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Curriculum vitae

Field of research: Theory of Integral operators, Approximation numbers, Theory of Function spaces and applications to PDE's.

Education:

1992-1996: PhD study at the Faculty of Mathematics and Physics at the Charles University, Prague, Czech republic, degree Doctor (PhD equivalent)

1987-1992: Faculty of Mathematics and Physics at the Charles University, Prague, Czech republic, degree Magister (MS equivalent)

Professional experience:

since-2001: Assistent Prof. at the Department of Mathematics, Ohio State University

2001: Assistent Prof., Department of Math. Anal., Charles University, Prague, Czech Republic

1998-2001: Post Doct. Fellow at the Department of Mathematics, University of Missouri, Columbia, USA

1997-1998: NATO and the Royal Society Postdoctoral Fellowship at the School of Mathematics of the University of Wales, Cardiff, UK, (12 months)

1996: DAAD Scholarship at the Mathematical Institute of the University of Cologne, Cologne, Germany, (3 months)

1995-2000: Research Fellow at the Mathematical Institute of the Czech Academy of Sciences, Prague

1994-1995: External lecturer at the Department of Mathematics, Technical University, Prague

1993-1994: TEMPUS Fellowship at the University of Complutense, Madrid, Spain (9 months)

1991 : International Summer Semester at the University of Jyväskylä, Finland (1 month)

Awards and prizes:

1995: The Bolzano Prize of the Faculty of Mathematics and Physics at Charles University, Prague

1995: The Prize of the Hlávka Foundation for the best young scientists, Prague

Publishing activity: 20 published papers and 2 preprints.

List of talks:

- 2005 (November): Colloquium talk, Department of Mathematics, University of Texas, El Paso, USA
- 2005 (July): EPSRC Meeting: Differential and Integral operators in L^p space, Gregynog, Wales, UK
- 2005 (July): Seminar talk at University of Sussex, Brighton, UK
- 2004 (June): Fourth World Congress of Nonlinear Analysis (WCNA-2004), Orlando, Florida
- 2003 (November): Centrum of applied math., Faculty of Applied Sciences, University of West Bohemia, Pilsen, Czech republic
- 2003 (November): The Prague seminar on function space (series of talks), Mathematical Institute of the Czech academy of Sci., Prague, Czech Republic
- 2003 (October): Analysis seminar, Department of Mathematics, Florida International University, Miami, Florida
- 2003 (September): Colloquium talk, Department of Mathematics, University of Alabama-Birmingham, Alabama
- 2003 (September): Seminar in problems of modern analysis, Department of Mathematics, Technion - Israel Institute of Technology, Haifa, Israel
- 2003 (September): Special Guest Lecture, The Weizmann Institute of Science Faculty of Mathematics and Computer Science, Rehovot, Israel
- 2003 (July): Colloquium talk, Mathematical Institute, University of Cologne, Cologne, Germany
- 2003 (July): Analysis seminar workshop, School of Mathematics, University of Wales-Cardiff, Wales, UK
- 2002 (November): AMS Sectional Meeting, Orlando, 2002, (November 9-10 2002)
- 2002 (November-December): The Ohio State University, Columbus, Unofficial Spectral theory seminars (series of talks)
- 2002 (November): Real and Complex Analysis Seminar at Math. Dep. Of OSU (Columbus)
- 2002 (July): EPSRC Workshop, Computation and Analytic Problems in Spectral Theory, Gregynog, Wales, UK (July 21-26 2002)
- 2002 (July): Analysis Seminar at the School of Mathematics, University of Sussex, Brighton, UK
- 2002 (May): Real and Complex Analysis Seminar at Math. Dep. Of OSU (Columbus)
- 2002 (May): Harmonic Analysis/Partial Differential Equations Conference at the University of Missouri-Columbia, (May 8-11 2002)
- 2002 (February): Real and Complex Analysis Seminar at Math. Dep. Of OSU (Columbus)
- 2001 (May): Annual Meeting of Italian Harmonic Anal. (invited main talk), Neaple, Italy
- 2001 (March): University of Kansas, Lawrence, AMS meeting, USA

