

Alexander M Stokolos

Curriculum Vitae

Department of Mathematics
Georgia Southern University
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Education

Doctor Habilitowany in Mathematics, University of
Wroclaw, Poland (1998)
Candidate of Sciences in Mathematical Analysis, Moscow
Institute of Electronic Mechanical Engineering, (1984)
Diploma in Mathematics and Mathematics Education,
Odessa State University, Odessa, Ukraine (1982)

Research Interests: Harmonic Analysis, Approximation Theory,
Boundary Value Problems, Diophantine Approximations, Bellman Functions,
Martingal Theory, Dynamical Systems, Control Theory.

Dissertation

Title: Differentiation of Integrals and Related
Problems of Harmonic Analysis
Consultant: Adrzej Hulanicki (Wroclaw
University)
Referees: Fernando Soria (University Autónoma de
Madrid), Michal Morayne (Wroclaw University of
Technology) and Krzysztof Stempak (Wroclaw University
of Technology)

Professional Experience:

Teaching Positions:

Associate Professor, Georgia Southern University (July 2013-present)
Assistant Professor, Georgia Southern University (Aug 2009-July 2013)
Assistant Professor, DePaul University, Chicago (July 2003 - June 2009)
Postdoctoral Fellow, University of Connecticut (Aug 2001 - Jun 2003)
Senior Instructor, Louisiana State University (Aug 2000 - June 2001)
Lecturer, University of Missouri in Kansas City (Jan 2000 - June 2000)
Lecturer, University of Kansas (Aug 1999 - Dec 1999)
Adjoint Professor, University of Wroclaw, Poland (Feb 1998 - June 1998)
Docent, Odessa State University, Ukraine (Oct 1989 - Sept 1995)
Lecturer, Odessa State University, Ukraine (Jan 1985 - Sept 1989)

Research Positions:

Washington University at St. Louis, 1998 (host: Guido Weiss)
Royal Institute of Technology, Sweden 1998 (host: Staffan Ström)
Chalmers University, Sweden, 1997 (host: Peter Sjögren)
Technical University of Darmstadt, Germany 1996 (host: Walter Trebels)
Research Fellow, Odessa State University, Ukraine, Oct 1995 - Feb 1998.
Warsaw University, Poland 1987 (host: Bogdan Bojarsky)
Polish Academy of Sciences, 1987 (host: Zbignew Ciselski)
Moscow State University, Russia 1984 (host: Peter Lavrentjevich
Uljanov and Evgenij Mikhajlovich Nikishin)
University of Szeged, Hungary 1981 (host: Laslo Leindler)

Support:

Sabbatical grant from DePaul University, 2007
Faculty Research and Development Fund of DePaul University, 2006
Summer research grant from DePaul University, 2004
Research grant from the Royal Institute of Technology, Sweden, 1998
Research grant from the Wenner-Gren Foundation, Sweden, 1997
Research grant from DAAD, Germany, 1996
Research grant from the Joint Fund of the Government of Ukraine and
International Science Foundation, 1995

Teaching Experience:

Assistant Professor, Georgia Southern University
Calculus I-II, Precalculus, Linear Algebra, Complex Analysis

Assistant Professor, DePaul University
Introduction to College Algebra, College Algebra and Precalculus,
Trigonometry and Precalculus, Trigonometry and Precalculus I-III, Calculus I-III,
Linear Algebra with Applications, Multivariable Calculus I-II, Business Calculus II,
Business Statistics, Quantitative Reasoning, Ordinary Differentiation Equations.

Postdoctoral Fellow, University of Connecticut
Mathematics for Business and Economics, Multivariable Calculus

Senior Instructor, Louisiana State University
College Algebra, Business Calculus

Lecturer, University of Kansas
Precalculus

Lecturer, University of Missouri in Kansas City
Calculus II-III

Adjoint Professor, University of Wrocław
Algebra, Analysis I, Martingale Theory (graduate course)

Docent, Odessa State University

Entry Levels Courses: Calculus I-III, Computers in Biology.

