

# Hana Turčinová

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## Personal information

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**Citizenship:** *Czech Republic*

**Date and place of birth:** April 4, 1995, Litoměřice

**Employer:** Faculty of Electrical Engineering, Czech Technical University in Prague

**Position:** Assistant Professor

## Education

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<b>Charles University, Faculty of Mathematics and Physics</b> <i>Ph.D. (Doctor) degree in mathematical analysis</i>	<b>Prague</b> 2019–2024
<b>Charles University, Faculty of Mathematics and Physics</b> <i>RNDr. (Rerum Naturalium Doctor) degree in mathematics</i>	<b>Prague</b> 2021
<b>Charles University, Faculty of Mathematics and Physics</b> <i>Master's degree in mathematical analysis</i> Graduated with honors.	<b>Prague</b> 2017–2019
<b>Charles University, Faculty of Mathematics and Physics</b> <i>Bachelor's degree in general mathematics</i>	<b>Prague</b> 2014–2017

## Citations

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**MathSciNet:** 9, H-index 2.

**Scopus:** 10, H-index 2.

**WebOfScience:** 9, H-index 2.

**Google Scholar:** 36, H-index 3.

## Awards

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**Bernard Bolzano Endowment Fund:** Annual Award of the Bernard Bolzano Endowment Fund for the Best Scientific Work in Mathematics, Physics, and Computer Science, 2023.

**JČMF:** Honorable Mention of the Union of Czech Mathematicians and Physicists, 2022.

**Pedagogical award:** One of *The best evaluated teachers at MFF UK* in the academic year 2019/2020.

**SVOČ 2019:** 1st place at the international competition SVOČ (student scientific competition) in Mathematics and Computer Science held in Brno for project entitled *Characterization of functions with zero traces via the distance function*.

**SVOČ 2017:** 3rd place at the international competition SVOČ (student scientific competition) in Mathematics and Computer Science held in Pilsen for project entitled *Characterization of functions*

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Last update: September 20, 2024

*vanishing at the boundary.*

**Science olympiads:** Awarded in mathematical, physics and chemistry olympiads for high school students in Region Ústí nad Labem, 2011–2014.

## Scholarships and research grants

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**Czech Science Foundation, 23-04720S:** research worker, 2023–ongoing.

**Primus research programme PRIMUS/21/SCI/002, Charles University:** research worker, 2021–2023.

**Start programme START/SCI/034, Charles University:** research worker, 2021–2023.

**Danube Region Grant no. 8X20043 TIFREFUS:** research worker, 2020–2022.

**Grant Agency of Charles University no. 358120:** principal investigator, 2020–2022.

**Czech Science Foundation, 18-00580S:** research worker, 2018–2020.

**Student faculty grant of Faculty of Mathematics and Physics:** principal investigator, 2018.

**Scholarship of the University Research Center:** 2018–ongoing.

**Scholarship for excellent study results:** 2015, 2017, 2018.

## List of publications

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- Nekvinda, A. and Turčinová, H. *Characterization of functions with zero traces via the distance function and Lorentz spaces.* J. Math. Anal. Appl. 529, no. 1, Paper no. 127567 (2024). <https://doi.org/10.1016/j.jmaa.2023.127567>
- Turčinová, H. *Basic functional properties of certain scale of rearrangement-invariant spaces.* Math. Nachr. 296, no. 8, 3652–3675 (2023). <https://doi.org/10.1002/mana.202000463>.
- Gogatishvili, A., Mihula, Z., Pick, L., Turčinová, H. and Ünver, T. *Weighted inequalities for a superposition of the Copson operator and the Hardy operator.* J. Fourier Anal. Appl. 28, no. 2, Paper no. 24, 24 pp. (2022). <https://doi.org/10.1007/s00041-022-09918-6>
- Křepela, M., Mihula, Z. and Turčinová, H. *Discretization and antidiscretization of Lorentz norms with no restrictions on weights.* Rev. Mat. Complut. 35, no. 2, 615–648 (2022). <https://doi.org/10.1007/s13163-021-00399-7>

## Teaching

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- Tutorial for a course **Complex Analysis**, Czech Technical University in Prague, Faculty of Electrical Engineering, Fall 2024/2025.
- Tutorial for a course **Mathematical Analysis 2**, Czech Technical University in Prague, Faculty of Electrical Engineering, Spring 2023/2024.
- Tutorial for a course **Complex Analysis**, Czech Technical University in Prague, Faculty of Electrical Engineering, Fall 2023/2024.
- Tutorial for a course **Mathematical Analysis 2**, Charles University, Faculty of Mathematics and Physics, Spring 2022/2023.
- Tutorial for a course **Mathematical Analysis 1**, Charles University, Faculty of Mathematics and Physics, Fall 2022/2023.

