Curriculum Vitae

Vladimir Lebedev

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Born:	April 17, 1962; Moscow, Russia
Home address:	Stavropolskii pr-d., 9, apt. 73, Moscow, 109380, Russia
Office address:	School of Applied Mathematics Moscow Institute of Electronics and Mathematics (MIEM) National Research University Higher School of Economics; (HSE University) Tallinskaya, 34, Moscow, 123458, Russia
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Current position

Professor; School of Applied Mathematics, MIEM,
National Research University Higher School of Economics
(HSE University)

Research interests

Primary: Harmonic Analysis, Theory of Functions, Function Spaces

Education

1985	graduated from Moscow Institute of Electronic Engineering (MIEM), (since 1993 MIEM is Moscow Institute of Electronics and Mathematics) Dept. of Applied Mathematics MSc in Applied Mathematics
1986 – 1990	doctoral student, Dept. of Algebra and Analysis, MIEM

Degrees

1990	PhD from MIEM; Speciality: Real, Complex, and Functional Analysis; Thesis title: "Changes of variables, Fourier series and smoothness of functions"; Advisor: Alexander Olevskii
2013	Doctor of Science (higher doctorate, habilitation, an advanced post-PhD degree) from Steklov Mathematical Institute of Russian Academy of Sciences; Speciality: Real, Complex, and Functional Analysis; Thesis title: "Superposition operators on certain spaces arising in harmonic analysis"

Academic Positions/Employment

Feb 1990 – Dec 1992	Assistant Prof. Dept. of Algebra and Analysis, MIEM, Moscow, Russia
Dec 1992 – Aug 1993 Feb 1995 – Jul 2012	Associate Prof. Dept. of Mathematical Analysis, MIEM, Moscow, Russia
Jul 2012 – Mar 2015	Associate Prof. Dept. of Higher Mathematics, MIEM, National Research University Higher School of Economics (HSE University), Moscow, Russia
Mar 2015 – present	Professor School of Applied Mathematics, MIEM, National Research University Higher School of Economics (HSE University), Moscow, Russia

Long Term Visiting Positions

Oct 1992 – Sep 1994	Postdoctoral Fellow, School of Mathematical Sciences, Faculty of Exact Sciences, Tel Aviv University, Tel Aviv, Israel
Feb 1999 – Aug 1999	Research Fellow, Department of Functional Analysis, Institute of Mathematics, Polish Academy of Sciences (IMPAN), Warsaw, Poland
Aug 1999 – May 2000	Visiting Associate Prof., School of Mathematics, Georgia Institute of Technology (Georgia Tech), Atlanta, GA, USA

Teaching Experience

Courses taught:	Calculus, Functional Analysis, Complex Analysis, Asymptotic Analysis, Linear Algebra

Grants

1996–1997	RFBR grant No. 96-01-01438,
1998–1999	RFBR grant No. 98-01-00529,
2002–2003	RFBR grant No. 02-01-00997,
2004–2005	RFBR grant No. 04-01-00169,
2013–2014	The National Research University
	Higher school of Economics
	Academic Fund Programm, grant No. 12-01-0079
2016–2017	The National Research University
	Higher school of Economics
	Academic Fund Programm, grant No. 16-01-0078
2019–2020	The National Research University
	Higher school of Economics
	Academic Fund Programm, grant No. 19-01-008

