

## Curriculum Vitae

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**Degrees:**

*Doctor Habilitowany in Mathematics (Ph.D.)* (1998), University of Wroclaw, Poland. Thesis: "Differentiation of Integrals and Related Problems of Harmonic Analysis", Consultant: A.Hulanicki (Wroclaw University), Referees: F.Soria (University Aut3noma de Madrid), M. Morayne (Wroclaw Institute of Technology) and K. Stempak (Wroclaw Polytechnical University).

*Candidate of Sciences in Mathematical Analysis (M.S.)* (1984), Moscow Institute of Electronic Mechanical Engineering, Russia. Thesis "On the theory of differentiation of integrals on Euclidean spaces", Advisor: V.G. Krotov (Belorussian State University), Referees: A.M. Olevski (Tel-Aviv University) and V.A. Skvortzov (Moscow State University).

*Diploma in Mathematics and Mathematics Education (B.S.)* (1982), Odessa State University, Odessa, Ukraine. Thesis "Estimates of strong maximal function in Orlicz classes", Advisor V.G. Krotov.

**Academic Appointments:**

Jul 2003 - till now: Assistant Professor, DePaul University.

Aug 2001 - Jun 2003: PostDoc Fellow, University of Connecticut.

Aug 2000 - Jun 2001: Instructor, Louisiana State University.

Jul 1999 - Jul 2000: Lecturer, University of Missouri in Kansas City.

Aug 1999 - Dec 1999: Lecturer, University of Kansas.

Feb 1998 - Jun 1998: Adjoint Professor, University of Wroclaw, Poland.

Oct 1995 - Feb 1998: Research Fellow, Odessa State University, Ukraine.

Oct 1989 - Sept 1995: Docent, Odessa State University, Ukraine.

Jan 1985 - Sept 1989: Lecturer, Odessa State University, Ukraine  
Sept 1982 - Dec 1984: Graduate Student at the Department of Mathematical Analysis, Odessa State University, Ukraine.

**Visiting positions:**

1998: Visiting research Fellow at the Department of Mathematics, Washington University at St. Louis, (host: Prof. G. Weiss)

1998: Visiting research Fellow at the Department of Electromagnetic Theory, KTH, Stockholm (host: Prof. S. Ström)

1997: Visiting research Fellow at the Department of Mathematics, Chalmers University of Technology, Sweden, (host: Prof. P. Sjögren)

1996: Visiting research Fellow at the Department of Mathematics, Technical University of Darmstadt, Darmstadt (host: Prof. Dr. W. Trebels)

1987: Visiting research Fellow at the Institute of Mathematics of Warsaw University (host: Prof. B.Bojarsky)

1987: Visiting research Fellow at the Institute of Mathematics of the Poland Academy of Sciences host: Prof. Z.Ciselski)

1984: Visiting research Fellow at the Moscow State University (host: Prof. P.L.Uljanov and Prof. E.M.Nikishin)

1981: Research Fellow at the Mathematical Institute of Szeged University (host: Prof. L.Leindler)

**Research interest:** Harmonic Analysis, Approximation Theory, Boundary Value Problems, Diophantine Approximation Theory.

**Support:**

2007 – Summer research grant from the DePaul University;

2006 – On Leave Grant from the DePaul University;

2005 – Conference grant No 0528211 from the NSF;

2004 – Summer research grant from the DePaul University;

1998 – Research grant from the KTH, Sweden;

1997 – Research grant from the Wenner-Gren Foundation, Sweden;

1996 – Research grant from DAAD, Germany;

1995 – Research grant from the Joint Fund of the Government of Ukraine and International Science Foundation “Embedding, Approximation and Local Properties of Function Spaces” (grant No K41100).

### **Conference organizing:**

1. International Conference on Harmonic Analysis and Ergodic Theory, DePaul University, 2005 (with J. Rosenblatt and A. Zayed).
2. AMS Fall Central Section Meeting, DePaul University, 2007. Special Session on Singular Integrals and Related Problems (with Laura De Carli).

### **Selected invited lectures:**

"On  $L \log^+ L$  condition", University of New Mexico, 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". Université 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", Fejr-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  $R^n$ ", 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 Bohner-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, Meraflares 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.

Series of talks in Harmonic Analysis on analysis seminars at DePaul University, University of Kansas, Chalmers University of Technology, and Wroclaw University.

### **Brief description of teaching activities:**

#### **Master (Diploma) Degree Students:**

V.Pavlyuk, 1994. Thesis "On strong Maximal Functions". Currently a senior programmer in Virginia.

G.Arutyunyan, 1995. Thesis "On Bezikovich construction". Currently a senior analyst at SAS Institute.

#### **Courses Taught:**

**DePaul University:** Precalculus, Calculus I-III, Multivariable Calculus, Business Calculus, Statistics, Linear Algebra, Intermediate Algebra, Quantitative Reasoning

**University of Connecticut:** Discrete Mathematics, Calculus of Several Variables

**Louisiana State University:** College Algebra, Business Calculus

**University of Kansas in Lawrence:** Precalculus

**University of Missouri in Kansas City:** Calculus I-III

**Wroclaw University**(in Polish and English): Calculus I-III, Algebra, Martingale Theory (graduate course)

**Odessa State University**(in Ukrainian and Russian):

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

Upper Level Courses: Probability, Statistics, Real Functions, Functional Analysis, Mathematical Methods in Biology (Lotka-Volterra Model), Biological Statistics, Simulation of Marine Ecological Systems, Foundation of Probability.

Graduate courses: Topics in Martingale Theory, Introduction to Hardy Spaces, Bases in Banach Spaces.

#### **Lecture Notes:**

[1] V.G.Krotov and A.M.Stokolos "Introduction to Practical Functional Analysis", (In Russian) Odessa University Press, 1986.

[2] V.G.Krotov and A.M.Stokolos “Bases in Banach Spaces.”, (In Russian) Odessa University Press, 1988.

[3] A.Ya. Divakova, A.A.Korenovski, V.G.Krotov, L.V.Matvijuk, E.A. Storozenko, A.M.Stokolos “Practical Guide in Calculus. Part I”, (In Russian) Odessa University Press, 1985.

[4] A.Ya. Divakova, A.A.Korenovski, V.G.Krotov, L.V.Matvijuk, E.A. Storozenko, A.M.Stokolos “Practical Guide in Calculus. Part II”, (In Russian) Odessa University Press, 1987.

[5] A.Ya. Divakova, A.A.Korenovski, V.G.Krotov, L.V.Matvijuk, E.A. Storozenko, A.M.Stokolos “Practical Guide in Calculus. Part III”, (In Russian) Odessa University Press, 1987.

### **Service:**

2003-2007 – Chair of Visiting Search Committee (2005); member of the appointed by the Dean Tenure Track Search Committees (2006); in Mathematics and in Statistics; member of Assessment Committee; Colloquium Committee; Placement Committee; Library Committee; Undergraduate Committee; Graduate Committee and MathClub Committee at DePaul 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 – Member 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”.

### **Other Activities:**

Referee for “Studia Mathematica”, “Revista Matemática Iberoamericana”, “Mathematical Research Letters”, “Mathematical Notes” and “Colloquium Mathematica” journals.

Referee of PhD thesis of G. Belozarov “Asymptotic formulas for the number of solutions of certain Diophantine equations”, Odessa, 1991.

Consulting in the Mathematical Modeling in Biology, Meteorology and Physics. Numerical Simulation of the development of Marine Ecosystem of the North-West Black Sea Region under the anthropological pressure. Ukraine Scientific Ecological Center, Odessa, Ukraine 1992-1993.