Serhii Myroshnychenko

Curriculum Vitae

University of the Fraser Valley
Department of Mathematics & Statistics
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Education

2014 – 2017 **Ph.D. in Pure Math**, *Kent State University*, *USA*.
Dissertation: "On the reconstruction of bodies from their projections or sections"

2012 – 2014 **M.A. in Pure Math**, *Kent State University*, *USA*.

2011 – 2012 **M.Sc. in Math & CS Education (with honours)**, *Kharkiv National University*, *Ukraine*.
Thesis:"Generalizations of Fenchel and Fari-Milnor's theorems for non-symmetric Minkowski spaces"

2007 – 2011 **B.Sc. in Pure Math**, *Kharkiv National University*, *Ukraine*.
Thesis: "Geometry of surfaces in Randers spaces"

Work Experience

2023 – present **Assistant Professor**,
Department of Mathematics & Statistics,
University of the Fraser Valley, Canada.

2025 – present **Adjunct Professor**,
Department of Mathematics,
Simon Fraser University, Canada.

2021 – 2023 **LTA Assistant Professor**,
Department of Mathematical Sciences,
Lakehead University, Canada.

2017 – 2021 **Postdoctoral Researcher / PIMS PDF**,
Department of Mathematical and Statistical Sciences,
University of Alberta & Pacific Institute for the Math Sciences, Canada.

2012 – 2017 **Graduate Assistant**,
Department of Mathematical Sciences,
Kent State University, USA.

Funding

- NSERC Discovery Grant (2024-2029) RGPIN-2024-05044 and DGECR-2024-00332.
- Pacific Institute for the Mathematical Sciences (PIMS) Postdoctoral Fellowship, 2019-2021.

Publications

2025

- "*Answers to questions of Grünbaum and Loewner*", with K. Tatarko, V. Yaskin, **Advances in Mathematics**, Volume 461, February 2025. read.
- "*Stability of simplex slicing*", with C. Tang, K. Tatarko, T. Tkocz, published on Nov-01 in **Discrete Comput Geom**, read.

2023

- *"How far apart can the projection of the centroid of a convex body and the centroid of its projection be?"*, with K. Tatarko, V. Yaskin, **Mathematische Annalen**, Volume 390, 1155–1169 (2024), read.

2022

- *"Entropic exercises around the Kneser–Poulsen conjecture"*, with G. Aishwarya, I. Alam, D. Li, O. Zatarain-Vera, **Mathematika**, Volume 69, Issue 3 (2023), 841-866, read.
- *"Analytic Permutation Testing for Functional Data ANOVA"*, with A. Kashlak, S. Spektor, **Journal of Computational and Graphical Statistics**, 32 (2023), no.1, 294–303, read.

2021

- *"On some characterizations of convex polyhedra"*, **Journal d'Analyse Mathématique**, 2023 (149), 239–249, read.
- *"Unique determination of ellipsoids by their dual volumes"*, with K. Tatarko, V. Yaskin, **International Mathematics Research Notices**, Volume 2022 (17), 13569–13589, read.

2019

- *"On recognizing shapes of polytopes from their shadows"*, **Discrete Comput Geom** 2019 (62), 856–864, read.
- *"Star bodies with completely symmetric sections"* with C. Saroglou and D. Ryabogin, **International Mathematics Research Notices**, Volume 2019 10, 3015–3031, read.

2018

- *"Grünbaum's Inequality for sections"* with M. Stephen and N. Zhang, **Journal of Functional Analysis** 2018 (275) 2516–2537, read.
- *"On polytopes with congruent projections or sections"* with D. Ryabogin, **Advances in Mathematics**, 2018 (325) 482–504, read.

2017

- *"On a functional equation related to a pair of hedgehogs with congruent projection"*, **J. Math. Anal. Appl.**, 2017 (445) pp.1492-1504, read.

2014

- *"On the total curvature of curves in non-symmetric Minkowski spaces"* with A. Borisenko, **Reports of the National Academy of Sciences of Ukraine**, ISSN 1025-6415, 2014 (10), read.