Conference Presentations

1986 and 1990	3d and 5th Winter School on Theory of Functions and Approximation; Saratov State University, Saratov, Russia.
1991	National Summer School on Theory of Functions; Odessa State University, Odessa, Ukrain.
1993	Annual Meeting of The Israeli Mathematical Union; Ben Gurion University, Beer Sheva, Israel.
1994	Conference on the Interaction Between Functional Analysis, Harmonic Analysis and Probability; University of Missouri-Columbia, Columbia MO, USA.
1995	National Winter School on Modern Methods of Theory of Functions and Related Problems of Applied Mathematics; Voroneg State University, Voroneg, Russia.
	International Conference on Functional Spaces, Approximation Theory, Nonlinear Analysis; Steklov Mathematical Institute, Moscow, Russia.
1996	British-Russian Workshop in Functional Analysis; Euler International Mathematical Institute, St. Petersburg, Russia.
1998	9th Saratov Winter School on Modern Problems of Theory of Functions and Applications; Saratov State University, Saratov, Russia.
	7th Summer St. Petersburg Meeting in Mathematical Analysis; Euler Int. Math. Inst., St. Peterburg, Russia.
	International Conference on Harmonic Analysis and Approximation; Nor Amberd, Armenia.
1999	8th Summer St. Petersburg Meeting in Mathematical Analysis; Euler Int. Math. Inst., St. Peterburg, Russia.
	16th Auburn Miniconference on Harmonic Analysis and Related Areas; Auburn University, Auburn, AL, USA.

2002   11th Saratov Winter School on Modern Problems of
       Theory of Functions and Applications;
       Saratov State University, Saratov, Russia.

       2d International Symposium on the Fourier Series
       and their Applications;
       Durso, Russia.

       11th Summer St. Petersburg Meeting in Mathematical Analysis;
       Euler Int. Math. Inst., St. Peterburg, Russia.

2004   12th Saratov Winter School on Modern Problems of
       Theory of Functions and Applications;
       Saratov State University, Saratov, Russia.

2005   14th Summer St. Petersburg Meeting in Mathematical Analysis;
       Euler Int. Math. Inst., St. Peterburg, Russia.

       International Conference on Harmonic Analysis and Approximations, III;
       Tsahkadzor, Armenia.

2006   Harmonic analysis and related problems (HARP 2006);
       Zaros, Crete, Greece.

2011   ICREA Conference on Approximation Theory and Fourier Analysis;
       CRM, Bellaterra, Barcelona, Spain.

2012   Spring School on Banah Algebras;
       Bedlewo, Poland.
       (Invited speaker; delivered four lectures)

2013   Traditional winter session MIAN–POMI devoted to the topic
       "Harmonic Analysis and Theory of Functions";
       Steklov Mathematical Institute, Russian Academy of Science, Moscow, Russia.
       (Joint talk with S. V. Konyagin and I. D. Shkredov.)

2019   Explorations in Harmonic Analysis and other realms
        A conference honoring Alexander Olevskii's 80th birthday
        Weizmann Institute of Science, Rehovot, Israel.
        Feb 10–14, 2019
        (Invited speaker)

        One dimensional complex analysis and operator theory
        Euler Int. Math. Inst., St. Petersburg, Russia.
        May 13–17, 2019
        (Invited speaker)

        Topology, Geometry, and Dynamics: Rokhlin – 100
        Euler Int. Math. Inst., St. Peterburg, Russia.
        Aug 19–23, 2019

2021   International conference "Approximation and discretization"
        Dedicated to 70-th birthday of B. S. Kashin
        Laboratory "High-dimensional approximation and applications"
        Department of Mechanics and Mathematics,
        Lomonosov Moscow State University, Moscow, Russia
        Aug 30–Sept 3, 2021

2022   International conference "High–Dimensional Approximation and Discretization"
        Sirius Center, Sochi, Russia
        Jun 26–Jul 2, 2022

        31th Summer St. Petersburg Meeting in Mathematical Analysis;
        Euler Int. Math. Inst., St. Petersburg, Russia
        Aug 22–27, 2022

Publications

1. V. V. Lebedev, "Homeomorphisms of an interval and smoothness of a function", *Matematicheskie Zametki*, **40**:3 (1986), 364–373 (Russian). English transl.: *Mathematical Notes of the Academy of Sciences of the USSR*, **40**:3 (1986), 713–719.

