

## Vita 2014

Mark Leckband  
Associate Professor  
Department of Mathematics  
Florida International University  
Miami, Florida 33199

### EDUCATION

Doctorate of Philosophy in Mathematics, Purdue University, Indiana, December 1981.  
Dissertation: "An integral inequality with applications". Advisor: Professor C. J. Neugebauer,  
Department of Mathematics, Purdue University, Indiana.

Masters of Science in Mathematics, Purdue University, Indiana, August 1978.

Bachelor of Science in Mathematics and Physics, Portland State University, Oregon, May 1975.

### POSITIONS

1988-Present: Associate Professor, Department of Mathematics, Florida International University, Miami, Florida.

1986-1988: Assistant Professor, Department of Mathematics, Florida International University, Miami, Florida.

1984-1986: Lecturer, Department of Mathematics, Rutgers University, New Brunswick, New Jersey.

1982-1984: Assistant Professor, Department of Mathematics, Florida International University, Miami, Florida.

### COURSE HISTORY

Florida International University Undergraduate courses: Calculus I, Calculus II, Calculus III, Calculus for Business, Introductory Differential Equations, Advanced Differential Equations, Numerical Analysis, Linear Algebra, Advanced Calculus, Complex Analysis, and Discrete Mathematics.

Graduate courses: Numerical Methods, Introduction to Real Analysis, and Methods of Applied Analysis

Rutgers University Undergraduate courses: Pre-Calculus, Calculus I, Calculus II, Elementary Differential Equations, Linear Algebra, Introduction to Analysis, Complex Variables, Probability, Discrete Mathematics, Numerical Analysis, Numerical Methods

## SERVICE AND AWARDS AT FLORIDA INTERNATIONAL UNIVERSITY

Faculty Coordinator of the Mathematics Tutor Program at BBC (2001-to present).

Vice-Chair of the College Curriculum Committee (2004-Fall 2008).

Member of the Departmental Scheduling and Curriculum Committee (2002-2011).

Member of the Faculty Senate (Spring 2000-June 2001).

Chairman of the Departmental Scheduling and Curriculum Committee (1999-2002).

Chairman of the Departmental Faculty Recruitment Committee (1997-1998).

Departmental Representative to the College Curriculum Committee (1996-Fall 2008; 1994-1995).

Member of the Departmental Human Resources Committee (1994-1996; 1988-1990).

Teaching Incentive Program (TIP) Award Winner (1993-1994).

Member of the Faculty Recruitment Committee (1992-94; 1987-1988; 1983-1984).

Chairman of the Departmental Graduate Committee (1989-91).

Outstanding Achievement and Performance Award (1990).

Co-creator of a graduate course in Applied Linear Algebra (1988-1990).

Member of an ad-hoc committee for MS program - the purpose of this committee was to seek an agreement on a proposed two-track program (1986).

Advisor to upper division majors and course coordinator for MAP 4401, MAD 3401, MAS 3105 (1986).

Coordinator of the Algebra and Trigonometric Placement Exams for incoming freshman (1983-84).

Mathematics representative of Florida International University to the Florida Educational Consortium (one semester- 1983).

Advisor to upper division majors and course coordinator for MAC 2132 and MAC 4402 (1983-1984).

## REFEREED JOURNAL PUBLICATIONS

“Existence problems for the  $p$ -Laplacian.”, (with Julian Edward and Steve Hudson), *Forum Math.* 27 (2015), no. 2, 1203-1225

“Minimal support results for Schrodinger equations.”, (with Laura De Carli, Julian Edward, and Steve Hudson), *Forum Math.* 27 (2015), no. 1, 343-371

“The fundamental theorem of algebra via the Fourier inversion formula.”, (with Alan Lazer) *Amer. Math. Monthly* 117 (2010), no. 5, 455-457.

“A rearrangement based proof for the existence of extremal functions for the Sobolev-Poincare inequality on the ball  $B^n$ .”, *J. Math. Anal. Appl.* 363 (2010), no. 2, 690-696.

“Rearrangement on the unit ball for functions with mean value zero with applications to Sobolev and Moser inequalities.”, *Differential & difference equations and applications*, 655-660, Hindawi Publ. Corp., New York, 2006.

“Moser’s inequality on the ball  $B^n$  for functions with mean value zero.”, *Com. Pure Appl. Math.*, 58, (2005)789-798.