Upper Level Courses: Probability I-II, Statistics, Real Functions,
Mathematical Methods in Biology (Lotka-Volterra Model), Biological
Statistics.

Graduate courses: Functional Analysis I-II, Topics in Martingale Theory,
Introduction to Hardy Spaces, Bases in Banach Spaces, Foundation of
Probability.

Publications:

Editorial Works:

Special Functions, Partial Differential Equations, and Harmonic Analysis. In
Honor of Calixto P. Calderón, Series: Springer Proceedings in Mathematics &
Statistics, Vol. 108. Georgakis, Constantine, Stokolos, Alexander M., Urbina,
Wilfredo (Eds.) 2014, X, 246 p.

Bilyk, Dmitriy (ed.); De Carli, Laura (ed.); Petukhov, Alexander (ed.); Stokolos,
Alexander M. (ed.); Wick, Brett D. (ed.) Recent advances in harmonic analysis
and applications. Springer Proceedings in Mathematics & Statistics 25. Berlin:
Springer, xi, 405 p. (2013).

Rosenblatt, Joseph M. (ed.); Stokolos, Alexander M. (ed.); Zayed, Ahmed I. (ed.)
Topics in harmonic analysis and ergodic theory. Contemporary Mathematics 444.
Providence, RI: American Mathematical Society (AMS) xi, 228 p. (2007).

Refereed Papers:

D. Dmitrishin, P. Hagelstein, A. Khamitova and A. Stokolos, On the stability of cycles by delayed feedback control, *Linear and Multilinear Algebra*, Published online: 29 Oct 2015, DOI:10.1080/03081087.2015.1102833.

Dmitriy Dmitrishin, Anna Khamitova, and Alexander M. Stokolos
Fejér Polynomials and Chaos, *Springer Proceedings in Mathematics & Statistics* 108, 49-76 (2014).

Stokolos, Alexander M.; Trebels, Walter
Moduli of smoothness and rate of a.e. convergence for some convolution operators. *Springer Proceedings in Mathematics & Statistics* 25, 339-355 (2013).

Korenovskii, Anatolii A.; Stokolos, Alexander M.
Some applications of equimeasurable rearrangements. *Springer Proceedings in Mathematics & Statistics* 25, 181-196 (2013).

Bilyk, Dmitriy; De Carli, Laura; Petukhov, Alexander; Stokolos, Alexander M.; Wick, Brett D.
On the scientific work of Konstantin Ilyich Oskolkov. *Springer Proceedings in Mathematics & Statistics* 25, 3-21 (2013).

Hagelstein, Paul; Stokolos, Alexander
Transference of weak type bounds of multiparameter ergodic and geometric maximal operators.
Fundam. Math. 218, No. 3, 269-283 (2012).

Hagelstein, Paul; Stokolos, Alexander
Weak type inequalities for maximal operators associated to double ergodic sums.
New York J. Math. 17, 233-250 (2011).

Hagelstein, Paul; Stokolos, Alexander
Weak type inequalities for ergodic strong maximal operators.
Acta Sci. Math. 76, No. 3-4, 427-441 (2010).

Hagelstein, Paul; Stokolos, Alexander
Tauberian conditions for geometric maximal operators.
Trans. Am. Math. Soc. 361, No. 6, 3031-3040 (2009).

Hagelstein, Paul; Stokolos, Alexander
An extension of the Córdoba-Fefferman theorem on the equivalence between the boundedness of certain classes of maximal and multiplier operators.
C. R., Math., Acad. Sci. Paris 346, No. 19-20, 1063-1065 (2008).

Stokolos, Alexander
Properties of the maximal operators associated with bases of rectangles in \mathbb{R}^3 .

Proc. Edinb. Math. Soc., II. Ser. 51, No. 2, 489-494 (2008).

Slavin, Leonid; Stokolos, Alexander; Vasyunin, Vasily
Monge-Ampère equations and Bellman functions: the dyadic maximal operator.
C. R., Math., Acad. Sci. Paris 346, No. 9-10, 585-588 (2008).