2000 (November): University of Alabama, Birmingham, AMS meeting, USA
2000 (October): Department of Mathematics, University of Texas, USA
2000 (June): School of Mathematics, University of Wales, Cardiff, UK
1999 (June): International Conference on Function Spaces, Differential Operators
and Nonlinear Analysis, Pudasjarvi Finland
1999 (May): Department of Mathematics, Brock University, Canada
1999 (March): International Conference on Differential Equations and Mathematical Physics,
UAB, Birmingham, USA
1998 (December): Department of Mathematics, University of Missouri-Columbia, , USA
1998 (October): Department of Mathematics, UAB, Birmingham, USA
1998 (July): School of Mathematics, University of Wales, Cardiff, UK
1998 (July): Dipartimento di Matematica e Applicazioni, Universita di Napoli
1997 (October): Workshop Differential Equations, Spectral Theory, Function Spaces
Friedrich-Schiller-Universität, Jena, Germany
1996 (December): School of Mathematics, University of Wales, Cardiff, UK
1996 (May): University of Cologne, Germany
1995 (May): Conference on Function Spaces, Linzmühle, Germany
1994 (December): Friedrich-Schiller-Universität, Jena, Germany
1994 (February): University of Málaga, Spain
1994 (February): University of Complutense, Madrid, Spain
1992 (December): Friedrich-Schiller-Universität, Jena, Germany

Teaching Experience:

The Ohio State University, Columbus Campus and Marion Campus, OH
Undergraduate and graduate classes

University of Missouri, Columbia, MO
Calculus, Discrete Mathematical Structures

Czech Technical University, Prague, Czech Republic
Calculus, Discrete Mathematics, Algebra

Charles University, Prague, Czech Republic
Analysis, Linear Algebra

Research Grants and participation in research grants:

Professional Development grants

OSU at Marion (2x \$1000).

Period: 2004 - 2006 Proposer: J. Lang

International Research Travel Grant

from the Office of International Affairs of OSU. (\$1400).

Period: 2005 - 2006 Proposer: J. Lang

Untenured Faculty Development and Research Grant OSU (\$7500)

Period: From October 2002 Proposer: J. Lang

International Research Travel Grant

from the Office of International Affairs of OSU. (\$1500).

Period: 2002 - 2003 Proposer: J. Lang

Leverhulme Trust grant F/00407/E

Title: Integral operators

Period: 2001 - 2003 Proposer: W.D. Evans

Postdoctoral research grant of the Grant Agency of the Czech republic

Title: Integral operators in Banach function spaces, weight inequalities.

Period: 1998 - 2000 Proposer: Jan Lang

NATO grant, reg.no. OUTR.CRG 970 071

Title: Function spaces and weighted inequalities.

Period: 1997 - 1999 Proposer: D.E. Edmunds

Co-proposer: W.D. Evans, B. Opic, C. Sbordone, G. Talenti

Number of coworkers: 13

Royal Society grant Ref. rc/jp/nov

Title: Weighted inequalities, integral operators and embeddings.

Period: 1998 - 1999 Proposer: D.E. Edmunds

Co-proposer: B. Opic

Number of coworkers: 7

Research grant of the Grant Agency of the Czech Republic

Title: Integral operators, GA CR no. 201/96/0431

Period: 1996 - 1998 Proposer: M.Krbec

Number of coworkers: 5

List of Publications

- [1] J. Lang and A. Nekvinda, *Trace of weighted Sobolev spaces in a singular case*, Czechoslovak Math. Journal **45** (1995), 639–657.
- [2] B. Kawohl and J. Lang, *Are some optimal shape problems convex ?*, Journal of Convex Analysis **4** (1997), No. 2, 1–9.
- [3] M. Krbeč and J. Lang, *Imbeddings between weighted Orlicz–Lorentz spaces*, Georgian Math. J. **4** (1997), 117–128.
- [4] J. Lang and A. Nekvinda, *A difference between the continuous and the absolutely continuous norms in Banach function spaces*, Czechoslovak Math. Journal **47** (122), (1997), 221–232.
- [5] J. Lang and L. Pick, *The Hardy operator and the gap between L^∞ and BMO*, J. London Math. Soc. (2) **57** (1998), 196–208.
- [6] D.E. Edmunds, J. Lang and A. Nekvinda, *On $L^{p(x)}$ norms*, Proc. Roy. Soc. London Ser. A **455** (no.1982), (1999), 219–225.
- [7] W.D. Evans, D.J. Harris and J. Lang, *Two-sided estimates for the approximation numbers of Hardy-type operators in L^∞ and L^1* , Studia Math. **130** (1998), 171–192.
- [8] A. Gogatishvili and J. Lang, *The generalized Hardy operator with kernel and variable integral limits in Banach function spaces*, J. of Inequal. and Appl. **4** (1999), 1–16.
- [9] D.J. Harris and J. Lang, *Approximation numbers of Hardy-type operators on trees*, Function spaces, differential operators and nonlinear analysis (Pudasjrvi, 1999), 113–124.
- [10] W.D. Evans, D.J. Harris and J. Lang, *The approximation numbers of Hardy-type operators on trees*, J. London Math. Soc. (3) **83** (2001), no. 2, 390–418.
- [11] J. Lang, A. Nekvinda and J. Rákosník, *Extreme difference between continuous norm and absolutely continuous norm in Banach function spaces*, Real Anal. Exchange **26** (2000/01) no.1, 345–364.
- [12] D.E. Edmunds, R. Kerman and J. Lang, *Remainder estimates for the approximation numbers of weighted Hardy operators acting on L^2* , J. Anal. Math. **85** (2001), 225–243.
- [13] D.E. Edmunds and J. Lang, *Behaviour of the approximation numbers of a Sobolev embedding in the one-dimensional case.*, J. Funct. Anal. **206** (2004), 149–166.
- [14] J. Lang, *Improved Estimates for the Approximation Numbers of Hardy-Type Operator.*, J. Approx. Theory **121** (2003), no.1, 61–70.
- [15] J. Lang, A. Nekvinda and O. Mendez, *Asymptotic behavior of the approximation numbers of the Hardy-type operator from L^p into L^q (case $1 < p \leq q \leq 2$ or $2 \leq p \leq q < \infty$)*, Journal of Inequalities in Pure and Applied Mathematics **5** (2004), no. 1, Article 18.
- [16] D.E. Edmunds and J. Lang, *Operators of Hardy type*, Journal CAM (to appear).
- [17] J. Lang, *for n -widths of the Hardy-type operators*, Journal of Approximation Theory **140** (2006), 141–146.