2. V. V. Lebedev, "Change of variable and the rapidity of decrease of Fourier coefficients", *Matematicheskiĭ Sbornik*, **181**:8 (1990), 1099–1113 (Russian). English transl.: *Mathematics of the USSR, Sbornik*, **70**:2 (1991), 541–555. English transl. corrected by the author is available at: https://arxiv.org/abs/1508.06673

3. V. V. Lebedev, "Torus homeomorphisms, Fourier coefficients, and integral smoothness", *Izv. VUZ. ser. Matem.*, 1992, No. 12, 37–42 (Russian). Engish transl.: *Russian Mathematics (Iz. VUZ)*, **36**:12 (1992), 36–41.

4. V. Lebedev and A. Olevskiĭ, "C^1 -changes of variable, Beurling–Helson type theorems and Hormander congecture on Fourier multipliers", *Geometric and Functional Analysis (GAFA)*, **4**:2 (1994), 213–235.

5. V. Lebedev and A. Olevskiĭ, "Idempotents of Fourier multiplier algebra", *Geometric and Functional Analysis (GAFA)*, **4**:5 (1994), 539–544.

6. V. Lebedev and A. Olevskiĭ, "Bounded groups of translation invariant operators", *C. R. Acad. Sci. Paris, Sér.* I *Math.*, **322**:2 (1996), 143–147.

7. V. V. Lebedev, "Inner functions and l^p -multipliers", *Funktsional'nyi Analiz i Ego Prilozheniya*, **32**:4 (1998), 10–21 (Russian). English transl.: *Functional Analysis and Its Applications*, **32**:4 (1998), 227–236.

8. V. V. Lebedev, "Spectra of inner functions and l^p -multipliers", in: Complex Analysis, Operators, and Related Topics: The S. A. Vinogradov Memorial Volume, *Operator Theory: Advances and Applications*, **113**, eds.: V. P. Havin, N. K. Nikolski; Birkhäuser, Basel-Boston-Berlin, 2000, 205–212.

9. V. V. Lebedev, "Diffeomorphismes of the circle and the Beurling–Helson Theorem", *Funktsional'nyi Analiz i Ego Prilozheniya*, **36**:1 (2002), 30–35 (Russian). English transl.: *Functional Analysis and Its Applications*, **36**:1 (2002), 25–29.

10. V. V. Lebedev, A. M. Olevskii, "L^p -Fourier multipliers with bounded powers", *Izvestiya RAN: Ser. Mat.*, **70**:3 (2006), 129–166 (Russian). English transl.: *Izvestya: Mathematics*, **70**:3 (2006), 549–585.

11. V. V. Lebedev, "On the topological stability of continuous functions in certain spaces related to Fourier series", *Izvestiya RAN: Ser. Mat.*, **74**:2 (2010), 131-164 (Russian). English transl.: *Izvestya: Mathematics*, **74**:2 (2010), 347-378.

12. V. V. Lebedev, "Quantitative estimates in Beurling– Helson type theorems", *Matematicheskiĭ Sbornik*, **201**:12 (2010), 103–130 (Russian). English transl.: *Sbornik: Mathematics*, **201**:12 (2010), 1811–1836.

13. V. V. Lebedev, "Estimates in Beurling–Helson type theorems: Multidimensional case", *Matematicheskie Zametki*, **90**:3 (2011), 394–407 (Russian). English transl.: *Mathematical Notes*, **90**:3 (2011), 373–384.

14. V. V. Lebedev, "Absolutely convergent Fourier series. An improvement of the Beurling–Helson theorem", *Funktsional'nyi Analiz i Ego Prilozheniya*, **46**:2 (2012), 52–65 (Russian). English transl.: *Functional Analysis and Its Applications*, **46**:2 (2012), 121–132.

15. V. V. Lebedev, "On uniform convergence of Fourier series", *Matematicheskie Zametki*, **91**:6 (2012), 946–949 (Russian). English transl.: *Mathematical Notes*, **91**:6 (2012), 889–892.

