

LENKA SLAVÍKOVÁ

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APPOINTMENTS

- Assistant Professor** 2019 - present
Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
- Hausdorff Postdoc** September 2019 - August 2020
University of Bonn, Germany
- Postdoctoral Fellow** 2016 - 2019
University of Missouri, Columbia, MO, USA

EDUCATION

- Ph.D. study, Mathematical Analysis** 2012 - 2016
Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
Advisor: Luboš Pick
- Master study, Mathematical Analysis** 2010 - 2012
Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
- Bachelor study, Mathematics** 2007 - 2010
Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic

PUBLICATIONS AND PREPRINTS

- [20] J. Chen, L. Grafakos, D. He, P. Honzík and L. Slavíková, *Bilinear maximal functions associated with surfaces*, Proc. Amer. Math. Soc., to appear.
- [19] L. Grafakos, M. Mastyo and L. Slavíková, *A sharp variant of the Marcinkiewicz theorem with multipliers in Sobolev spaces of Lorentz type*, J. Funct. Anal. **282** (2022), no. 3, Paper No. 109295.
- [18] A. Alberico, A. Cianchi, L. Pick and L. Slavíková, *Fractional Orlicz-Sobolev embeddings*, J. Math. Pures Appl. **149** (2021), 216–253.
- [17] L. Slavíková, *Bilinear Fourier multipliers and the rate of decay of their derivatives*, J. Approx. Theory **261** (2021), 105485, 25pp.
- [16] A. Alberico, A. Cianchi, L. Pick and L. Slavíková, *On the limit as $s \rightarrow 1^-$ of possibly non-separable fractional Orlicz-Sobolev spaces*, Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl. **31** (2020), no. 4, 879–899.
- [15] A. Alberico, A. Cianchi, L. Pick and L. Slavíková, *On the limit as $s \rightarrow 0^+$ of fractional Orlicz-Sobolev spaces*, J. Fourier Anal. Appl. **26** (2020), no. 6, Paper No. 80, 19pp.
- [14] L. Slavíková, *On the failure of the Hörmander multiplier theorem in a limiting case*, Rev. Mat. Iberoam. **36** (2020), no. 4, 1013 – 1020.
- [13] L. Grafakos, D. He and L. Slavíková, *$L^2 \times L^2 \rightarrow L^1$ boundedness criteria*, Math. Ann. **376** (2020), no. 1 – 2, 431 – 455.
- [12] A. Cianchi, L. Pick and L. Slavíková, *Sobolev embeddings in Orlicz and Lorentz spaces with measures*, J. Math. Anal. Appl. **485** (2020), no. 2, 123827, 31 pp.
- [11] A. Cianchi, L. Pick and L. Slavíková, *Sobolev embeddings, rearrangement-invariant spaces and Frostman measures*, Ann. Inst. H. Poincaré Anal. Non Linéaire **37** (2020), no. 1, 105 – 144.
- [10] L. Grafakos and L. Slavíková, *A sharp version of the Hörmander multiplier theorem*, Int. Math. Res. Not. IMRN 2019, no. 15, 4764 – 4783.
- [9] A. Cianchi, L. Pick and L. Slavíková, *Banach algebras of weakly differentiable functions*, J. Anal. Math. **138** (2019), no. 2, 473 – 511.