Korenovskyy, A.A.; Lerner, A.K.; Stokolos, A.M.
A note on the maximal Gurov-Reshetnyak condition.
Ann. Acad. Sci. Fenn., Math. 32, No. 2, 461-470 (2007).

Di Biase, Fausto; Stokolos, Alexander; Svensson, Olof; Weiss, Tomasz
On the sharpness of the Stolz approach.
Ann. Acad. Sci. Fenn., Math. 31, No. 1, 47-59 (2006).

Stokolos, A.M.
On weak type inequalities for rare maximal functions in \mathbb{R}^n .
Colloq. Math. 104, No. 2, 311-315 (2006).

Stokolos, Alexander
Zygmund's program: some partial solutions.
Ann. Inst. Fourier 55, No. 5, 1439-1453 (2005).

Hare, Kathryn E.; Stokolos, Alexander M.
On the rate of tangential convergence of functions from Hardy spaces, $0 < p < 1$.
Poggi-Corradini, Pietro (ed.), The p -harmonic equation and recent advances in
analysis.
Contemporary Mathematics 370, 119-132 (2005).

Korenovskyy, A.A.; Lerner, A.K.; Stokolos, A.M.
On a multidimensional form of F. Riesz's "rising sun" lemma.
Proc. Am. Math. Soc. 133, No. 5, 1437-1440 (2005).

Korenovskyy, A. A.; Lerner, A. K.; Stokolos, A. M.
A note on the Gurov-Reshetnyak condition.
Math. Res. Lett. 9, No. 5-6, 579-583 (2002).

Kamaly, A.; Stokolos, A.M.
On the quantitative Fatou property.
Colloq. Math. 91, No.2, 303-311 (2002).

Stokolos, A. M.

Some applications of Gallagher's theorem in harmonic analysis.
Bull. Lond. Math. Soc. 33, No. 2, 210-212 (2001).

Hare, K.; Stokolos, A.

On weak type inequalities for rare maximal functions.
Colloq. Math. 83, No.2, 173-182 (2000).

Stokolos, Alexander

On the rate of approximation almost everywhere by Steklov means with respect to multidimensional intervals.

Facta Univ., Ser. Math. Inf. 14, 11-19 (1999).

Stokolos, A.M.

On the rate of almost everywhere convergence of Bochner-Riesz means of functions from Hardy spaces H_p , $0 < p < 1$.

Complex analysis and differential equations. Proceedings of the Marcus Wallenberg symposium in honor of Matts Essén, Uppsala, Sweden, June 15-18, 1997. Uppsala: Uppsala University. Acta Univ. Ups. Skr. Upps. Univ. C Organ. Hist. 64, 306-311 (1999).

Kamaly, A.; Stokolos, A.M.; Trebels, W.

On the rate of almost everywhere convergence of certain classical integral means. II. J. Approximation Theory 101, No.2, 240-264 (1999).

Stokolos, Alexander M.; Trebels, Walter

On the rate of almost everywhere convergence of certain classical integral means. J. Approximation Theory 98, No.2, 203-222 (1999).

Stokolos, A.M.

On a problem of Zygmund.

Math. Notes 64, No.5, 646-657 (1998); translation from Mat. Zametki 64, No.5, 749-762 (1998).

Stokolos, A.M.; Trebels, W.

On the rate of almost everywhere convergence of Abel-Cartwright means of $L_p(\mathbb{R}^n)$. Result. Math. 34, No.3-4, 373-380 (1998).

Di Biase, Fausto; Stokolos, Alexander; Svensson, Olof; Weiss, Tomasz

Tangential boundary behaviour of bounded harmonic functions in the unit disc.

Coen, Salvatore (ed.), Seminars of geometry, University of Bologna, Italy, 1996-1997. Bologna: Università degli Studi di Bologna, 63-68 (1998).

Stokolos, A.M.

Rate of strong differentiation of integrals.

Math. Notes 59, No.4, 405-420 (1996); translation from Mat. Zametki 59, No.4, 565-584 (1996).

