ALEXANDER JERSCHOW

Website
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EDUCATION

Math Master Nagoya University Immatriculated: Apr 2025
Advisor: Yoshimichi Ueda
Topic: Free Probability Theory
Japanese Instruction
Notable Courses:

- Operator Theory (Yoshimichi Ueda, Syllabus)
- Topological K Theory (Chris Bourne, Syllabus)

Math Master 1 Semester University of Vienna Enrolled: Oct 2024-Feb 2025
GPA: 1 Austrian GPA scale (=4 US GPA scale)
English Instruction
Notable Courses:

- Advanced Functional Analysis (Günther Hörmann, Syllabus)
- C* Algebras with Aspects in Quantum Physics (Günther Hörmann, Syllabus)
- Stochastic Analysis (Julio Backhoff, Syllabus)
- Stochastic Processes (Emmanuel Schertzer, Syllabus)
- Synthetic Geometry and Optimal Transport Seminar (Clemens Sämann, Roland Steinbauer, Michael Kunzinger, Chiara Rigoni, Syllabus)
- Advanced Partial Differential Equations (Jörg Weber, Syllabus)
- Measure and Integration Theory (Roland Zweimüller, Syllabus)

Math Bachelor University of Vienna Enrolled: Sep 2021, Graduated: Feb 2024
GPA: 1.4 Austrian GPA scale (=3.8 US GPA scale)
Bachelor Thesis: Sanov's Inequality from an Information Theoretic Perspective
German Instruction Notable courses:

- Topology and Functional Analysis (Gerald Teschl, Syllabus)
- Complex and Harmonic Analysis (Jose Luis Romero, Klaus Widmayer, Syllabus)
- Integration and Stochastics (Roland Zweimüller, Syllabus)
- Probability and Statistics (Mathias Beiglböck, Syllabus)
- Ordinary Differential Equations (Henk Bruin, Syllabus)
- Financial Mathematics (Julio Backhoff, Syllabus)
- Analysis III (Andreas Cap, Syllabus)
- Optimization and Modelling (Radu Ioan Boţ, Syllabus)
- Numerical Mathematics (Hermann Schichl, Norbert Mauser, Martin Ehler, Syllabus)
- Algebra II (Joachim Mahnkopf, Syllabus)

Exchange Semester Kyoto University Spring 2024
Japanese Instruction
Notable Courses:

- Random Matrix Theory (Benoit Collins)
- Partial Differential Equations (Nobu Kishimoto)
- Algebraic Number Theory (Kaoru Hiraga)
- Theory of Formal Languages (Jesper Jansson)
- Quantum Physics (Thanhphuc Nguyen)

HONORS/AWARDS

- Merit Scholarship from the University of Vienna, funded by the Austrian Federal Ministry of Science, Research and Economics (2025)
- Acceptance into the KUINEP program (2024)
- Acceptance into the Presidential Honors Scholars Program (2020)

WORKS

- Another Proof For the Existence of the Free Convolution Semigroup for Compactly Supported Measures, Oct 2025
- Combinatorial Definition of the R-transform and Voiculescu's Characterization, a Reference, Oct 2025
- Sanov's Inequality from an Information Theoretic Perspective (Bachelor's Thesis), Feb 2024

PRESENTATIONS/CONFERENCES

- Presentation at 2025 Annual Japanese Junior Functional Analysis Conference (for master's students, PhDs and postdocs in Japan, website in Japanese). Presentation about Voiculescu's free R transform characterization via Nevanlinna Pick (slides in Japanese).
- Participation in Kyoto Random Matrix Theory Summer School 2025
- TA for Spring 2025 (introductory recitation) and Autumn 2025 (complex analysis). Duties include blackboard presentation, solution drafting, Q&A, and grading.

FREE TIME

- Language: English (US citizen), fluent in German and Russian, upper intermediate-advanced in Japanese (I passed the highest level of the national Japanese Language Proficiency Test), beginner in Chinese
- Climbing, calisthenics, piano
- Member of the Nagoya University Gymnastics Club, as well as the Nagoya University Jazz Fusion Club