

## CURRICULUM VITAE

Name: **Yuriy Vladimirovich Kryakin**  
Date and place of birth: January 23, 1955, Novosibirsk, USSR  
Marital status: Married, two children  
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**Languages:** Russian – mother tongue, Polish – fluent, English – good.

### Academic Degrees:

M. Sc. (Mathematics) Odessa State University, Odessa, Ukraine, 1978  
Ph. D. (Mathematics) Saratov State University, Saratov, Russia, 1985  
Habilitation (Mathematics) Wroclaw University, Wroclaw, Poland, 2000

**Title of Ph. D. Thesis:** *Approximation of functions on the unit circle in spaces  $L_p$  and  $H_p$*  (in Russian). Supervisor: E. A. Storozhenko, Odessa State University, Odessa, Ukraine.

**Title of Habilitation Thesis:** *Local approximation by polynomials and Whitney constants.*

### Academic Positions:

1978 – 1982 Odessa Polytechnic Institute, Assistant Professor  
1986 – 1988 Odessa Polytechnic Institute, Lecturer  
1988 – 1994 Odessa Polytechnic Institute, Associate Professor  
1994 – 1997 Odessa State University, Chair of Mathematical Analysis,  
Postdoctoral Fellow  
1997 – 1999 Odessa State Polytechnic University, Associate Professor  
2000 – 2002 South Ukrainian State Pedagogical University,  
Chair of Mathematical Analysis, Senior Researcher.  
1999 – 2020 Wrocław University, Mathematical Institute, Wrocław – Poland,  
adjunkt

**Scientific Visits:**

1. France, Marseilles, Center of Theoretical Physics, CNRS, 1998 (1 month).
2. Spain, Madrid, University Autonoma of Madrid, 1998 (1 week).
3. France, Marseilles, Toulon University, 1999 (2 weeks)
4. Germany, Darmstadt, Darmstadt University, 1999 (2 months), Visiting Research Fellow, DAAD grant
5. U.S.A., Columbia, SC, Industrial Mathematical Institute, 2000 (1 week)
6. U.S.A., Nashville, TN, Vanderbilt University, 2000 (1 week)
7. England, Cambridge DAMTP, 2006 (1 week)

**Grants:**

1. Research grant awarded by the Joint Fund of the Government of Ukraine and International Science Foundation, "Embeddings, approximation and local properties of function spaces", January, 1 – December, 31, 1995.
2. CSMEE-grant from the Organizing Committee of the ICM'98.
3. Grant of Polish funds for science 2006-2008, no 20101631/1206

**Duties and Activities:**

1. Referee of Ph. D. theses: A. Korenovskii (1988), D. T. Shon (1990), P. M. Volnyakov (1992), A. K. Lerner (1998), O.D.Zhel'nov (2004).
2. Ph. D. students: N. Dolmatova (2014).  
Thesis "Special moduli of continuity and sharp Jackson type inequalities".

**Courses Taught:**

Wroclaw University, Institute of Computer Science : Calculus I-II, Complex Analysis, Differential Equations, lectures and classes (1999–2020, in Polish).

Odessa National Polytechnic University : Entry Levels Courses(Calculus I-II), lectures and classes (1978–1998, in Russian).