- [8] L. Grafakos, D. He and L. Slavíková, *Failure of the Hörmander kernel condition for multilinear Calderón-Zygmund operators*, C. R. Math. Acad. Sci. Paris **357** (2019), no. 4, 382 – 388.
- [7] L. Grafakos and L. Slavíková, *The Marcinkiewicz multiplier theorem revisited*, Arch. Math. (Basel) **112** (2019), no. 2, 191 – 203.
- [6] A. Alberico, A. Cianchi, L. Pick and L. Slavíková, *Sharp Sobolev type embeddings on the entire Euclidean space*, Comm. Pure Appl. Anal. **17** (2018), no. 5, 2011 – 2037.
- [5] P. Cavaliere, A. Cianchi, L. Pick and L. Slavíková, *Norms supporting the Lebesgue differentiation theorem*, Commun. Contemp. Math. **20** (2018), no. 1, 1750020, 33pp.
- [4] L. Slavíková, *On the necessity of bump conditions for the two-weighted maximal inequality*, Proc. Amer. Math. Soc. **145** (2017), 109 – 118.
- [3] L. Slavíková, *Compactness of higher-order Sobolev embeddings*, Publ. Mat. **59** (2015), no. 2, 373 – 448.
- [2] A. Cianchi, L. Pick and L. Slavíková, *Higher-order Sobolev embeddings and isoperimetric inequalities*, Adv. Math. **273** (2015), 568 – 650.
- [1] L. Slavíková, *Almost-compact embeddings*, Math. Nachr. **285** (2012), 1500 – 1516.

AWARDS

Forbes 30 Under 30 in the Czech Republic	2017
Prize for the best master thesis, awarded by the dean of Faculty of Mathematics and Physics, Charles University	2012
First prize at SVOČ (Czech and Slovak Research Competition for University Students), section Mathematical Analysis	2012
Second prize at SVOČ (Czech and Slovak Research Competition for University Students), section Mathematical Analysis	2010
Third prize at International Mathematics Competition for University Students	2009
Bronze medal at International Mathematical Olympiad	2007

GRANTS AND SCHOLARSHIPS

Primus grant PRIMUS/21/SCI/002 from Charles University	2021 - 2023
Grant No. 62315 of the Grant Agency of Charles University	2015 - 2016
Collaboration on the grant No. P201-13-14743S of the Grant Agency of the Czech Republic	2013 - 2016
Scholarship for Ph.D. students, awarded by the University Center for Mathematical Modeling, Applied Analysis and Computational Mathematics (Charles University)	2012 - 2015
Scholarship for excellent study results, awarded by the Faculty of Mathematics and Physics, Charles University	2008 - 2012

INVITED TALKS

(upcoming) Nonlinear Analysis, Function Spaces and Applications (NAFSA 12), Praha, Czech Republic	June 2022
(upcoming) Regularity theory for elliptic and parabolic systems and problems in continuum mechanics, Telč, Czech Republic	May 2022
(upcoming) Nonlocal Equations: Analysis and Numerics, Bielefeld, Germany	February 2022
(upcoming) 2021 Canadian Mathematical Society Winter Meeting, special session on Harmonic Analysis and Fractal Geometry, Vancouver, Canada (online)	December 2021
Nonlinear Elliptic and Parabolic Partial Differential Equations, Levico Terme, Italy (online)	October 2021
8th European Congress of Mathematics, section Geometric-functional inequalities and related topics, Portorož, Slovenia (online)	June 2021

Bi.discrete seminar, University of Bielefeld, Germany (online)	<i>December 2020</i>
CDT PDE Lunchtime Seminar, Mathematical Institute, University of Oxford, United Kingdom	<i>March 2020</i>
Analysis Seminar, University of Nantes, Nantes, France	<i>February 2020</i>
Congress of Young Researchers RSME, Real Analysis session, Castellón, Spain	<i>January 2020</i>
Siegmundsburg Seminar on Analysis and Theoretical Numerics, Siegmundsburg, Germany	<i>August 2019</i>
10th Function Spaces, Differential Operators and Nonlinear Analysis (FSDONA 2019), Turku, Finland	<i>June 2019</i>
Analysis Seminar, The Ohio State University, Columbus, OH, USA	<i>May 2019</i>
Analysis Seminar, California Institute of Technology, Pasadena, CA, USA	<i>April 2019</i>
Analysis Seminar, Georgia Institute of Technology, Atlanta, GA, USA	<i>October 2018</i>
Analysis Seminar, University of Wisconsin-Madison, Madison, WI, USA	<i>April 2018</i>
Analysis Seminar, Kansas State University, Manhattan, KS, USA	<i>April 2018</i>
AMS Spring Central Sectional Meeting, Special Session on Recent Advances in Approximation Theory and Operator Theory, Ohio State University, Columbus, OH, USA	<i>March 2018</i>
AMS Spring Eastern Sectional Meeting, Special Session on Current Trends in Function Spaces and Nonlinear Analysis, Hunter College, City University of New York, New York, NY, USA	<i>May 2017</i>
Geometric and Analytic Inequalities, Banff International Research Station, Alberta, Canada	<i>July 2016</i>
Geometric aspects of PDE's and functional inequalities, Cortona, Italy	<i>April 2016</i>