2012

- *"On the flag curvature of 2-dimensional surfaces in 3-dimensional Randers spaces"* with A. Borisenko, **Reports of the National Academy of Sciences of Ukraine**, ISSN 1025-6415, 2012 (11), read.

Teaching & Supervisor Experience

Primary Instructor

- MATH 322 (Complex Variables), Winter 2026 at UFV.
- MATH 312 (Vector Analysis), Winter 2025 at UFV.
- MATH 445 (Intro to Graph Theory), Fall 2024 at UFV.
- MATH 111 (Calculus I), Fall 2024-25 at UFV.
- MATH 345 (Modern Geometries), Winter 2024, Fall 2025 at UFV.
- MATH 112 (Calculus II), Winter 2024-26 at UFV.
- MATH 355 (Number Theory & Applications), Fall 2023 at UFV.
- MATH 3032 (Complex Functions and PDE), Spring 2022-23 at Lakehead U.
- MATH 1230 (Calculus II for engineers), Spring 2022-23 at Lakehead U.
- MATH 3012 (Vector Analysis), Fall 2021-22 at Lakehead U.
- MATH 2090 (Matrix methods & Diff. Eqs.), Fall 2021-22 at Lakehead U.
- MATH 1210 (Calculus I for engineers), Fall 2021-22 at Lakehead U.
- NSERC Undergraduate Research project co-supervisor, Summer 2021 at U. of Alberta.
- MATH 214 (Intermediate Calculus), Intersession 2021 at U. of Alberta.
- MATH 499 (Research project supervisor), Winter 2021 at U. of Alberta.
- MATH I & II, Winter 2021 at Royal Crown College.
- MATH 209 (Calculus III for engineers); Fall 2018, Fall 2019, Fall 2020 at U. of Alberta.
- MATH 101 (Calculus II for engineers); Spring 2018 at U. of Alberta.
- MATH 12002 (Analytic Geometry & Calculus I); Fall 2016 and Spring 2017 at Kent State.
- MATH 12003 (Analytic Geometry & Calculus II); Spring 2016 at Kent State.
- MATH 11010 (Algebra for Calculus); Fall 2013, Spring 2014, Fall 2014, Spring 2015, Fall 2015 at Kent State.

Teaching Assistant & Grader

- Algebra I-IV; Fall 2012, Spring 2013, Summer 2013, Fall 2013, Spring 2014, Summer 2014, Fall 2014, Spring 2015 at Kent State.
- MATH 64091 (Math for high school teachers), Fall 2015.
- MATH 31011 (Proofs in Discrete Math), Spring 2013.

Other Educational Activities

- NSERC Undergraduate Student Research Award Supervisor (USRA), Summer 2025.
- Math Talk at Canadian Math Kangaroo Contest at Lakehead-Orillia, Spring 2023.
- CMS Summer Meeting Poster Session Judge (2021).
- Mathattack Pi Day Talk (2021).
- Edmonton Regional Science Fair Judge (2018, 2019, 2021).
- Science Fair Judge at Aurora Academic Charter School, (2018, 2019).
- Intern supervisor in ASSURE program (Access and Support for Successful Undergraduate Research Experiences), Summer 2017.
- An organizer of an Advanced Mathematics Club at the High school 156, Kharkiv, Fall 2011 – Spring 2012.
- Teaching Internship at Physics & Mathematics Lyceum 27 of Kharkiv, Fall 2011.

Conference Talks

2026

- BIRS Workshop"Applications of Harmonic Analysis to Convex Geometry" on April 26–May 1, Banff, AB.
- AMS Spring Central Sectional Meeting on April 18–19, Fargo, ND.

2025

- CMS Winter Meeting on Dec 5–8, Toronto, ON.
- AMS Fall Central Meeting on October 18–19, St. Louis, MO.
- Mathematical Congress of the Americas on July 21–25, Miami, FL.

