PERSONALIA

Martin Křepela, Ph.D.

Work address:

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arXiv: arxiv.org/a/krepela_m_1
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CURRICULUM VITAE

EMPLOYMENT

01/04/2020– **Assistant professor**
Department of Mathematics, Faculty of Electrical Engineering,
Czech Technical University in Prague, Czech Republic

01/04/2017 **Postdoctoral researcher**
–31/03/2020 Department of Applied Mathematics, Institute of Mathematics,
University of Freiburg, Germany

14/10/2011 **Ph.D. student**
–31/03/2017 Department of Mathematics and Computer Science, Karlstad University, Sweden

EDUCATION

10/02/2017 **Ph.D. in Mathematics / Mathematical Analysis**
Karlstad University, Sweden and Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic (*double-degree*, defense in Prague on 10/03/2017)
doctoral thesis: *The Weighted Space Odyssey / Integral and Supremal Operators on Weighted Function Spaces*
supervisors: Sorina Barza (Karlstad), Luboš Pick (Prague)

09/05/2014 **Lic. (Licentiate of Philosophy) in Mathematics**
Karlstad University, Sweden
licentiate thesis: *Forever Young: Convolution Inequalities in Weighted Lorentz-type Spaces*
supervisor: Sorina Barza

08/09/2011 **M.Sc. in Mathematical Analysis**, summa cum laude
Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic
master thesis: *Almost Compact Embeddings of Function Spaces*
supervisor: Luboš Pick

22/06/2009 **B.Sc. in General Mathematics**, summa cum laude
Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic
bachelor thesis: *Compactness in Function Spaces*
supervisor: Luboš Pick

LANGUAGES

Czech: mother tongue (intelligible with Slovak),
Swedish: fluent (*Svenska som andraspråk 3* completed in 2014)
English: fluent
German: fluent

RESEARCH

LIST OF PUBLICATIONS

Published papers

[19] M. Křepela, Z. Mihula, J. Soria, *Rearrangement-invariant hulls of weighted Lebesgue spaces,* J. Funct. Anal. **287** (2024), 110454.

[18] M. Křepela, Z. Mihula, J. Soria, *A weak-type expression of the Orlicz modular*, Mediterr. J. Math. **20** (2023), no. 3, Paper No. 113, 8 pp.

[17] S. Boza, M. Křepela, J. Soria, *Lorentz and Gale–Ryser theorems on general measure spaces*, P. Roy. Soc. Edinb. A **152:4**, 857–878 (2022).

[16] M. Křepela, Z. Mihula, H. Turčinová, *Discretization and antidiscretization of Lorentz norms with no restrictions on weights*, Rev. Mat. Complut. **35:2**, 615–648 (2022).

[15] M. Křepela, M. Růžička, *Addendum to Article "A Counterexample Related to the Regularity of the p-Stokes Problem",* J. Math. Sci. (N.Y.) **247**, 957–959 (2020).

[14] A. Gogatishvili, M. Křepela, R. Oľhava, L. Pick, *Weighted inequalities for discrete iterated Hardy operators*, Mediterr. J. Math. **17**, 132 (2020).

[13] M. Křepela, *Embeddings and associated spaces of Copson-Lorentz spaces*, J. Anal. Math. **140** (2020), 227–266.

[12] M. Křepela, M. Růžička, *Solenoidal difference quotients and their application to the regularity theory of the p-Stokes system*, Calc. Var. Part. Differ. Equat. **59**, 34 (2020).

[11] M. Křepela, L. Pick, *Weighted inequalities for iterated Copson integral operators*, Studia Math. **253** (2020), 163–197.

[10] M. Křepela, M. Růžička, *A counterexample related to the regularity of the p-Stokes problem*, J. Math. Sci. (N.Y.) **232:3** (2018), Problems in mathematical analysis, No. 92, 390–401.

[9] M. Křepela, *Iterating bilinear Hardy inequalities*, Proc. Edinb. Math. Soc. (2) **60:4** (2017), 955–971.

[8] A. Gogatishvili, M. Křepela, L. Pick and F. Soudský, *Embeddings of classical Lorentz spaces involving weighted integral means*, J. Funct. Anal. **273:9** (2017), 2939–2980.

[7] M. Křepela, *Boundedness of Hardy-type operators with a kernel: integral weighted conditions for the case* $0 < q < 1 \leq p < \infty$, Rev. Mat. Complut. **30:3** (2017), 547–587.

[6] M. Křepela, *Convolution inequalities in weighted Lorentz spaces, case* $0 < q < 1$, Math. Inequal. Appl. **20:1** (2017), 191–201.

[5] M. Křepela, *Integral conditions for Hardy-type operators involving suprema*, Collect. Math. **68:1** (2017), 21–50.

[4] M. Křepela, *Bilinear weighted Hardy inequality for nonincreasing functions*, Publ. Mat. **61:1** (2017), 3–50.

[3] M. Křepela, *Convolution in weighted Lorentz spaces of type* Γ, Math. Scand. **119:1** (2016), 113–132.

