

Stanislav Kikot

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Education

2006 BSc and MSc in Mathematics (with distinction), Moscow State University

2010 PhD in Mathematics, Moscow State University. PhD Thesis: ‘On modal logics of elementarily generated Kripke frame classes’ (supervisor Valentin Shehtman, referees Larisa Maksimova, Mikhail Rybakov and Lev Beklemishev).

Employment

since 2020 Senior Lecturer in Artificial Intelligence at London Metropolitan University

2018–2020 Research Associate at University of Oxford
EPSRC project ‘PDQ: Proof-driven Query Planning’
Principal Investigator: Michael Benedikt

2015–2018 Research Assistant at Birkbeck College, University of London
EPSRC project ‘iTract: Islands of tractability in ontology-based data access’
Principal Investigator: Michael Zakharyashev

2014–2015 Senior Researcher at Institute for Information Transmission Problems (Moscow, Russia)
Lecturer at Moscow Institute of Physics and Technology

2011–2013 Research Assistant at the Department of Computer Science and Information,
School of Business and Economics, Birkbeck, University of London.
UK EPSRC project ‘ExODA: Integrating description logics and database technologies
for expressive ontology-based data access’
Principal Investigator: Michael Zakharyashev

2009–2011 Researcher-developer at Yandex (Moscow, Russia).

Publications

Refereed Conference Papers

- [C1] M. Benedikt, S. Kikot, P. Ostropolski-Nalewaja, M. Romero. On Monotonic Determinacy and Rewritability for Recursive Queries and Views. In *PODS 2020: Proceedings of the 39th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems*, Portland, Oregon, 14–19 June 2020, pp. 131–148.
- [C2] O. Gerasimova, S. Kikot, A. Kurucz, V. Podolskii, Michael Zakharyashev. A Data Complexity and Rewritability Tetrachotomy of Ontology-Mediated Queries with a Covering Axiom. In *KR 2020: Proceedings of the 17th International Conference on Principles of Knowledge Representation and Reasoning*, Rhodes, 12–18 September 2020, pp. 403–413.
- [C3] S. Kikot, I. Shapirovsky, E. Zolin. Modal Logics with Transitive Closure: Completeness, Decidability, Filtration. In *AIML 2020: Proceedings of the 13th conference “Advances in Modal Logic”* held in Helsinki, 24–28 August, 2020.

