Irina Shafkulovska, M.Sc.

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Research interests

My research interests lie primarily in the area of harmonic analysis, Fourier analysis, time-frequency analysis, frame theory, and sampling theory.

Education

Since Oct. 2021

Ph.D. Mathematics, University of Vienna

Thesis title: Topics in time-frequency and sampling theory.

Advisor: Prof. Dr. Karlheinz Gröchenig. Co-advisor: Dr. Markus Faulhuber.

Expected date of award of PhD: September 2024.

Oct. 2020 – Sept. 2021

M.Sc. Mathematics, RWTH Aachen University.

Thesis title: Strichartz-Ungleichungen und metaplektische Wirkungen auf Modulationsräumen (Strichartz estimates and the metaplectic action on modulation spaces).

Advisor: *Prof. Dr. Hartmut Führ.*Subsidiary subject: Computer Science.
Overall grade: Excellent (1.0).

Oct. 2017 – Sept. 2020

B.Sc. Mathematics, RWTH Aachen University.

Thesis title: Datenapproximation durch endlich erzeugte invariante Teilräume (Data approximation by finitely generated invariant subspaces).

Advisor: *Prof. Dr. Hartmut Führ.*Subsidiary subject: Computer Science.
Overall grade: Excellent (1.0).

Sept. 2013 - July 2017

Secondary education

Completed with high school diploma (*Matura*).

Intensive courses: Natural Sciences and Mathematics - Combination A.

Overall grade: 5 (on a scale of 1 (worst) to 5 (best)).

Experience

Since Oct. 2021

PhD student employed as a research assistant in the project *Inside the frame set* (Austrian Science Fund: P₃₃₂₁₇).
University of Vienna.

Mar. 2022 – Sept. 2022

■ **Intern** at the Acoustics Research Institute. Austrian Academy of Sciences.

Oct. 2018 – Sept. 2021

Student teaching assistant in the following courses:

Complex Analysis (SS 2021), Analysis I (WS 2020/21), Fourier analysis (SS 2020), Analysis I (WS 2019/20), Stochastics I (SS 2019), Analysis for computer scientists (WS 2018/19).

RWTH Aachen University.

Apr. 2020 - Sept. 2021

Science assistant at ISW for a PhD thesis on sparse logistic regression and the project ETS 425. The project concerns eAssessment in statistics courses with DYNEXITE and creating modules for the statistics environment JAMOVI. RWTH Aachen University.

Activities

Since Dec. 2022	Visiting researcher at the Acoustics Research Institute. Austrian Academy of Sciences.
Since Oct. 2023	Co-organizer of the Harmonic Analysis seminar of the Applied Harmonic Analysis Cluster ${\cal S}$.
Oct. 2022 - June 2023	Co-organizer of the Harmonic Analysis seminar of the Numerical and Harmonic Analysis group.
31.07.2023-04.08.2023	International Workshop on Operator Theory and its Applications (Helsinki, Finland) Covered talk 2 shout the metaplectic action on modulation spaces.
10.07.2023-14.07.2023	Gave a talk \mathscr{O} about the metaplectic action on modulation spaces. Sampling Theory and Applications Conference (New Haven, USA) Gave a talk \mathscr{O} and presented a poster \mathscr{O} about sampling with derivatives in shift-invariant spaces generated by exponential B-splines.
12.06.2023-21.06.2023	Foundations of Computational Mathematics Conference (Paris, France) Presented a poster ② about sampling with derivatives in shift-invariant spaces generated by exponential B-splines.
May 2023	Ghent Methusalem Junior Seminar (Ghent University) Gave a talk 🚱 about the metaplectic action on modulation spaces.
26.04.2023	International Noise Awareness Day at the Acoustics Research Institute (Austrian Academy of Sciences) 6 (public outreach event)
Feb. 2023	3rd Austrian Day of Women in Mathematics Conference (Austrian Association of Women in Mathematics) Gave a talk • about sampling of the phaseless STFT.
Sept. 2022	8th International Conference on Computational Harmonic Analysis (Ingolstadt, Germany) Gave a talk 🚱 about the metaplectic action on modulation spaces.
June 2022	Harmonic Analysis and Friends (Strobl, Austria) Presented a poster 🔗 about Gabor frame bound optimizations.
	Excursions in Analysis (Trondheim, Norway)
	11th International Conference on Harmonic Analysis and Partial Differential Equations (El Escorial, Spain)
May 2022	Lange Nacht der Forschung 2022 🔗 (public outreach event)

Languages

Macedonian Native Language

English Certificate of Advanced English (CAE)

Overall score: 208, Reference Number: 16BMK0015011, 11 (CAE2)/2016

German Deutsch als Fremdsparche (DaF)
Overall score: 19, Registration number: 293961, To86, 26.04.2017

Awards and Achievements

Springorium Commemorative Coin, RWTH Aachen Department of Mathematics.

2020 Schöneborn-Preis, RWTH Aachen Department of Mathematics.

2019 - 2021 Mentioned on the "Dean's list" at RWTH Aachen University, List of the top 5% of the best students.