[2] M. Křepela, *Convolution inequalities in weighted Lorentz spaces*, Math. Inequal. Appl. **17:4** (2014), 1201–1223.

[1] M. Křepela, *Convolution in rearrangement-invariant spaces defined in terms of oscillation and the maximal function*, Z. Anal. Anwend. **33:4** (2014), 369–383.

Theses

[IV] M. Křepela, *The Weighted Space Odyssey / Integral and Supremal Operators on Weighted Function Spaces*, doctoral thesis, Karlstad University / Charles University, 2017

`http://kau.diva-portal.org/smash/record.jsf?pid=diva2:924668`
(fulltext without ammended papers)

supervisors: Sorina Barza (Karlstad), Luboš Pick (Prague)
opponents: Gord Sinnamon (Western University, London, Canada), Winfried Sickel (Friedrich Schiller University Jena, Germany), Sergey Tikhonov (ICREA Barcelona, Spain)

[III] M. Křepela, *Forever Young: Convolution Inequalities in Weighted Lorentz-type Spaces*, licentiate thesis, Karlstad University, 2014

`http://kau.diva-portal.org/smash/record.jsf?pid=diva2:706959`
(fulltext without ammended papers)

supervisor: Sorina Barza
opponent: Javier Soria (University of Barcelona, Spain)

[II] M. Křepela, *Almost Compact Embeddings of Function Spaces*, master thesis, Charles University, 2011

`https://dspace.cuni.cz/handle/20.500.11956/49388`

supervisor: Luboš Pick
opponent: Jiří Spurný (Charles University)

[I] M. Křepela, *Compactness in Function Spaces*, bachelor thesis, Charles University, 2009

`https://dspace.cuni.cz/handle/20.500.11956/28036`

supervisor: Luboš Pick
opponent: Stanislav Hencl (Charles University)

SEMINAR AND CONFERENCE TALKS

Nonlinear Partial Differential Equations in Freiburg, Freiburg (D), 10/2024
Colloquium, Universidad Complutense de Madrid (E), 09/2024
The 50, 70, 80 Conference in Mathematics, Karlstad (S), 08/2024
Geometric and Variational Analysis, Będlewo (PL), 06/2024
Colloquium, Universidad Complutense de Madrid (E), 09/2023
Karlstad Applied Analysis Seminar, Karlstads universitet (S), 05/2023
Doppler Institute Seminar, Praha (CZ), 04/2023
Seminar on Analysis and Theoretical Numerics, Siegmundsburg (D), 08/2022
Colloquium, Universidad Complutense de Madrid (E), 01/2022
QIND 60, Erlebachova bouda (CZ), 09/2020
Function Theory on Infinite Dimensional Spaces XVI, Madrid (E), 11/2019
Function Spaces and PDEs, Małe Ciche (PL), 09/2019
Seminar on Analysis and Theoretical Numerics, Siegmundsburg (D), 08/2019
Prague Seminar on Function Spaces, Charles University (CZ), 03/2019
Karlstad Applied Analysis Seminar, Karlstads universitet (S) 11/2018
Applied Mathematics Workshop, Albert-Ludwigs-Universität Freiburg (D), 05/2018
Analysis Seminar, Friedrich-Schiller-Universität Jena (D), 12/2017
Karlstad Applied Analysis Seminar, Karlstads universitet (S), 12/2017
Karlstad Applied Analysis Seminar, Karlstads universitet (S), 01/2017

Analysis Seminar, Friedrich-Schiller-Universität Jena (D), 12/2016
Prague Seminar on Function Spaces, Charles University (CZ), 12/2016
Analysis Seminar, Friedrich-Schiller-Universität Jena (D), 11/2015
Applied Mathematics Seminar, Albert-Ludwigs-Universität Freiburg (D), 10/2015
Day of Doctoral Students, Charles University (CZ), 06/2015
Natural Science and Technology Conference, Karlstads universitet (S), 05/2015
General Mathematics Seminar, University of South Carolina, Columbia, SC (USA), 02/2015
Analysis Seminar, Friedrich-Schiller-Universität Jena (D), 12/2014
Seminar on Analysis and Theoretical Numerics, Siegmundsburg (D), 07/2014
Day of Doctoral Students, Charles University (CZ), 06/2014
Barcelona Informal Seminar on Mathematics, Universitat de Barcelona (E), 02/2014
Prague Seminar on Function Spaces, Charles University (CZ), 12/2013
Seminar on Analysis and Theoretical Numerics, Siegmundsburg (D), 07/2013
The Swedish Mathematical Society annual meeting, Luleå (S), 11/2012
The Swedish Mathematical Society annual meeting, Linköping (S), 11/2011

PEER-REVIEWS

Ann. Acad. Sci. Fenn. Math.
Ann. Funct. Anal.
Banach J. Anal. Appl.
Comment. Math. Univ. Carolin.
Czechoslovak Math. J.
J. Funct. Spaces
J. Math. Anal. Appl.
J. Math. Inequal.
Math. Inequal. Appl.
Math. Nachr.
Math. Slovaca
Positivity
Real Anal. Exchange
Rev. Mat. Complutense