two popular articles:
 Chez Euclide et au-delà (Euclid and Beyond) and Quand la forme devient fractale (When the Form becomes Fractal) published in periodic *Maths en pleines formes* edited by the international committee of mathematical games in 2022, p. 11-16 and 47-52 (co-authored with Enka Blanchard et Florentin Waligorski)