

MICHAŁ SZACHNIEWICZ

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michalszachniewicz.github.io

SCIENTIFIC INTERESTS

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| Model theory | Continuous logic, model theory of fields |
| Arithmetic geometry | Arakelov geometry, Berkovich spaces, adelic curves |

WORK

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| Harvard University Postdoc - Benjamin Pierce Fellow | <i>2025-2029</i> |
| Institute for Advanced Study Postdoc - Special Year on Arithmetic Geometry, Hodge Theory, and o-minimality | <i>2025-2026</i> |

EDUCATION

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|---|------------------|
| University of Oxford PhD in Mathematics Supervised by Prof. Ehud Hrushovski | <i>2021-2025</i> |
| University of Warsaw Master's degree in Mathematics Supervised by Dr. Joachim Jelisiejew | <i>2019-2021</i> |
| University of Wrocław Bachelor's degree in Mathematics Supervised by Prof. Krzysztof Krupiński | <i>2016-2019</i> |

PREPRINTS AND PUBLICATIONS

1. Continuity of heights in families and complete intersections in toric varieties, with Pablo Destic and Nuno Hultberg, [link](#)
2. Globally valued fields: foundations, with Itai Ben Yaacov, Pablo Destic and Ehud Hrushovski, [link](#)
3. Hyperbolicity and model-complete fields, with Jinhe Ye, published in Int. Math. Res. Not. [link](#)
4. Existential closedness of $\overline{\mathbb{Q}}$ as a globally valued field via Arakelov geometry, [link](#)
5. Non-reducedness of the Hilbert schemes of few points, [link](#)

SELECTED TALKS

- Notre Dame Model Theory Seminar, University of Notre Dame (December 2024)
- Manchester logic seminar, The University of Manchester (October 2024)
- Peking University model theory seminar, Beijing/on-line (October 2024)
- Invited talk, South and East of England Model Theory Network SEEMOD, Norwich, University of East Anglia (April 2024)
- Invited talk, Model theory of valued fields and applications, Lille (February 2024)
- Contributed talk, Global invariants of arithmetic varieties, Luminy, CIRM (October 2023)
- Invited talk, Model Theory Workshop, Wrocław (September 2023)
- Invited talk, Model theory of valued fields, Luminy, CIRM (June 2023)

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SELECTED PRIZES AND GRANTS

- St John's College Ioan and Rosemary James Scholarship, University of Oxford (October 2021 - September 2025)
- Winner of the mBank "A step into the future" competition for the best student mathematical thesis (April 2022)
- Winner of the Polish Mathematical Society competition for the best student mathematical thesis (March 2022)
- Participation in a research grant "Deformations and Degenerations of Algebraic Varieties" (October 2020 - March 2021)

CONFERENCES

- Instructional workshop on rational points, the Netherlands, Groningen (November 2024)
- Geometry from the model theorist's point of view, a conference in honour of Boris Zilber's 75th birthday, England, Oxford (September 2024)
- Students' and Young Researchers' Conference: Non-Archimedean and Tropical Geometry, Germany, Regensburg (July 2024)
- Flows and Variational Methods in Riemannian and Complex Geometry: Classical and Modern Methods, Montreal (June 2024)
- Categorical aspects of differential Galois theory meeting, London (May 2024)
- South and East of England Model Theory Network SEEMOD meeting, Norwich (April 2024)
- Model theory of valued fields and applications, Lille (February 2024)
- Research school Hodge theory and o-minimality, Luminy, CIRM (January 2024)
- Global invariants of arithmetic varieties, Luminy, CIRM (October 2023)
- Model Theory Workshop, Wrocław (September 2023)
- Masterclass: Arakelov geometry on Shimura varieties, Copenhagen (August 2023)
- Model theory of valued fields, Luminy, CIRM (June 2023)
- Spring School on non-archimedean geometry and eigenvarieties, Heidelberg (March 2023)
- British Postgraduate Model Theory Conference, Leeds (January 2023)
- Model Theory Conference in celebration of Ludomir Newelski's 60th birthday, Będlewo, IMPAN conference center (December 2022)
- AGATES Workshop, Deformation Theory, Warsaw (December 2022)
- Condensed mathematics and the liquid tensor experiment, Będlewo (September 2022)
- Workshop: Practical and Structural Model Theory, Leeds (July 2022)
- Model Theory and Applications, Cetraro (June 2022)
- Cohomology of Varieties, Warsaw, IMPAN (April 2022)
- K3 categories and Hyperkähler moduli spaces, Warsaw/on-line (September 2021)
- Summer school on Aspherical Spaces, Island Frauenchiemsee (September 2018)

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ORGANIZATION AND COMMUNITY SERVICE

- Organising the conference “Model-theoretic methods in non-archimedean geometry” together with Piotr Achinger and Franziska Jahnke (January 2025)
- In the local committee for “Geometry from the model theorist’s point of view” conference with Martin Bays and Jinhe Ye (September 2024)
- Refereed for the Model Theory journal and Fundamenta Mathematicae
- Organiser of the Junior Logic Seminar at the University of Oxford (since September 2022)
- One of the organisers of the Summer school Algebra vincit Omnia, Pisary (September 2019)
- One of the organisers of the Baby Horizons students’ conference, Będlewo (July 2019)
- One of the organisers of the Summer school Per algebra ad astra, Pisary (September 2018)

TEACHING

- Teaching assistant for Logic (Oxford, Michaelmas term 2024)
- Tutor for Model Theory (Oxford, Michaelmas term 2023)
- Teaching assistant for Algebraic Curves (Oxford, Hilary term 2023)
- Teaching assistant for Introduction to Schemes (Oxford, Hilary term 2022)
- Teaching assistant for Model Theory (Oxford, Michaelmas term 2021)