- [18] J. Lang and O. Mendez, *Potential Techniques and Regularity of Boundary Value Problems in Exterior Non-Smooth Domains*, Potential Analysis **24** (2006), no. 4, 385–406.
- [19] D.E. Edmunds and J. Lang, *Approximation numbers and Kolmogorov widths of Hardy-type operators in a non-homogeneous case*, Mathematische Nachrichten **279** (2006), no. 7, 727–742.
- [20] D.E. Edmunds and J. Lang, *Bernstein widths of Hardy-type operators in a non-homogeneous case*, Journal of Mathematical Analysis and Applications (to appear).

Preprints

- [P1] J. Lang, A. Nekvinda and L. Pick, *Boundedness and compactness of integral operators with general kernels from a weighted Banach function space into L_∞* , preprint OSU **02-14**.
- [P3] J. Lang, *The best n -dimensional linear approximation of the Hardy operator and the Sobolev Classes on unit circle and on line*, preprint OSU.

Professional Services:

Co-Editor (for a special issue) of Journal of Computational and Applied Mathematics (2005, 2006)

Referee for Integral Equations and Operator Theory, (2006 x 1)

Referee for Mathematische Nachrichten, (2005 x 1)

Referee for Acta Mathematica Universitatis Comenianae, (2005 x 1)

Referee for proceedings of conference "Functions Spaces, Differential operators, Nonlinear Analysis 2004"

Referee for Journal of Mathematical Inequalities and Applications. (2004 x 1, 2003 x 1)

Referee for International Journal of Mathematics and Mathematical Sciences. (2003 x 1)

Referee for Quarterly Journal of Mathematics, (The Queen's College, Oxford) (2003 x 1)

Referee for Czechoslovak Mathematical Journal, (2003 x 1)

Reviewer for American Mathematical Society - Mathematical Reviews. (x 18)

Reviewer of proposals for U.S. Civilian Research and Development Foundation (1 x 2003, 1 x 2005)

Member of the organizing committee of the "Nonlinear Analysis, Function Spaces and Applications Vol. 8" (NAFSA8), Prague, Czech Republic, from May 30 to June 6, 2006.

Organizer of Special section on Structure of Function Spaces and Applications at AMS meeting in Miami, Florida, April 2006

Organizer with prof. Malcolm Brown (University of Wales) and prof. Roger Lewis (University of Alabama) of Meeting "Differential and Integral operators in L^p space", Gregynog, Wales, UK, June 2005

Unofficial Spectral theory seminars at the Columbus Campus, 2001-2 (Organized with Prof. Mityagin and Prof. Djakov.)

Member of the organizing committee of the Spring School "Nonlinear Analysis, Function Spaces and Applications Vol. 7" (NAFSA7), Prague, Czech Republic, 2002.

Administrative Services:

Marion Campus:

Member of the Library committee (2002-6)

Chair of the Library committee (2005-6)

Member of the Joint Library committee (OSUM and MTC) (2005)

Member of the Elections committee (2002-6)

Member and co-organization of ad-hoc committee of regional campuses on Journals access (2005)

Member of the Chem. Search committee (2005/6)

Member of the Math. search committee (2004/5)

Member of the Professional Development committee (2005-6)

Member of the budget committee (2005-6)

Member of the Academic Affairs committee (2006)

Member of the Academic Excellence Awards committee (2006)

Serving at the Committee on Academic Misconduct (2006)

Columbus Campus:

Member of the Text-Book search committee for Math 150 (2005-6)