

## CV — BOHDAN FESHCHENKO, PH.D.

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### PERSONAL DATA

**Date of Birth:** August 26, 1990  
**E-mail:** fb@imath.kiev.ua, bohdan.feshchenko@yahoo.com  
**Web page:** <https://imath.kiev.ua/~fb/>  
**Contacts:** Algebra and Topology Department (office 204),  
Institute of Mathematics of NAS of Ukraine,  
3, Tereshchenkivs'ka str., Kyiv, 01004, Ukraine  
**Phone:** (044) 235-78-19 (office)



### RESEARCH INTERESTS

Geometric topology and low-dimensional manifolds, foliations with singularities and their automorphisms, symplectic geometry.

### SCIENTIFIC CAREER

**2021, December — till now.** Researcher at Algebra and Topology Department, Institute of Mathematics of NAS of Ukraine

**2016, November — 2021, December.** Junior researcher at Topology Laboratory, Algebra and Topology Department, Institute of Mathematics of NAS of Ukraine

### EDUCATION AND ACADEMIC DEGREES

**Ph.D.** (2013, November — 2016, November) at [Institute of Mathematics National Academy of Science of Ukraine](#), Kyiv, Ukraine.

Thesis : “Deformations of smooth functions on 2-torus” (Advisor: [Sergiy Maksymenko](#)). Date of thesis defense: June 6, 2017.

**M.Sc.** (2011, September — 2013, June) at [National Technical University of Ukraine “Kyiv Politechnical Institute”](#), Physics and Mathematics Faculty, Kyiv, Ukraine. Diploma with distinction (2013).

**B.Sc.** (2007, September — 2011, June) at [National Technical University of Ukraine “Kyiv Politechnical Institute”](#), Physics and Mathematics Faculty, Kyiv, Ukraine. Diploma with distinction (2011).

### AWARDS, SCHOLARSHIPS AND GRANTS

- Yu. Mitropolskiy award of National Academy of Science of Ukraine for young scientists (in cooperation with Yu. Taistra) for a series of papers “Properties of smooth functions on closed surfaces and spinor fields on Riemannian spaces”, **2018**.

- Scholarship of the President of Ukraine for Young Scientists, **2018 – 2020** and **2022 – 2024**.
- Scholarship of the National Academy of Sciences of Ukraine for Young Scientists, **2024 – till now**
- Simons Foundation grants: No.1030291 B.G.F. (**2023**), No. 1290607 B.G.F. (**2024**), SFI-PD-Ukraine-00014586 B.G.F (**2025**)

## PUBLICATIONS

I am the author of **11** papers. A list of published papers is available [here](#). My preprints at [arXiv](#).

## TALKS

### Seminar talks.

- Topology seminar at Institute of Mathematics of NAS of Ukraine. I am a permanent member of this seminar where I usually have at least **one talk** per year since 2013.
- City Geometric Seminar (Department of Pure Mathematics, V.N. Karazin Kharkiv National University, Kharkiv). Talk: “*Deformations of smooth functions on 2-torus*”, 2017
- Fractal analysis seminar (Institute of Mathematics of NAS of Ukraine and Dragomanov Ukrainian State University, Kyiv). Talk: “*Actions of finite groups and stabilizers of smooth functions on surfaces*”, 2017
- Seminar of Young Scientists Council at the Institute of Mathematics of NAS of Ukraine  
Talk: “*Smooth functions on surfaces and their deformations*”, 2019

### Conferences.

- International Algebraic Conference dedicated to 100th anniversary of L. A. Kaluzhnin (Kyiv, 2014)
- IV International conference dedicated to 135th anniversary of Hans Hahn (Chernivtsi, 2014)
- XV International Conference n.a. Academician Mykhaylo Kravchuk (Kyiv, 2014)
- International Conference of Young Mathematicians (Kyiv, 2015)
- International Conference “Geometry and Topology in Odesa” (Odesa, 2016)
- XI Summer school “Algebra, Topology and Analysis” (Odesa, 2016)
- International Conference “Modern Advances in Geometry and Topology” in honor of professor A. A. Borisenko for his 70th birthday (Kharkiv, 2016)
- International Conference of young mathematicians (Kyiv, 2017)
- International Conference of young mathematicians (Kyiv, 2019)
- International Conference “Morse theory and its applications” dedicated to the memory and 70th anniversary of Volodymyr Sharko (25.09.1949-07.10.2014) (Kyiv, 2019)
- International scientific online conference “Algebraic and geometric methods of analysis” (Odesa, 2020)
- International Conference of young mathematicians (Kyiv, 2021)
- International scientific online conference “Algebraic and geometric methods of analysis” dedicate to the memory of Yuriy Trokhymchuk (17.03.1928-18.12.2019) (Odesa, 2021)
- The conference of young scientists “Pidstryhach Readings – 2021” (Lviv, 2021)
- International scientific online conference “Algebraic and geometric methods of analysis” (Odesa, 2023)
- International Conference of Young Mathematicians (Kyiv, 2023)
- International scientific online conference “Algebraic and geometric methods of analysis” (Odesa, 2024)
- International scientific online conference “Algebraic and geometric methods of analysis” (Odesa, 2025)

