

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 Boț](#), [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)

TEACHING

- Complex Analysis (現代数学基礎 CIII, Fall 2025)
[Solutions](#) ([Japanese](#))
Duties: solutions, presentation of solutions, grading, Q&A
Professor: [Hiroaki Kanno](#)
- Foundations in Mathematics (数学演習 III, Spring 2025)
Duties: grading
Professor: [Kento Osuga](#)

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