Stokolos, A.M.

Differentiation of integrals by bases without the density property.

Sb. Math. 187, No.7, 1061-1085 (1996); translation from Mat. Sb. 187, No.7, 113-138 (1996).

Stokolos, A.M.

On differentiation of integrals with respect to bases of convex sets.

Vértesi, P. (ed.) et al., Approximation theory and function series.

Proceedings of the international conference dedicated to Károly Tandori on his 70th birthday, Budapest, Hungary, August 21–25, 1995.

Budapest: János Bolyai Mathematical Society. Bolyai Soc. Math. Stud. 5, 321-332 (1996).

Stokolos, A.M.

On differentiation of integrals with respect to bases of convex sets.

Stud. Math. 119, No.2, 99-108 (1996).

Stokolos, A.M.

To M. de Guzmán's question on Fourier multipliers of polygonal domains.

Sib. Math. J. 36, No.6, 1210-1216 (1995); translation from Sib. Mat. Zh. 36, No.6, 1392-1398 (1995).

Stokolos, A.M.

On the strong differentiation of integrals of functions from Hölder classes.

Math. Notes 55, No.1, 57-70 (1994); translation from Mat. Zametki 55, No.1, 84-104 (1994).

Stokolos, A.M.

On the differentiation of integrals of functions from Orlicz classes.

Stud. Math. 94, No.1, 35-50 (1989).

Stokolos, A.M.

On the differentiation of integrals of functions from $L\varphi(L)$.

Stud. Math. 88, No.2, 103-120 (1988).

Stokolos, A.M.

Differentiation of integrals of equimeasurable functions.

Math. Notes 37, 364-368 (1985); translation from Mat. Zametki 37, No.5, 667-675 (1985).

Stokolos, A.M.

On the differentiation of multiple integrals with respect to bases consisting of rectangles. Soobshch. Akad. Nauk Gruz. SSR 114, 477-480 (1984).

Stokolos, A.M.

An inequality for equimeasurable rearrangements and its application in the theory of differentiation of integrals. Anal. Math. 9, No. 2, 133-146 (1983).

Talks Given:

"Fejer polynomials and non-linear dynamics", Frontiers of Singular Integrals, HAWorkshop 2015, 2-5 June 2015, University of Helsinki, Finland.

"Complex and Harmonic Analysis in Non-linear Dynamics," 13 New Mexico Analysis Seminar, April 2014, University of New Mexico.

"Complex Analysis and Non-linear Dynamics", Georgia Southern University, March 2014.

"Geometric maximal function in harmonic analysis", McGill University, August 2014, Montreal.

"Harmonic Analysis and Nonlinear Dynamics", University of Missouri, November 2013.

"Fourier Analysis and Nonlinear Dynamics", ICMAT, Madrid (Spain), June 2013.

"The power and weakness of trigonometric sums", Georgia Analysis Symposium, University of Georgia, March 2013.

"On maximal operators associated to bases of some convex sets", University of Wisconsin, February 2013.

"The Gurov-Reshetnyak condition and A_∞ ", 21st Summer St. Petersburg Meeting in Mathematical Analysis, Saint-Petersburg (Russia), June, 2012.

"Monge-Ampere equations and Bellman functions: the dyadic maximal operator", 9th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial, Madrid (Spain), June, 2012.

"On the Rate of a.e. Convergence of Certain Classic Integral Means", 2012 AMS Spring Central Section Meeting, University of Kansas, March 30 - April 1, 2012.

"On the rate of a.e. convergence by convolution type means", Approximation Theory and Harmonic Analysis, Workshop at Kennesaw State University, May 2011.

"Bellman Function for the Dyadic Maximal Operator", 8th South Florida Analysis Seminar, New College of Florida, April 2011.

"Bellman function for the dyadic maximal operator", WORKSHOP IN ANALYSIS AND GEOMETRY, January, 2011, Baton Rouge, LSU

" L^p estimates for the maximal functions", The Jozef Marcinkiewicz Centenary Conference, Poznan (Poland), June, 2010.