16. V. V. Lebedev, "On L^2 functions with bounded spectrum", *Matematicheskiĭ Sbornik*, **203**:11 (2012), 121–128 (Russian). English transl.: *Sbornik: Mathematics*, **203**:11 (2012), 1647–1653.

17. V. V. Lebedev, "On the Fourier transform of the characteristic functions of domains with C^1 boundary", *Funktsional'nyi Analiz i Ego Prilozheniya*, **47**:1 (2013), 33–46 (Russian). English transl.: *Functional Analysis and Its Applications*, **47**:1 (2013), 27–37.

18. V. Lebedev, "Thickness conditions and Littlewood–Paley sets", *Studia Mathematica*, **220**:3 (2014), 265–276.

19. V. V. Lebedev, "On l^p -multipliers of functions analytic in the disk", *Funktsional'nyi Analiz i Ego Prilozheniya*, **48**:3 (2014), 92–96 (Russian). English transl.: *Functional Analysis and Its Applications*, **48**:3 (2014), 231–234.

20. Vladimir Lebedev, "The Bohr–Pál theorem and the Sobolev space $W_2^{1/2}$", *Studia Mathematica*, **231**:1 (2015), 73–81.

21. V. V. Lebedev, "A short and simple proof of the Jurkat–Waterman theorem on conjugate functions", *Funktsional'nyi Analiz i Ego Prilozheniya*, **51**:2 (2017), 87–91 (Russian). English transl.: *Functional Analysis and Its Applications*, **51**:2 (2017), 148–151.

22. V. Lebedev, "Sets with distinct sums of pairs, long arithmetic progressions, and continuous mappings", *Analysis Math.*, **44**:3 (2018), 369–380.

23. V. V. Lebedev, "Uniformly convergent Fourier series and multiplication of functions" *Trudy Matematicheskogo instituta imeni V. A. Steklova* **303** (2018), 186–192 (Russian). English transl.: *Proceedings of the Steklov Institute of Mathematics*, **303** (2018), 171–177.

24. V. Lebedev, "Quantitative aspects of the Beurling–Helson theorem: Phase functions of a special form". *Studia Mathematica*, **247**:3 (2019), 273–283.

25. Vladimir Lebedev, Alexander Olevskii, "Homeomorphic changes of variable and Fourier multipliers", *Journal of Mathematical Analysis and Applications*, **481**:2 (2020) 123502, 1–11.

26. Vladimir Lebedev, "Tame semicascades and cascades generated by affine self-mappings of the d-torus", *Proceedings of the American Mathematical Society*, **149**:11 (2021), 4739–4742.

27. Vladimir Lebedev, "On extension to Fourier transforms", *Journal of Mathematical Analysis and Applications*, **528**:1 (2023) 127508, 1–6.

In preparation

28. V. V. Lebedev, "Homeomorphisms of the circle and the Sobolev type spaces with a convex weight".

29. V. V. Lebedev, "Moduli of functions in the Wiener algebra and uniformly convergent Fourier series".

30. V. V. Lebedev, V. A. Olevskii, "l^p -Fourier multipliers and the magnitude of the Fourier coefficients".

31. V. V. Lebedev, "Stability in certain function spaces related to the average magnitude of Fourier coefficients".

32. V. V. Lebedev, "Stability in the spaces of functions with a given L^p -modulus of continuity".

33. V. V. Lebedev, "Functions with a stable growth of the partial sums of the Fourier series".

34. V. V. Lebedev, "Beurling–Helson type theorem for degenerate phase functions".

35. V. V. Lebedev, "Sets of interpolation for Besov and Lizorkin–Triebel spaces".

36. V. V. Lebedev, "Sets of interpolation for Besov and Lizorkin–Triebel spaces. Extension operator".

37. V. V. Lebedev, "Besov and Lizorkin–Triebel spaces. Sets of interpolation. Extension operator. Necessary conditions".

38. V. V. Lebedev, "Superposition operators in the Beurling algebra A_*".

39. V. V. Lebedev, "Stability in the Sobolev space $W_2^{1/2}$".

Abstracts of talks at certain conferences

40. V. V. Lebedev, "On functions smooth through change of variable", Proc. of the 3-d Winter School on Theory of Functions; Saratov, Jan 27–Feb 7, 1986; Saratov State Univ., 1988, Abstracts, p. 123–124 (in Russian).