RESEARCH VISITS

Three-month stay at BCAM, Bilbao, Spain, collaboration with C. Pérez	<i>February 2016 – May 2016</i>
One-month stay at University of Florence, Italy, collaboration with A. Cianchi	<i>September 2014</i>

MENTORSHIP OF POSTDOCTORAL FELLOWS

Georgios Dosidis (Charles University)	<i>2021–2023</i>
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BACHELOR THESES SUPERVISION

Radan Vincenec (Charles University)	<i>2022 (expected)</i>
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ORGANIZATION OF CONFERENCES

Luboš 60, a conference on the occasion of 60th birthday of Luboš Pick, Železná Ruda, Czech Republic	<i>September 2021</i>
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TEACHING EXPERIENCE

Advanced Differentiation and Integration 1, Instructor (Charles University)	<i>Winter 2021–2022</i>
Selected Topics in Harmonic Analysis 1, Instructor (Charles University)	<i>Winter 2021–2022</i>
Introduction to Interpolation Theory 2, Instructor (Charles University)	<i>Summer 2021</i>
Mathematical Analysis 2, Teaching Assistant (Charles University)	<i>Summer 2021</i>
Mathematical Analysis 1, Teaching Assistant (Charles University)	<i>Winter 2020–2021</i>
Proseminar in Mathematical Analysis, Instructor (Charles University)	<i>Winter 2020–2021 and 2021–2022</i>
Calculus III, Instructor (University of Missouri)	<i>Fall 2018</i>
Applied Analysis, Instructor (University of Missouri)	<i>Fall 2017 and Spring 2019</i>
Differential Equations, Instructor (University of Missouri)	<i>Fall 2016 and 2017, Spring 2017, 2018 and 2019</i>
Mathematical Analysis 3, Teaching Assistant (Charles University)	<i>Winter 2014–2015 and 2015–2016</i>

Calculus 2, Teaching Assistant (Charles University)

Summer 2013

Mathematical Analysis 2b, Teaching Assistant (Charles University)

Winter 2012–2013

FURTHER ACTIVITIES

Referee (full report) for Anal. PDE, Ann. Mat. Pura Appl., Appl. Anal., Collect. Math., Czechoslovak Math. J., Int. Math. Res. Not. IMRN, J. Approx. Theory, J. Differential Equations, J. Funct. Spaces, J. Geom. Anal., J. Math. Anal. Appl., Monatsh. Math., Proc. Lond. Math. Soc., Rev. Mat. Complut., Trans. Amer. Math. Soc.
Quick opinion for J. Lond. Math. Soc., Studia Math.

Reviewer for Mathematical Reviews *2015 - present*

Grant proposal reviewer for the National Science Centre, Poland *2021*

Examiner of Ph.D. thesis of Eva Buriánková (Charles University) *March 2021*

Faculty mentor of a group of first-year bachelor students (Charles University)
Winter 2020–2021 and Winter 2021 – 2022

Coorganizer of Graduate Seminar on Advanced Topics in PDE (University of Bonn)
Winter 2019–2020 and Summer 2020

Panelist at AMS/AWM Graduate Professional Development Panel (University of Missouri) *April 2019*

Coorganizer of Analysis Seminar (University of Missouri) *Fall 2017*

Coorganizer of an informal problem-solving seminar in analysis for first-year bachelor students
(Charles University) *Winter 2015–2016*

Several mathematics lectures for high school students *2013 - present*

Coorganizer of The Prague Seminar in Mathematics (a correspondence seminar in mathematics for high school students) *2007 - 2012*