"On multidimensional extension of Dini test", Workshop on Fourier and Harmonic Analysis, Wayne State University, November 2009.

"On multidimensional extension of Dini test", 2009 Fall Southeastern AMS Meeting, FAU, Boca Raton, FL November, 2009.

"A gentle introduction in the Bellman Function technique", University of Arkansas Spring Lecture Series, April 2009.

"On maximal Gurov-Reshetnyak condition", Eighth Prairie Analysis Seminar, KU, November 2008.

"On LlogL condition", University of New Mexico, Fall Western Section AMS Meeting, October 2007.

"On the boundary behavior of harmonic and analytic functions", International Conference on Integral Geometry, Harmonic Analysis and Representation Theory, in honor of Sigurdur Helgason on the occasion of his 80th birthday, Reykjavik, Iceland, August 2007

"On differentiation of integrals of BV functions", Third South Florida Analysis seminar, Ft. Lauderdale, April 2007.

"On maximal Gurov-Reshetnyak property", Florida International University, AMS Meeting, April 2006.

"Solution to Rudin's problem on tangential boundary behavior of harmonic and analytic functions", Brown University, September 2006.

"On Tauberian condition for the maximal operators associated with convex sets", University of Connecticut, September 2006.

"From Diophantine Approximations to Tangential Fatou Property", Conference "Number Theory and Harmonic Analysis: to and from". Universit'e de Lille 1, France. June 2006

"Zygmund's Program: Some Partial Solutions", Seminar, Ohio State University, May 2006.

"On tangential Fatou property", Seminar, Purdue University, April 2006.

"On Maximal Gurov-Reshtnak condition", AMS Sectional Meeting, Miami, FL, April 2006.

"On the boundary behavior of harmonic and analytic functions", University of Wisconsin, February 2006.

"On the optimal approach in Fatou's theorem", Colloquium, Syracuse University, November 2005.

"On some application of Gallagher's theorem in Harmonic Analysis", Workshop "Interface between harmonic analysis and number theory", CIRM, October 2005.

"On Gurov-Reshetnyak property", Seminar, Northwestern University, October 2005.

"On Gurov-Reshetnyak Property", Workshop "Harmonic Analysis and Partial Differential Equations", Kiel, June - July, 2005.

"On a multidimensional form of Riesz's "Rising Sun" Lemma", Fejèr-Riesz conference, Eger, June 2005.

"Weak type inequalities for rare maximal functions", 7th International Conference on Harmonic Analysis and PDE, El Escorial, June 2004.

"On the rate of approximation a.e. by certain integral means", International Conference on Functional Analysis and Approximation Theory, Maratea, June 2004.

"On Weak Type Inequalities for Rare Maximal Functions in \mathbb{R}^n ", ShowMe Analysis Meeting: University of Missouri, May 2004.

"A note on the Gurov-Reshetnyak Lemma", Third Prairie Analysis Seminar, October, 2003

"On strong differentiation of integrals", Calderon-Zygmund Seminar, University of Chicago, October 2003.

"Maximal Function Associated with Convex Sets", DePaul University, October 2003.

"On multidimensional Dini test", DePaul University, October 2003.

"On differentiation of integrals", Yale University, April 2003.

"On tangential boundary behavior of harmonic and analytic functions", Brown University, December 2002.

"Tangential boundary behavior of bounded harmonic functions in the unit disc", Second Prairie Analysis Seminar, October 18-19, 2002.

"On Gurov-Reshetnyak property", Harmonic Analysis and Partial Differential Equations, Missouri, May 2002.

"Some remarks on the Gurov-Reshetnyak property", University of Connecticut, April 2002.

"On strong differentiation of integrals", Brown University, October 2001.

"Some results on differentiation of integrals", Princeton University, October 2001.

"On differentiation of integrals", Fourth New Mexico Analysis Seminar, March 2001.

"On the rate of approximation a.e.", Trends in Approximation Theory, Nashville, May 2000.