- [C4] S. Kikot, R. Kontchakov, S. Rapisarda and M. Zakharyashev. STYPES: Nonrecursive Datalog Rewriter for Linear TGDs and Conjunctive Queries. In *ODBASE 2018: Proceedings of the 17th International Conference on Ontologies, DataBases, and Applications of Semantics*, Valletta, Malta, 23–24 October, vol. 11230 of LNCS, Springer, 2018.
- [C5] S. Kikot, A. Kurucz, F. Wolter, M. Zakharyashev. On Strictly Positive Modal Logics with S4.3 Frames. In *AIML 2018: Proceedings of the 12th conference “Advances in Modal Logic”* held in Bern, Switzerland, August 27-31, 2018, pp. 427-446.
- [C6] O. Gerasimova, S. Kikot, V. Podolskii, M. Zakharyashev. More on the Data Complexity of Answering Ontology-Mediated Queries with a Covering Axiom. In *KESW 2017: Proceedings of 8th International Conference on Knowledge Engineering and Semantic Web*, Szczecin, Poland, November 8-10, 2017, pp. 143–158.
- [C7] S. Kikot, A. Kurucz, F. Wolter and M. Zakharyashev. Alt_n in a Strictly Positive Context. In *TACL 2017: Proceedings of the 8th International Conference on Topology, Algebra and Categories in Logic*, July 2017, Prague.
- [C8] M. Bienvenu, S. Kikot, R. Kontchakov, V. Podolskii, V. Ryzhikov, M. Zakharyashev. The Complexity of Ontology-Based Data Access with OWL 2 QL and Bounded Treewidth Queries. In *PODS 2017: Proceedings of the 36th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems*, Chicago, USA, 14–19 May 2017, pp. 201–216.
- [C9] M. Bienvenu, S. Kikot, V. Podolskii. Tree-like Queries in OWL 2 QL: Succinctness and Complexity Results. In *LICS 2015: 30th Annual ACM/IEEE Symposium on Logic in Computer Science*, Kyoto, Japan, July 6-10, 2015, pp. 317-328
- [C10] S. Kikot, R. Kontchakov, V. Podolskii and M. Zakharyashev. On the Succinctness of Query Rewriting over Shallow Ontologies. In *CSL-LICS 2014: Joint Meeting of the Twenty-Third EACSL Annual Conference on Computer Science Logic and the Twenty-Ninth Annual ACM/IEEE Symposium on Logic in Computer Science*, Vienna, Austria, July 14–18, 2014, 57.
- [C11] S. Kikot, I. Shapirovsky, E. Zolin. Filtration Safe Operations on Frames. In *Advances in Modal Logic 10* (2014), pp. 333–352.
- [C12] S. Kikot, R. Kontchakov, V. Podolskii and M. Zakharyashev. Exponential Lower Bounds and Separation for Query Rewriting. In A. Czuma, K. Mehlhorn, A. Pitts and R. Wattenhofer, editors, *Proceedings of ICALP 2012: 39th International Colloquium on Automata, Languages and Programming* (Warwick, 9–13 July), Part II, LNCS vol. 7392, pp. 263–274. Springer, 2012.
- [C13] S. Kikot, R. Kontchakov and M. Zakharyashev. Conjunctive Query Answering with OWL 2 QL. In Gerhard Brewka, Thomas Eiter, Sheila A. McIlraith (Eds.): *Principles of Knowledge Representation and Reasoning: Proceedings of the Thirteenth International Conference, KR 2012*, Rome, Italy, June 10–14, 2012.
- [C14] P. Balbiani, S. Kikot, Sahlqvist theorems for precontact logics. In *Advances in Modal Logic 9*, 2012, Thomas Bolander, Torben Brauner, Silvio Ghilardi, and Lawrence Moss, eds., pp. 55–70.
- [C15] S. Kikot, R. Kontchakov and M. Zakharyashev. Polynomial Conjunctive Query Rewriting under Unary Inclusion Dependencies. In S. Rudolph and C. Gutierrez, editors, *Proceedings of RR 2011: The Fifth International Conference on Web Reasoning and Rule Systems* (Galway, Ireland, 29–30 August), LNCS vol. 6902, pp. 124–138. Springer, 2011. **Best paper award.**
- [C16] S. Kikot. On modal definability of Horn formulas. In *Proceedings of Topology, Algebra and Categories in Logic – 2011*, Marseille, ed. L. Santocanale, N. Olevetti, Yves Lafont, pp. 175–178.
- [C17] S. Kikot, Semantic characterization of Kracht’s formulas. In *Advances in Modal Logic 8*. College Publications, 2010, pp. 218–234.

Journal Articles

- [J1] C. Hampson, S. Kikot, A. Kurucz, S. Marcelino. Non-finitely axiomatisable modal product logics with infinite canonical axiomatisations. *Annals of Pure and Applied Logic* 171(5): 102786 (2020)
- [J2] S. Kikot, A. Kurucz, Y. Tanaka, F. Wolter, M. Zakharyashev. Kripke Completeness of Strictly Positive Modal Logics over Meet-semilattices with Operators. *Journal of Symbolic Logic*, 84(2): 533-588 (2019)
- [J3] M. Bienvenu, S. Kikot, R. Kontchakov, V. Podolskii, M. Zakharyashev. Ontology-Mediated Queries: Combined Complexity and Succinctness of Rewritings via Circuit Complexity. *Journal of the ACM*, 65(5): 28:1-28:51 (2018)
- [J4] C. Hampson, S. Kikot and A. Kurucz. The decision problem of modal product logics with a diagonal, and faulty counter machines. *Studia Logica*, 104(3): 455-486 (2016).
- [J5] S. Kikot. A dichotomy for some elementarily generated modal logics. *Studia Logica*, 103(5): 1063-1093 (2015).
- [J6] G. Gottlob, S. Kikot, R. Kontchakov, V. Podolskii, T. Schwentick and M. Zakharyashev. The Price of Query Rewriting in Ontology-Based Data Access. *Artificial Intelligence*, 213 (2014), Elsevier, pp. 42-59.
- [J7] S. Kikot, E. Zolin. Modal definability of first-order formulas with free variables and query answering. *Journal of Applied Logic*, 11 (2013), Elsevier, pp. 190-216.
- [J8] S. P. Kikot', Axiomatization of Modal Logic Squares with Distinguished Diagonal, *Mathematical Notes*, 2010, volume 88, issue 2, pages 261-274.
- [J9] S. Kikot, An extension of Kracht's theorem to generalized Sahlqvist formulas. *Journal of Applied Non-Classical Logic*, 19/2, 2009, 227-251.

