Grigorii S. Stepanov

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Education

M.S. in Applied Mathematics and Physics, June 2022
Moscow Institute of Physics and Technology, Moscow, Russia
Advisor: Maksim E. Shirokov
Thesis title: "Continuity bounds of informational characteristics of quantum system and channels"

B.S. in Applied Mathematics and Physics, June 2020
Moscow Institute of Physics and Technology, Moscow, Russia
Advisor: Valentin B. Afanassiev
Thesis title: "Algorithms for solving overdetermined systems during collaborative decoding of interleaved BCH codes"

Research Interests

Set Theory, Axiom of Determinacy, Logics of Provability, General Topology, (Higher) Recursion Theory

Articles

Strong topological completeness of GL beyond ω
(preprint).

The Modal Logic of Forcing and Inner Models
with Juan P. Aguilera and Fernando Barrera, in preparation.

On the strong topological completeness of GLP
with Juan P. Aguilera, submitted, 2025.

Strong Kripke completeness of the closed fragment of GLP
with Juan P. Aguilera, AiML 2024 conference paper, 2024.

Numerical evaluation of integer multiplication algorithms
ITaS 2019 conference paper, 2019. (paper).

Solution of acoustic equations using method of integral equations on GPU
with Della Pietra R., 60th MIPT short conference paper, 2017. (paper).

Talks	**GLP and Large Cardinals**
	Infinitary Proof Theory, Casa Matemática Oaxaca (CMO), Summer 2025.

GLP and Large Cardinals
Infinitary Proof Theory, Casa Matemática Oaxaca (CMO), Summer 2025.

Stationary reflection under AD and provability logic
Logic Colloquium, TU Wien, Summer 2025.

Projective Ordinals
A serie of talks at The Axiom of Determinacy seminar, TU Wien, Spring 2025, (notes).

Strong completeness below GLP
Wormshop 2024, Ghent University, (abstract), (slides).

Strong Kripke completeness of the closed fragment of GLP
AiML 2024, Prague, (abstract), (slides).

Completeness of the GL.3 provability logic for the intersection of normal measures
TACL 2024, The University of Barcelona, (abstract), (slides).

Recursively Mahlo Ordinals
talk based on W. Richter's results, TU Vienna, 2024, (blackboard talk).

Strong Completeness of fragments of GLP
Trends in Proof Theory 2024, TU Vienna, (blackboard talk).

Strong Completeness of GL with Uncountable Language
poster at PhDs in Logic 2023, Granada, (poster).

Fine structure and mice with Woodin cardinals in a nutshell. The mouse M_ω
Inner Model Theory HOD Computations, TU Vienna, 2024, (notes).

Non-deteministic semantic for S4 modal logic
Computational Logic Seminar TU Vienna, 2022, (slides).

On topological properties of quantum channels
MI RAS, Moscow, 2022, (slides).

Teaching
Experience

Algorithms and models of computation, Theory of Formal Systems and Algorithms, Probability theory, Modal logic, Discrete mathematics
Seminars at Moscow Institute of Physics and Technology

The Axiom of Determinacy
TU Wien, Summer Semester 2025 (with William Chan)

Work Experience	**TU Vienna, Institute of Discrete Mathematics and Geometry** PhD student, project assistant — Dec. 2022-to date **Bar Ilan University** visiting student — Apr. 2022-Jan. 2023 **Steklov Institute of Mathematics** intern researcher — Nov. 2021-Nov. 2022 **Institute for Information Transmission Problems** acting junior researcher — Apr. 2019- Dec. 2020
Conference Organized	**Workshop "Young Set Theory 2025"** TU Vienna, September 8–12, 2025, organizing committee member. **"Logic Colloquium 2025"** TU Vienna, July 7–11th, 2025, organizing committee member.
Selected Attended Courses	**Admissible computability and set theory**, Grade 1 (excellent) TU Vienna, Lecturer: Juan P. Aguilera , Spring 2024 **Topics in Set Theory**, Grade 1 (excellent) University of Vienna, Lecturer: Vera Fischer , Spring 2023 **Set Theory**, Grade 8/10 Steklov Mathematical Institute, Lecturer: Denis I. Saveliev , Spring–Fall 2021 **Lambda calculus**, Grade 10/10 Steklov Mathematical Institute, Lecturer: Stepan L. Kuznetsov , Fall 2021 **Structural Proof Theory and Algebraic Logic**, Grade 10/10 Steklov Mathematical Institute, Lecturer: Stepan L. Kuznetsov, Spring 2021 **Non-classical Logics**, Grade 9/10 Steklov Mathematical Institute, Lecturer: Tatiana L. Yavorskaya , Spring 2021 **Provability and Formal Arithmetics**, Grade 9/10 Steklov Mathematical Institute, Lecturer: Lev D. Beklemishev, Fall 2020

Some Conferences and Summer Schools	**European Set Theory Conference** Hosted by WWU Münster, Sep. 2024
	Determinacy, Inner Models and Forcing Axioms Hosted by Erwin Schrödinger Institute, Jun. 2024
	Workshop Young Set Theory 2024 Hosted by Erdős Center, Jun. 2024
	Perspectives on Set Theory IMPAN, Warsaw, Nov. 2023
	The Logic Algebra and Truth Degrees 2023 Hosted by Ivane Javakhishvili State University, Sep. 2023
	IMS Graduate Summer School in Logic Hosted by IMS National University of Singapore, Jun.-Jul. 2023
	Workshop Young Set Theory 2023 Hosted by WWU Münster, May-Jun. 2023
	Pmax Tutorial by Paul Larson Hosted by TU Vienna, Jan. 2023
	Advances in Set Theory 2022 Hosted by Hebrew University, Jul. 2022

Grants and Awards	**Steklov Institute Grant in Quantum Theory by Ministry of Science and Higher Education** 2021-2022
	Marshall Plan Foundation Austria Scholarship Recipient, 2024 Project: Canonical GLP-topologies under the Axiom of Determinacy

Languages	**Russian:** native **English:** fluent **German:** intermediate, ~B1

Academic References	**Juan P. Aguilera,** PhD advisor. Email: aguilera@logic.at **Stepan L. Kuznetsov,** lecturer. Email: sk@mi-ras.ru **Yoni Zohar,** hosting supervisor. Email: yoni.zohar@biu.ac.il **Lev D. Beklemishev,** lecturer. Email: bekl@mi-ras.ru