"On the convergence a.e. in Hardy Spaces", Recent Progress in the study of Harmonic Measure from a Geometric and Analytic Point of View, Fayetteville, March 2000.

"On differentiation of integrals by basis of multidimensional intervals", University of Missouri in Columbia, March 1999.

"On strong differentiation of integrals", University of Waterloo, February 1999.

"Geometric Constructions in Fourier Analysis", John Hopkins University, February 1999.

"On differentiation of integrals by rare basis", Conference on Singular and Oscillatory Integrals, Madison WI, January 1999.

"On the convergence a.e. of certain integral means", University of South Carolina, October 1998.

"On the rate of convergence of certain integral means", Ohio State University October 1998.

"On differentiation of integrals", SUNY at Buffalo, September 1998.

"Differentiation of integrals and smoothness of functions", Geometric Aspects of Fourier Analysis, Kiel, August 1998.

"On convergence a.e. of Bohnner-Riesz means of functions from Hardy spaces", University of Uppsala, January 1998.

"Differentiation of integrals and related problems of Harmonic Analysis", KTH, Stockholm, November 1996.

"On strong differentiation of integrals", Technical University of Darmstadt, November 1996.

"On strong differentiation of integrals of functions from Hölder classes", Conference on Approximation Theory, Budapest, August 1995.

"Differentiation of integrals of functions from Hölder classes", Symposium on Harmonic Analysis and Partial Differential Equations, Meraflores de La Sera, June 1992.

"On differentiation of integrals", First Göteborg Conference on Harmonic Analysis, Göteborg, June 1990.

"On the Rate of Convergence a.e. of Rectangular Steklov Means", Semester on Approximation Theory, S.Banach International Center, Warszawa, November 1989.

Scholarly Service:

Co-organizer (with Martha Abell, Krishnaswami Alladi, George Andrews, Steven Damelin, Andrew Sills, Hua Wang) 2011 Partitions-Q series Conference – NSF award: DMS-1100964,

Co-organizer (with Paul Hagelstein, Xiaoyi Zhang, Shijun Zheng) for the Special Session on Harmonic Analysis and Partial Differential Equations at the Meeting of the Spring Southeastern Section of the American Mathematical Society, Georgia Southern University, 2011

Co-organizer (with Dmitriy Bilyk, Brett Wick, Laura DeCarli) for the Special Session on Harmonic Analysis and Applications at the Meeting of the Spring Southeastern Section of the American Mathematical Society, Georgia Southern University, 2011

Co-organizer (with Inna Kolzov, Alex Petukhov and Ahmed Zayed) for the Special Session on Sparse Data Representations and Applications at the Meeting of the Spring Southeastern Section of the American Mathematical Society, Georgia Southern University, 2011

Co-organizer (with Paul Hagelstein) for the Special Session on Harmonic Analysis at the Annual National Meeting of the American Mathematical Society, Washington, D.C., 2009

Co-organizer (with Laura De Carli) for the Special Session on Singular Integrals and Related Problems at the Meeting of the Fall Central Section of the American Mathematical Society, DePaul University, 2007

Co-organizer (with Joseph Rosenblatt and Ahmet Zayed) for the 2005 International Conference on Harmonic Analysis and Ergodic Theory -- NSF award: DMS-0528211

University Service:

Georgia Southern University
Colloquium, Grants and Scholarships, and Statistics Committees. Search committee (2011, 2012, 2015). COST Computational Sciences Research Facilitator, COST Cancer Research Computational Sciences Team Leader.

DePaul University
Visiting Search Committee (Chair), Assessment Committee, Colloquium Committee, Placement Committee and MathClub Committee

Odessa State University
1990-1993 -- Member of Special Council K-068.24.10 in Odessa State University on awarding of Candidate of Science degrees by subject 01.01.01 "Mathematical Analysis".

1993-1994 – Scientific Secretary of Special Council D-05.01.01 in Odessa State University on awarding of Candidate of Science and Doctor of Science degrees by subject 01.01.01 "Mathematical Analysis".