## LIST OF PUBLICATIONS

1. Yu.V. Kryakin. Jackson theorems in  $H_p, 0 < p < \infty$ , *Izv. Vyssh. Uchebn. Zaved. Mat.*, **8** (1985) 19–23 (in Russian). *English translation: Soviet Math. [Iz. VUZ]*, **29** (8) (1985) 24–29.
2. Yu.V. Kryakin. Best local approxiamations, *Theory of Functions and Approxiamtion, Part 2 (Saratov, 1984)*, *Saratov Gos. Univ., Saratov* 1986 142–145 (in Russian).
3. Yu.V. Kryakin. Whitney constants, *Mat. Zametki*, **46** (2) (1989) 155–157 (in Russian).
4. Yu.V. Kryakin. On the theorem of H. Whitney in spaces  $L_p, 1 \leq p \leq \infty$ , *Math. Balkanica, New Series*, **4** (1990) 258–271.
5. L.G. Kovalenko, Yu.V. Kryakin. Whitney constants in the classes  $L^p, 1 \leq p < \infty$ , *Izv. Vyssh. Uchebn. Zaved. Mat.*, **1** (1992) 69–77 (in Russian).
6. Yu.V. Kryakin. On a theorem of Hardy and Littlewood, *Mat. Zametki*, **53**(2) (1993) 78–83 (in Russian). *English translation: Math. Notes*, **53** (1993) 167–171.
7. Yu.V. Kryakin. Whitney constants bounded by two, *Mat. Zametki*, **53**(5) (1993) 158–160 (in Russian). *English translation: Math. Notes*, **53** (1993) 560–562.
8. Yu.V. Kryakin. Exact constants in the Whitney theorem, *Mat. Zametki*, **54**(1) (1993) 34–51 (in Russian). *English translation: Math. Notes*, **54** (1993) 688–700.
9. Yu.V. Kryakin. On a theorem and constants of Whitney, *Mat. Sbornik*, **185**(3) (1994) 25–40 (in Russian). *English translation: Sbornik, Mathematics*, **81** (1995) 281–295.
10. Yu.V. Kryakin, E.A. Storozenko. On a theorem of Whitney in the  $L^p$ -metric,  $0 < p < \infty$ , *Mat. Sbornik*, **186**(3) (1995) 131–142 (in Russian). *English translation: Sbornik, Mathematics*, **186** (1995) 435–445.
11. Yu.V. Kryakin, M.D. Takev. Whitney interpolation constants, *Ukrain. Mat. Zh.*, **47** (1995) 1038–1043 (in Russian)
12. Yu.V. Kryakin, M.D. Takev. On the interpolation constants of H. Whitney, *Mat. Zametki*, **59** (1996) 461–463 (in Russian). *English translation: Math. Notes*, **59** (1996) 330–332.
13. Yu.V. Kryakin. On approximation by Chebyshev splines in  $L_p$ -metrics, *Volyn Math. Bulletin*, **3** (1996) 67–71 (in Russian).
14. Yu.V. Kryakin. On functions with a bounded  $n$ -th differences, *Izv. Ross. Akad. Nauk Ser. Mat.*, **61**(2) (1997) 95–110 (in Russian). *English translation: Izv. Math.*, **61** (1997) 331–346

15. Yu.V. Kryakin. On the local approximation of functions by polynomials and quasipolynomials, *Dokl. Akad. Nauk*, **355** (1997) 157–159 (in Russian). *English translation: Doklady Mathematics*, **56** (1997) 505–507
16. Yu.V. Kryakin. On the local approximation by quasi-polynomials, *In: Recent Progress in Inequalities*, Kluwer Academic Publisher, Dordrecht, (1998) 475–480.
17. Yu.V. Kryakin. Chebyshev splines and  $K$ -functionals in the  $L_p$ -metric, *Dopov. Nats. akad. Nauk Ukr. Mat. Prirodoz. Tekh. Nauki*, **6** (1998) 27–31 (in Russian)
18. Yu.V. Kryakin. On approximation by Chebyshev splines in the  $L_p$ - metric,  $p > 0$ , *Ukrain. Mat. Zh.*, **50** (1998) 1193–1201 (in Russian). *English translation: Ukrainina Math. J.* **50** (1998) 1365–1375
19. Yu.V. Kryakin. On approximation by complex splines in  $L_p, p > 0$ , *In: Fourier Series: Theory and Applications (Kamenets-Podol'sky, 1997)*. *Pr. Inst. Mat. Nats. Akad. Nauk Ukr. Mat. Zastos*, **20** (1998) 133–141 (in Russian).
20. Yu. Kryakin, W. Trebels.  $q$ -Moduli of continuity in  $H^p(D)$ ,  $p > 0$ , and an inequality of Hardy and Littlewood, *Journal of Approximation Theory*, **115** (2002) 238–259; doi: 10.1006/jath.2001.3656.
21. T.J. Cole, Yu.V. Kryakin. Letter to editor. Sympercents: symmetric percentage differences on the  $100 \log_e$  scale simplify the presentation of log trasformed data, *Statistics in Medicine*, **21** (2002) 2287–2290; doi: 10.1002/sim1008.
22. J. Gilewicz, Yu.V. Kryakin, I.A. Shevchuk. Boundedness by 3 of Whitney Interpolation Constant. *Journal of Approximation Theory*, **119** (2002) 271–290; doi: 10.1006/jath.2002.3732.
23. Yu.V. Kryakin. Whitney's Constants and Sendov's Conjectures. *Mathematica Balkanica*, **16** Fasc. 1-4 (2002) 235–247.
24. J. Gilewicz, Yu.V. Kryakin. Froissart doublets in Pade approximation in the case of polynomial noise. *Journal of Computational and Applied Mathematics*, **153** (2003) 235–242.
25. Yu. Kryakin. Bohr–Favard inequality for differences and constants in Jackson–Stechkin theorem ArXiv.math.CA/0512048 (2006) 1–6.
26. Yu. Kryakin. Whitney's theorem for oscillating on  $R$  functions arXiv.math. CA/0612442 (2006) 1–6.
27. A.G. Babenko, Yu.V. Kryakin. Approximation of step functions by trigonometric polynomials in  $L$ . *Proceedings International Conference on "Modern Problems in Mathematics, Mechanics and Informatics"* Tula, (2006) 1–25.

