

Curriculum Vitae

Jiří Lebl

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Education:

PhD in Mathematics, Spring 2007, University of California at San Diego
Thesis: *Singularities and Complexity in CR Geometry*
Advisor: Prof. Peter Ebenfelt

MA in Mathematics, Spring 2003, San Diego State University
BA in Mathematics, Spring 2001, San Diego State University

Employment:

2007–present J. L. Doob Research Assistant Professor,
University of Illinois at Urbana-Champaign. Urbana, IL
2004–2007 Teaching Assistant in Mathematics,
University of California at San Diego. La Jolla, CA
2003 Programmer, *Red Hat, Inc.* Raleigh, NC
2002 Teaching Assistant in Mathematics,
San Diego State University. San Diego, CA
2000–2001 Programmer, *Eazel, Inc.* Mountain View, CA
1999 Programmer/Consultant, *Spyder, Inc.* San Diego, CA
1996–1998 Programmer/Consultant, *Trega, Inc.* San Diego, CA

Grants and awards:

2009-2012: NSF grant DMS-0900885, *Singularities and Complexity in CR Geometry*

Publications and Preprints:

- [1] Jiří Lebl, *Normal forms, Hermitian operators, and CR maps of spheres and hyperquadrics*, preprint arXiv:0906.0325.
- [2] Jiří Lebl, *Pullback of varieties by finite maps*, preprint arXiv:0812.2498.
- [3] Jiří Lebl and Daniel Lichtblau, *Uniqueness of certain polynomials constant on a hyperplane*, preprint arXiv:0808.0284.
- [4] Jiří Lebl, *Singular Levi-flat hypersurfaces in complex projective space*, preprint arXiv:0805.1763.
- [5] John P. D'Angelo and Jiří Lebl, *On the complexity of proper holomorphic mappings between balls*, *Complex Var. Elliptic Equ.*, **54** (2009), nos. 2–3, 187–204, arXiv:0802.1739.
- [6] Jiří Lebl, *Levi-flat hypersurfaces with real analytic boundary*, to appear in *Trans. Amer. Math. Soc.*, preprint arXiv:0710.3801.
- [7] John P. D'Angelo and Jiří Lebl, *Complexity results for CR mappings between spheres*, *Internat. J. Math.*, **20** (2009), no. 2, 149–166, MR 2493357, arXiv:0708.3232.
- [8] Jiří Lebl, *Extension of Levi-flat hypersurfaces past CR boundaries*, *Indiana Univ. Math. J.*, **57** (2008), no. 2, 699–716, MR 2414332, arXiv:math.CV/0612071.
- [9] John P. D'Angelo, Jiří Lebl, and Han Peters, *Degree Estimates for Polynomials Constant on a Hyperplane*, *Michigan Math. J.*, **55** (2007), no. 3, 693–713, MR 2372622, arXiv:math.CV/0609713.
- [10] Jiří Lebl, *Nowhere minimal CR submanifolds and Levi-flat hypersurfaces*, *J. Geom. Anal.*, **17** (2007), no. 2, 321–341, MR 2320166, arXiv:math.CV/0606141.

Research Interests:

My research interests include several complex variables and CR geometry. In particular CR submanifolds and their mappings. I have studied nowhere minimal CR submanifolds, singular Levi-flat hypersurfaces, and proper holomorphic maps between balls in different dimensions. I am also interested in singularity structure of real analytic and real algebraic subvarieties as they pertain to CR geometry, and hence certain issues in real and complex algebraic geometry. I am also interested in application of computers to both pure and applied mathematics. See my research statement for further information.

Favorite MSC 2000 classification numbers: 32, 14, 35

Presentations:

Uniqueness of certain polynomials constant on a hyperplane, Applications of Computer Algebra 2009, Montréal, Canada.

Singular Levi-flat hypersurfaces in complex projective space, Conference on Complex and CR Geometry, Partial Differential Equations and Invariant Theory in honor of Joseph J. Kohn, July 2008, Prague, Czech Rep.

Singular Levi-flat hypersurfaces in complex projective space, CIRM - CR-Geometry and PDE's - III, June 2008, Levico Terme, Italy.

Levi-flat hypersurfaces with real analytic boundary, Special session CMS meeting, December 2007, London, Canada.

Extensions of Levi-flat hypersurfaces past CR boundaries, Special session AMS meeting, October 2007, Chicago, IL.

Singularities of Levi-Flat Hypersurfaces, International Conference in PDE, Complex Analysis, and Differential Geometry, June 2006, Notre Dame, IN.

I have also given several seminar talks at UCSD, UIUC, UW-Madison, SUNY-Stony Brook, and Cal State San Marcos about my research and several complex variables in general.

I have co-organized (with John D'Angelo and Alex Tumanov) a special session at the AMS regional meeting at Urbana-Champaign on March 27-29 2009 titled *Holomorphic and CR Mappings*.

Teaching Experience:

At University of Illinois, I have taught advanced calculus (Math 380), finite mathematics (Math 124), and differential equations (Math 286), and matrix analysis (Math 225). At San Diego State University I have taught mathematics for elementary school teachers (Math 210). At University of California at San Diego I have been leading problem sections and grading for Calculus (Math 20B), Real Analysis (Math 140A, 142A, and 240A/B/C) and Complex Analysis (220A/C). I ran qualification examination preparation sessions for the Real Analysis exam at UCSD.

I have written an online textbook on introductory differential equations. This textbook covers the material of math 286 at UIUC, plus a little extra. Title: *Notes on Diffy Qs: Differential Equations for Engineers*, available for download at <http://www.jirka.org/diffyqs/>.

Programming/Computer Experience:

I have extensive programming experience, mostly in C and C++. Other languages I have had some acquaintance with are Tcl, Perl, PHP, BASIC, Pascal, GEL, Lisp, Matlab/Octave, Maple, and others. I have been a major contributor to the GNOME project for several years (<http://www.gnome.org>), and have been employed as a programmer several times. I have had several programming tutorials published in Linux and GNOME related publications, and have given several talks on GNOME, programming and security at GNOME and Linux conferences. I am the author of the free software mathematics package Genius (<http://www.jirka.org/genius.html>). I have extensive knowledge of L^AT_EX, having for example

written the thesis style for San Diego State University mathematics department. I have contributed over 150 entries to the Planetmath (<http://planetmath.org>) encyclopedia.

Citizenship/Visa:

Citizenship: *Czech Republic*

Visa: *Permanent resident (green card)*