2024

- CMS Winter Meeting, November 30 – Dec 2, Richmond, BC.
- AMS Fall Central Sectional on September 14–15, San Antonio, TX.
- XXIII Lluis Santaló School, "Convex Geometry, Differential Geometry and Harmonic Analysis: Building Synergies", July 29 – August 2 in Santander, Spain.
- Hausdorff Trimester Program "Synergies between modern probability, geometric analysis and stochastic geometry", Hausdorff Research Institute for Mathematics (HIM) in Bonn (Spring), Germany.

2023

- BIRS Workshop"Harmonic Analysis and Convexity" on November 19 – 24, Banff, AB.
- CMS Summer Meeting on June 3–7, Ottawa, ON.
- Algebraic and geometric methods of analysis, International scientific online conference, May.

2022

- Harmonic Analysis Methods in Geometric Tomography on September 26 - 30 at The Institute for Computational and Experimental Research in Mathematics (ICERM).

2021

- CMS Winter Meeting on December 3 - 5, Vancouver, BC.
- CMS Summer Meeting on June 7 - 11, Ottawa, ON.

2020

- BIRS Workshop, "Geometric Tomography" on February 9 – 14, Banff, AB.
- AMS Fall Southeastern Sectional Meeting, October 10–11.

2019

- Asymptotic Geometric Analysis IV on July 1 – 6, Euler International Mathematical Institute, Saint-Petersburg, Russian Federation.
- The international conference: Geometry, Differential Equations and Analysis (*in memory of A. V. Pogorelov*) on June 17 – 21, Karazin Kharkiv National University, Kharkiv, Ukraine.
- CMS Summer Meeting on June 7 – 10, University of Regina, Regina, SK, Canada.
- AMS Spring Central and Western Joint Sectional Meeting on March 22–24, University of Hawai'i at Manoa, Honolulu, HI, USA.
- Spring School and Workshop on Polytopes: Geometry, Combinatorics, Probability on March 11–15, Ruhr University Bochum, Bochum, Germany.

2018

- Asymptotic and Affine Geometric Analysis (Satellite Conference of International Congress of Mathematicians), July 26 – 31, Pontificia Universidade Catolica do Rio de Janeiro, Brazil.
- BIRS Workshop, "Emerging Trends in Geometric Functional Analysis" on March 25 – 30, Banff, Alberta, Canada.

2017

- Graduate Research Symposium, April 21, Kent State University, Kent, OH.
- The Seventh Ohio River Analysis Meeting, March 25 – 26, 2017, University of Cincinnati, OH.
- AMS Joint Mathematics Meetings (two talks at Harmonic Analysis and Convex Geometry sessions), January 4 – 7, Atlanta, GA.

2016

- Infinite Dimensional Analysis: Celebrating Richard Aron's Work and Impact, October 28 – 30, Kent, OH.
- NEAM - 1st Northeastern Analysis Meeting, October 14 – 16, Brockport, NY.
- Prairie Analysis Seminar 2016, September 16 – 17, University of Kansas, Lawrence, KS.
- The 2016 Northeast Analysis Network Conference, September 9 – 10, University of Rochester, Rochester, NY.
- CMS Meeting, June 24 – 27, University of Alberta, Edmonton, Canada.
- Perspectives on Integral Geometry, May 30 – June 3, University of Georgia, Athens, GA.
- Conference on Geometric Functional Analysis in Honour of Nicole Tomczak-Jaegermann, May 16 – 20, University of Alberta, Edmonton, Canada.
- Graduate Research Symposium, April 22, Kent State University, Kent, OH.
- AMS Meeting, April 16 – 17, North Dakota State University, Fargo, ND.
- AMS Meeting, March 5 – 6, University of Georgia, Athens, GA.

Seminar Talks

2024

- SFU Operations Research Seminar, October 24.

2023

- University of Waterloo Analysis Seminar, May 4.
- Probability & Analysis Webinar (PAW), April 3.

2021

- Analysis Seminar, University of Florida, March 24.

2020

- Measure Theory Seminar, October 28, Kent State University, OH.
- PIMS PDF Lecture Series, November 4.

2017

- Geometric Analysis Seminar, December, University of Alberta, AB.
- Graduate Student Mathematics seminar, May, Kent State University, OH.
- Analysis & Probability seminar, April 4, Case Western university, OH.