“Extremals for Moser inequalities”, (with Steve Hudson), *Arch. Rational Mech. Analysis.*, 171, (2003)43-54.

“Extremals for Moser-Trudinger type exponential inequalities”, (with Steve Hudson), *Pac. J. Math.*, 206, (2002)113-128.

“A sharp exponential inequality for Lorentz-Sobolev spaces on bounded domains”, (with Steve Hudson), *Proceedings of the American Mathematical Society*, Vol. 127, No.7, February 1999, pp 2029-2033.

"Generalized Hardy's inequality for fractal measures on  $\mathbb{R}^1$ ", (with Steve Hudson), *Journal of Functional Analysis*, Vol. 108, August 1992, pp. 133-160.

"A note on exponential integrability and pointwise estimates of Littlewood-Paley functions", *Proceedings of the American Mathematical Society*, Vol. 109, No. 1, May 1990, pp. 185-194.

"On the local boundedness of singular integral operators", *Transactions of the American Mathematical Society*, Vol. 308, No. 1 (1988), pp. 39-56.

"Two-weight mixed norm inequalities for maximal operators and extrapolation results for the fractional maximal operator", *Studia Mathematica*, T. 87 (1987), pp. 167-180.

"A note on the spherical maximal operator for radial functions", *Proceedings of the*

American Mathematical Society, Vol. 100, No. 4 (1987), pp. 635-640.

"Structure results on the maximal Hilbert transform and two-weight norm inequalities", Indiana University Mathematics Journal, Vol. 34, No. 2 (1985), pp. 259-275.

"An integral inequality with applications", Transactions of the American Mathematical Society, Vol. 283, No. 1 (1984), pp. 157-168.

"A note on maximal operators and reversible weak-type inequalities", Proceedings of the American Mathematical Society, Vol. 92, No. 1 (1984), pp. 19-26.

"Weighted iterates and variants of the Hardy-Littlewood maximal operator", (with C. J. Neugebauer), Transactions of the American Mathematical Society, Vol. 279, No. 2 (1983), pp. 51-61.

"A general maximal operator and the Ap-condition", (with C. J. Neugebauer), Transactions of the American Mathematical Society, Vol. 275, No. 2 (1983), pp. 821-831.

## CONFERENCE PRESENTATIONS

South Florida Analysis Seminar (SFAS 8) at New College of Florida on April 2, 2011. The subject matter was over joint work with Drs., De Carli, Edward, and Hudson.

"Rearrangement on the unit ball for functions with mean value zero with applications to Moser and Sobolev inequalities.", Conference on Differential and Difference Equations and Applications at Florida Institute of Technology, August 2005.

"Moser's inequality and the rearrangement of functions with mean value zero on the unit ball.", Special South Florida Analysis Seminar at Florida Atlantic University, January 2005.

"Moser's inequality on the ball B for functions with mean value zero.", Regional AMS Conference at Florida State University, March 2004.

"Extremals for Moser inequalities on  $S^2$  and  $S^3$  .", Southeastern Analysis Meeting at University of Virginia, March 2000.

"Hardy's inequality and fractal measures", 865<sup>th</sup> Meeting of the American Mathematical Society at the University of South Florida, Tampa, March 22-23, 1991.

"Weighted iterates and variants of the Hardy-Littlewood maximal operator", Midwestern Harmonic Analysis Conference, Indiana University, Spring Semester 1982.

"A general maximal operator and the Ap-condition", 88th Annual Meeting of the American Mathematical Society in Cincinnati, January 1981.

#### MASTERS THESIS COMMITTEE MEMBERSHIP

Served on MS committee for Alberto Luis Dominguez, "Meson-meson scattering in 2+1 dimensional lattice quantum electrodynamics", Department of Physics (1994)

Served on MS committee for Alex Schnyderman, "A singular Cauchy-Riemann equation", Department of Mathematics (1997)

Served on MS committee for Alizera Rostamian, "Numerical methods for a class of mixed boundary value problems with applications to Navier-Stokes equations", Department of Mathematics (1997)

#### GRANTS

Title: Educational innovations in Science, Engineering and Mathematics...  
Agency: Department of Defense/Office of Naval Research  
Amount: \$41,600 in Spring 2000

Title: Educational innovations in Science, Engineering and Mathematics...  
Agency: Department of Defense/Office of Naval Research  
Amount: \$14,000 in August 1999