- Tutorial for a course **Mathematics 2**, Charles University, Faculty of Social Sciences, Spring 2020/2021.
- Tutorial for a course **Mathematical Analysis 4**, Charles University, Faculty of Mathematics and Physics, Spring 2019/2020.
- Tutorial for a course **Mathematical Analysis 3**, Charles University, Faculty of Mathematics and Physics, Fall 2019/2020.
- Tutorial for a course **Mathematical Analysis 1**, Charles University, Faculty of Mathematics and Physics, Fall 2018/2019.
- Tutorial for a course **Mathematics 4**, Charles University, Faculty of Social Sciences, Spring 2017/2018.
- Tutorial for a course **Mathematics 3**, Charles University, Faculty of Social Sciences, Fall 2017/2018.
- Regular lectures for high school students at the Summer School of Mathematics and Physics and other seminars held by local branch of the Union of Czech Mathematicians and Physicists in Ústí nad Labem, 2015–ongoing.

## Current supervision

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- Alexander Škultéty: bachelor thesis, expected to defend 2025.
- Matúš Mintál: bachelor thesis, expected to defend 2025.

## Foreign experience

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- Short-term research stay at the University of Coimbra, 2022 and 2024.
- Three month research stay at UiT The Arctic University of Norway, Narvik, 2021–2022.

## Organization of conferences and workshops

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- Spring School on Analysis 2025, Function Spaces and Applications XIII, Paseky nad Jizerou, 2025. (co-organizer)
- The 50, 70, 80, . . .  $\infty$  Conference in Mathematics, Karlstad, 2024. (co-organizer)
- Spring School on Analysis 2023, Function Spaces and Applications XII, Paseky nad Jizerou, 2023. (co-organizer)
- Conference GEOFI 2023 (Geometric and functional inequalities, function spaces and PDEs), Prague, 2023. (local organizer)
- Spring school NAFSA (Nonlinear Analysis, Function Spaces and Applications) 12, Prague, 2022. (co-organizer)
- Conference LUBOŠ 60, Železná ruda, 2021. (local organizer)
- Conference QIND60 (Qualitative Improvement and New Dimensions), Špindlerův mlýn, 2020. (co-organizer)
- Workshop “Function Spaces and PDEs”, Maľe Ciche, 2019. (local organizer)

## Contribution at conferences, workshops and seminars

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- Short talk at The 50, 70, 80, . . .  $\infty$  Conference in Mathematics, Karlstad, 2024.
- Talk at Sommerschule “Analysis und Theoretische Numerik” in Siegmundsburg, 2024.
- Short talk at the 9th European Congress of Mathematics, Sevilla, 2024.
- Lightning talk at the conference “Geometric And Variational Analysis”, Bedlewo, 2024.
- Participation in the conference “Alberto de la Torre Memorial Meeting”, Málaga, 2023.
- Participation in the conference “Calculus of Variations: Regularity Theory and Limiting Spaces”, Konstanz, 2023.
- Talk at a Tifrefus meeting, Luminy, 2022.
- Short talk at a regular seminar at the FSU Jena, 2022.
- Short stay at Universidade de Coimbra, 2022.
- Poster at Sommerschule “Analysis und Theoretische Numerik” in Siegmundsburg, 2022.
- Participation in CIME school “Geometric and analytic aspects of functional variational principles”, Cetraro, 2022.
- Participation in the conference “Strobl22: Harmonic Analysis and Friends”, Strobl, 2022.
- Participation in Workshop on Analysis and PDE’s, Brighton, 2022.
- Talk at a seminar at UiT The Arctic University of Norway, Narvik, 2021.
- Short talk at a regular seminar at the FSU Jena, 2021.
- Short talk at the 8th European Congress of Mathematics, Portorož, 2021.
- Short talk at the workshop Per Partes, Horní Lysečiny, 2021.
- Short talk at Sommerschule “Analysis und Theoretische Numerik”, Siegmundsburg, 2020.
- Talk at the regular Analysis and Operator Theory Seminar of The Ohio State University, 2020.
- Short talk at the workshop “Function Spaces and PDEs”, Małe Ciche, 2019.
- Short talk at Sommerschule “Analysis und Theoretische Numerik”, Siegmundsburg, 2019.
- Short talk at the 12th ISSAC Congres, Aveiro, 2019.
- Short talk at the workshop “Prague-Leipzig meeting”, Oberwiesenthal, 2018.
- Short talk at a regular seminar at the FSU Jena, 2018.
- Short talk at the spring school NAFSA (Nonlinear Analysis, Function Spaces and Applications) 11, Prague, 2018.

## Editorial work

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- “Function Spaces and Applications XII”, proceedings of the spring school in Analysis, Paseky nad Jizerou 2023. MATFYZPRESS, Prague 2023, ix+136 pp, ISBN 978-80-7378-485-0 (jointly with J. Lukeš, Z. Mihula and L. Pick).

## Miscellaneous

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**EMS Young Academy:** member of the EMYA Committee for the period 2023-2025.

**Czech Mathematical Society:** member of the Executive Committee for the period 2022-2026.

**Union of Czech Mathematicians and Physicists:** member of the Executive Committee of the local branch of the Union of Czech Mathematicians and Physicists in Ústí nad Labem for the period

2022–2026.

**Mathematical Olympiad:** member of the regional committee in Ústí nad Labem, 2023–ongoing

**Summer School of Mathematics and Physics:** co-organizer of summer school for high school students held by local branch of the Union of Czech Mathematicians and Physicists in Ústí nad Labem, 2020–ongoing.

**Music:** flute, trombone.

**Photography:** conferences, nature, northern lights...