28. S. Foucart, Yu. Kryakin and A. Shadrin. On the exact constant in Jackson–Stechkin inequality for the uniform metric. *Constructive Approximation*, **29**, (2009) 157–179; doi:10.1007/s00365-008-9039-6.
29. A.G. Babenko, Yu.V. Kryakin. Integral approximation of the characteristic function of an interval by trigonometric polynomials. *Proceedings of the Steklov Institute of Mathematics*, **264**, (2009) 19–38; doi: 10.1134/S0081543809050022.
30. A.G. Babenko, Yu.V. Kryakin. Integral Approximation of the Characteristic Function of an Interval and the Jackson Inequality in  $C(T)$ , *Proceedings of the Steklov Institute of Mathematics*, **266** (2009) 56–63; doi: 10.1134/S0081543809060054.
31. A.G. Babenko, Yu.V. Kryakin, V.A. Yudin. On a Result by Geronimus, *Proceedings of the Steklov Institute of Mathematics*, **273(1)** (2011) 37–48; doi: 10.1134/S008154381105004X.
32. A.G. Babenko, Yu.V. Kryakin, V.A. Yudin. One-Sided Approximation in  $L$  of the Characteristic Function of an Interval by Trigonometric Polynomials, *Proceedings of the Steklov Institute of Mathematics*, **280 (suppl 1)** (2011) 539–552; doi: 10.1134/S0081543813020041.
33. A.G. Babenko, Yu.V. Kryakin, P.T. Staszak. Special Moduli of Continuity and the Constant in the Jackson–Stechkin Theorem, *Constructive Approximation*, **38** (2013) 339–364; doi: 10.1007/s00365-013-9210-6.
34. A.G. Babenko, Yu.V. Kryakin, N.V. Dolmatova. Sharp Jackson Inequality with a Special Modulus of Continuity, *Proceedings of the Steklov Institute of Mathematics*, **284 (suppl 1)** (2014) 1–18; doi: 10.1134/S0081543814020047.
35. A.G. Babenko, Yu.V. Kryakin. On Constants in the Jackson Stechkin Theorem in the Case of Approximation by Algebraic Polynomials *Proceedings of the Steklov Institute of Mathematics*, **303(1)** (2018) 18–30; doi: 10.1134/S0081543818080035.
36. A.G. Babenko, Yu.V. Kryakin. Modified Bernstein Function and a Uniform Approximation of Some Rational Fractions by Polynomials, *Proceedings of the Steklov Institute of Mathematics*, **303(suppl 1)** (2018) 45–59; doi: 10.1134/S0081543818090055.
37. A.G. Babenko, Yu. Kryakin. Special Difference Operators and the Constants in the Classical Jackson-Type Theorems, in book: *Topics in Classical and Modern Analysis* (2019) 35–46; doi: 10.1007/978-3-030-12277-5\_2.
38. A.G. Babenko, Yu.V. Kryakin. On the norms of Boman-Shapiro difference operators, *Trudy Instituta Matematiki i Mekhaniki UrO RAN*, **26(4)** (2020) 64–75 (in Russian); doi: 10.21538/0134-4889-2020-26-4-64-75.