41. V. Lebedev, "Idempotents in L^p-Multiplier Algebra". Conference on the Interaction between Functional Analysis, Harmonic Analysis and Probability; Univ. of Missouri–Columbia, Columbia MO, USA, May 30–June 3, 1994, Abstracts.

42. V. V. Lebedev, "On the boundness of the norms $\|e^{in\varphi}\|_{M_p}$ in the space M_p of L^p-Fourier Multipliers". Conference on Functional Spaces, Approximation Theory and Nonlinear Analysis. Dedicated to 90-th birthday of S. M. Nikolskii; Steklov Inst of Math., Moscow, Apr 27–May 3, 1995, Abstracts, p. 175–176 (in Russian).

43. V. V. Lebedev, "Inner functions and l^p-multipliers". British-Russian Workshop in Functional Analysis; Euler Int. Math. Inst., St. Petersburg, Oct 13–17, 1996, Abstrtacts.

44. V. V. Lebedev, "On the functions on the circle whose every superposition with a homeomorphism belongs to the space $A_p(T)$ $(= \mathcal{F}(l^p))$". 9-th Saratov Winter School on Modern Problems of Theory of Functions and their Applications; Saratov, Jan 26–Feb 1, 1998, Saratov State Univ., Abstracts, p. 100 (in Russian).

45. V. V. Lebedev, "Spectra of inner functions and the S. A. Vinogradov problem on l^p-multipliers". 7-th Summer St. Petersburg Meeting in Math. Analysis; Euler Int. Math. Inst., St. Petersburg, June 17–20, 1998, Abstracts.

46. V. V. Lebedev, "On inner functions in l^p -multipliers algebra". Int. Conference on Harmonic Analysis and Approximation; Nor-Amberd, Armenia, Sep 18–25, 1998, Erevan, Abstracts, p. 40–41.

47. V. V. Lebedev, "On Littlewood–Paley decomposition". 8-th Summer St. Petersburg Meeting in Math. Analysis; Euler Int. Math. Inst., St. Petersburg, June 21–25, 1999, Abstracts.

48. V. V. Lebedev, "Quantitative estimates in the Beurling-Helson theorem". II Int. Symposium on the Fourier series and their applications; Durso, Russia, May 27–June 2, 2002, Rostov-na-Donu, Abstracts, p. 33–34 (in Russian).

49. V. V. Lebedev, "On the Fourier transform of the characteristic function of a domain in R^n". 11 -th Summer St. Petersburg Meeting in Math. Analysis; Euler Int. Math. Inst., St. Petersburg, Aug 15–20, 2002, Abstracts, p. 24.

50. V. Lebedev, "Superposition operators and distribution of Fourier coefficients". 12 -th Summer St. Petersburg Meeting in Math. Analysis; Euler Int. Math. Inst., St. Petersburg, Aug 15–20, 2003, Abstracts, p. 23.

51. V. Lebedev, "The domains with C^1 -smooth boundary and the Fourier transform of their characteristic functions". 14 -th Summer St. Petersburg Meeting in Math. Analysis; Euler Int. Math. Inst., St. Petersburg, June 6–11, 2005, Abstracts, p. 18.

52. V. Lebedev, "On the Fourier transform of the indicator of a domain with C^1 -smooth boundary". Int. Conference on Harmonic Analysis and Approximation III; Sep 20–27, 2005, Tsahkadzor, Armenia, Abstracts, p. 50–51.

53. V. Lebedev, "Rate of growth in the Beurling–Helson theorem". Harmonic analysis and related problems (HARP 2006); June 19–23, 2006, Zaros, Crete, Greece, Abstracts, p. 8.