2016

- Geometry and Topology seminar, November 28, Georgia Institute of Technology, GA.
- Nonlinear Analysis seminar, September, Kent State University, Kent, OH.
- Graduate Student Mathematics seminar, March, Kent State University, Kent, OH.

2014

- Nonlinear Analysis seminar, November, Kent State University, Kent, OH.

Other Scientific Activities

2025

- SQuaREs Workshop at American Institute of Mathematics (AIM) in Pasadena, California, May 19–23.
- "Informal Analysis Seminar" at MIT, Boston, USA, April 26–27.

2024

- ICERM Workshop "*Harmonic Analysis and Convexity*", Providence, RI, December 9–13.
- Co-organizer of session "*Probabilistic and Analytic Aspects in Convexity*" at AMS Eastern Sectional at University at Albany, NY, October 19-20.
- Research in Teams "Centres of mass of Convex Bodies" at BIRS, August 18–25, Banff, AB, Canada.
- Research Visit at Hausdorff Research Institute for Mathematics (HIM), Trimester Program "Synergies between modern probability, geometric analysis and stochastic geometry", Bonn, Germany, February.

2023

- Co-organizer of session "*Geometric Functional Analysis: Analytic, Discrete, and Probabilistic Aspects*" at CMS Winter Meeting, December 1–4, Montreal, Canada.
- Poster presentation at Mini-conference "Recent Advances in Applications of Harmonic Analysis to Convex Geometry", April 22-23, Fargo, ND.

2022

- The International Online Conference, "Current Trends in Abstract and Applied Analysis", May 12 - 15, 2022, Ivano-Frankivsk, Ukraine.

2021

- Trimester Program "The Interplay between High-Dimensional Geometry and Probability" at Hausdorff Research Institute for Mathematics (HIM), Spring.
- BIRS Workshop, "Geometry: Education, Art, and Research", February 19–21, Banff, Alberta, Canada.

2019

- Discrete Geometry Days[2], Math. Inst. of the Budapest University of Technology and Economics, Budapest, Hungary, July 9 – 12.

2018

- Workshop "Floating bodies", Goethe University of Frankfurt, Germany, July 2 – 7.
- Workshop "Recent Advances in Convex Geometry and Geometric Functional Analysis", May 14 – 18, Sanya, China.
- Poster presentation at Kent State Informal Analysis Seminar, February, Kent, OH.

2017

- MSRI Introductory Workshop: phenomena in high dimensions, August 21–25, Berkeley, California.
- BIRS Workshop, Recent Advances in Discrete and Analytic Aspects of Convexity, May 21 – May 26, Banff, Alberta, Canada.

2016

- Workshop in Analysis and Probability, Texas A&M University, July 25 – 29, College Station, TX.

2014

- Poster presentation at Kent State Informal Analysis Seminar, April, Kent, OH.

2011

- International conference "Physical interpretations in relatively theory", Bauman Moscow State Technical University, July 4 – 7, Moscow, Russian Federation.
- Summer School in Finsler Geometry, June – July, Moscow-Fryazino, Russian Federation.

Honours and Awards

- NSERC Discovery Grant (2024-2029) RGPIN-2024-05044 and DGECR-2024-00332.
- Start-up grant at Lakehead University, 2021.
- Pacific Institute for the Mathematical Sciences (PIMS) Postdoctoral Fellowship, 2019-2021.
- AMS Travel Award, January 2017.
- Kent State University Graduate Senate Domestic Travel Grant, Spring 2016, Spring 2017.
- The winner of the Math & Physics Section of Graduate Research Symposium, Spring 2017 at Kent State University.
- Akhiezer Foundation Scholarship, Spring 2012.
- Master of Science in Math & CS Education with Honours, Kharkiv National University 2012.

Technical Skills

Languages	C/C++, Visual Basic, LaTeX.
Math software	Wolfram Mathematica, Maple, Geogebra.
Teaching software	MyLabsPlus, Web-Assign, WeBWorK.