Refereed Workshop papers:

- [W1] O. Gerasimova, S. Kikot, M. Zakharyashev. Checking the Data Complexity of Ontology-Mediated Queries: A Case Study with Non-uniform CSPs and Polyanna. In *Description Logic, Theory Combination, and All That*, Essays Dedicated to Franz Baader on the Occasion of His 60th Birthday, 2019, pp. 329-351.
- [W2] S. Kikot, V. Ryzhikov, P. Walega, M. Zakharyashev. On the Data Complexity of Ontology-Mediated Queries with MTL Operators over Timed Words. In *Proceedings of DL 2018: 31st International Workshop on Description Logics*, Tempe, Arizona, October 2018.
- [W3] M. Zakharyashev, S. Kikot, O. Gerasimova. Towards a Data Complexity Classification of Ontology-Mediated Queries with Covering. In *Proceedings of DL 2018: 31st International Workshop on Description Logics*, Tempe, Arizona, October 2018.
- [W4] O. Gerasimova, S. Kikot, V. Podolskii, M. Zakharyashev: On the Data Complexity of Ontology-Mediated Queries with a Covering Axiom. In *Proceedings of DL 2017: 30th International Workshop on Description Logics* (Monpellier, France, 18-21 July 2017).
- [W5] M. Bienvenu, S. Kikot, R. Kontchakov, V. Ryzhikov, M. Zakharyashev: On the Parametrised Complexity of Tree-Shaped Ontology-Mediated Queries in OWL 2 QL. In *Proceedings of DL 2017: 30th International Workshop on Description Logics* (Monpellier, France, 18-21 July 2017).
- [W6] M. Bienvenu, S. Kikot, R. Kontchakov, V. Ryzhikov, M. Zakharyashev: Optimal Nonrecursive Datalog Rewritings of Linear TGDs and Bounded (Hyper)Tree-Width Queries. In *Proceedings of DL 2017: 30th International Workshop on Description Logics* (Monpellier, France, 18-21 July 2017).
- [W7] M. Bienvenu, S. Kikot, R. Kontchakov, V. Podolskii, M. Zakharyashev: Theoretically Optimal Datalog Rewritings for OWL 2 QL Ontology-Mediated Queries. In *Proceedings of DL 2016: 29th International Workshop on Description Logics* (Cape Town, 22-25 April 2016).
- [W8] M. Bienvenu, S. Kikot and V. Podolskii. Combined Complexity of Answering Tree-like Queries in OWL 2 QL. In *Proceedings of DL 2015: 28th International Workshop on Description Logics* (Athens, 7-10 June 2015).

- [W9] M. Bienvenu, S. Kikot and V. Podolskii. Succinctness of Query Rewriting in OWL 2 QL: The Case of Tree-like Queries. In Proceedings of *DL 2014: 27th International Workshop on Description Logics* (Vienna, 17–21 July 2014).
- [W10] S. Kikot, R. Kontchakov, V. Podolskii and M. Zakharyashev. Query Rewriting over Shallow Ontologies. In Proceedings of *DL 2013: 26th International Workshop on Description Logics* (Ulm, 22–27 July), pp. 316–327, CEUR Workshop Proceedings, vol. 1014, 2013.
- [W11] S. Kikot, D. Tsarkov, M. Zakharyashev and E. Zolin. Query Answering via Modal Definability with FaCT++: First Blood. In Proceedings of *DL 2013: 26th International Workshop on Description Logics* (Ulm, 22–27 July), pp. 328–340, CEUR Workshop Proceedings, vol. 1014, 2013.
- [W12] S. Kikot, R. Kontchakov, V. Podolskii and M. Zakharyashev. Long Rewritings, Short Rewritings. In Y. Kazakov, D. Lembo and F. Wolter, editors, Proceedings of *DL 2012: 25th International Workshop on Description Logics* (Rome, 7–10 June), pp. 235–245. CEUR Workshop Proceedings, vol. 846, 2012.
- [W13] S. Kikot, R. Kontchakov and M. Zakharyashev. On (In)Tractability of OBDA with OWL 2 QL. In R. Rosati, S. Rudolph and M. Zakharyashev, editors, Proceedings of *DL 2011: 24th International Workshop on Description Logics* (Barcelona, 13–16 July), pp. 224–234. CEUR Workshop Proceedings, vol. 745, 2011.

Book Review:

- [R1] Relation Algebras by Games, by Robin Hirsch and Ian Hodkinson. *Journal of Logic and Computations*, Volume 20, Number 2, April 2010, 645–648.

Conference Abstracts:

- [A1] A new generalization of Sahlqvist theorem. In *Algebraic and Topological methods in Non-classical Logics II*, Abstracts, Universitat de Barcelona, pp 40–41, Barcelona, 2005.
- [A2] Formulas, corresponding to diagrams. In Proceedings of International Conference *Computer science applications of modal logic*, pp 21–22, Moscow, 2005.