54. V. Lebedev, "On Kahane's conjecture related to the Beurling–Helson theorem". ICRA Conference on Approximation Theory and Fourier Analysis; Dec 12–16, 2011, CRM, Bellaterra, Barcelona, Spain; Abstracts, p. 27.

55. Vladimir Lebedev, "Self-mappings of the circle that preserve the Beurling Algebra $A_*(T)$", Explorations in Harmonic Analysis and other realms. A conference honoring Alexander Olevskii's 80th birthday; Feb 10–14, 2019, Weizmann Institute of Science, Rehovot, Israel; Abstracts, p. 6.

56. Vladimir Lebedev, "The Bohr–Pál Theorem and the Sobolev space $W_2^{1/2}$ ". One-dimensional complex analysis and operator theory; May 13–17, 2019, Euler Int. Math. Inst., St. Petersburg, Russia, Abstracts, p. 1–2.

57. Vladimir Lebedev, "Tame semicascades and cascades generated by affine self-mappings of the d-torus", Topology, Geometry, and Dynamics: Rokhlin – 100; Aug 19–23, 2019, Euler Int. Math. Inst., St. Petersburg, Abstracts, p. 55.

58. V. Lebedev, "Compact sets in the torus. Wiener Algebra and some other function spaces. Extension operator", International conference "Approximation and discretization" Dedicated to 70-th birthday of B. S. Kashin; Aug 30–Sept 3, 2021, Laboratory "High-dimensional approximation and applications" Department of Mechanics and Mathematics, Lomonosov Moscow State University, Moscow, Russia.

59. "Changes of variable and Fourier Multipliers" 31th Summer St. Petersburg Meeting in Mathematical Analysis; Euler Int. Math. Inst., St. Petersburg, Russia. Aug 22–27, 2022. Abstracts, p. 4.

Preprints available at arXiv.org

Vladimir Lebedev, "On extension to Fourier transforms", arXiv:2110.07092

Vladimir Lebedev, "Uniformly convergent Fourier series and multiplication of functions", arXiv:1807.03949

Vladimir Lebedev, "Tame semicascades and cascades generated by affine self-mappings of the d-torus", arXiv:1806.06386

Vladimir Lebedev, "Sets with distinct sums of pairs, long arithmetic progressions, and continuous mappings", arXiv:1805.02254

Vladimir Lebedev and Alexander Olevskii, "Homeomorphic Changes of Variable and Fourier Multipliers", arXiv:1803.02177

Vladimir Lebedev., "Quantitative aspects of the Beurling–Helson theorem: Phase functions of a special form", arXiv:1611.01739

Vladimir Lebedev., "A short and simple proof of the Jurkat–Waterman theorem on conjugate functions", arXiv:1603.04539

Vladimir Lebedev., "The Bohr–Pál Theorem and the Sobolev Space $W_2^{1/2}$ ", arXiv:1508.07167

Vladimir Lebedev., "Change of variable and the rapidity of decrease of Fourier coefficients", arXiv:1508.06673

Vladimir Lebedev, "Thickness conditions and Littlewood–Paley sets", arXiv:1304.4695

Vladimir Lebedev, "On l^p -multipliers of functions analytic in the disk", arXiv:1303.5384

Vladimir Lebedev., "On L^2 -functions with bounded spectrum", arXiv:1204.2297

Vladimir Lebedev., "On uniform convergence of Fourier series", arXiv:1203.6703

Vladimir Lebedev., "On the Fourier transform of the characteristic functions of domains with C^1 boundary", arXiv:1201.0408

Vladimir Lebedev., "Estimates in Beurling–Helson type theorems. Multidimensional case", arXiv:1201.0403

Vladimir Lebedev., "Quantitative estimates in Beurling–Helson type theorems", arXiv:1112.5677

Vladimir Lebedev., "Absolutely convergent Fourier series. An improvement of the Beurling–Helson theorem", arXiv:1112.4892