- International conference dedicated to the 75th anniversary of the birth of Volodymyr Maslyuchenko (Chernivtsi, 2025)
- International scientific online conference “Algebraic and geometric methods of analysis” (Odesa, 2026)
- International Conference of Young Mathematicians (Kyiv, 2026)

**Other talks.**

- *Knots and their invariants* (Institute of Mathematics of NAS of Ukraine, Kyiv, 2018)
- *Introduction to groups* (Institute of Mathematics of NAS of Ukraine, Kyiv, 2023)
- *Groups and subgroups* (May, 31, Institute of Mathematics of NAS of Ukraine, Kyiv, 2024)
- *Euler characteristics of surfaces and the topology of haircuts* (June 3, 2024, Institute of Mathematics of NAS of Ukraine, Kyiv)

ORGANIZATION ACTIVITIES

**Present:**

- Member of **Kyiv Mathematical Society 2017 – till now**

**Former:**

- Member of **Young Scientists Council** at Institute of Mathematics of NAS of Ukraine, **2018 – 2022**
- Secretary of **Young Scientists Council of the Department of Mathematics of NAS of Ukraine, 2017–2021**
- Secretary of **Kyiv Mathematical Society, 2017 – 2023**

**Conferences, schools and sessions organization:**

- International Conference of Young Mathematicians (Kyiv, 2015, 2017, 2019, 2021, 2023, 2026), member of the Organizing Committee
- “Science Days” (“Дні науки”) at Institute of Mathematics of NAS of Ukraine (Kyiv, 2014, 2015, 2016), member of the Organizing Committee, head of the local Organizing Committee (2018)
- International Conference “Geometry and Topology in Odesa” (Odesa, 2016), member of the Organizing Committee
- XI Summer School “Algebra, Topology and Analysis” (Odesa, 2016), member of the Organizing Committee
- International Conference “Morse theory and its applications” dedicated to the memory and 70th anniversary of Volodymyr Sharko (25.09.1949-07.10.2014) (Kyiv, 2019), member of the Organizing Committee
- Winter Mathematical School (Kyiv, 2020), head of the Organizing Committee
- International scientific online conference “Algebraic and geometric methods of analysis” dedicate to the memory of Yuriy Trokhymchuk (17.03.1928-18.12.2019), member of the Organizing Committee
- Grave’s readings (Kyiv, 2021, 2022, 2023)
- International scientific online conference “Algebraic and geometric methods of analysis” (Odesa, 2025, 2026)

PROFESSIONAL SERVICE

**Referee.** I am a member of Editorial board of **Proceedings of the International Geometrical Center** since **2024**.

I also have reviewed several papers for

- **Ukrainian Mathematical Journal**

- [Methods of Functional Analysis and Topology](#)
- [Proceedings of the International Geometrical Center](#)
- [Opuscula Mathematica](#)
- [Monatshefte für Mathematik](#)

and two textbooks:

- “Theory of Series. Elements of Theory of Functions of a Complex Variable. Operational Calculus” by Tamara Karpaluk, Inna Kopas, Nadia Reva, Ganna Zhuravska, – Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2024. – 316 p. ([full text](#))
- “Elements of category theory” by Oleh Nykyforchyn (in Ukrainian, 2024)  
Олег Никифорчин “Елементи теорії категорій” — Івано-Франківськ: Голіней О.В., 2024. — 119 с. (Передмова [тут](#))

**Teaching.** I have taught some courses for students at [Institute of Mathematics of NAS of Ukraine](#) and [Kyiv Academic University](#)

- Linear Algebra: Fall 2019
- Introduction to Differential Geometry: Spring–Fall 2020, Fall–Winter 2021
- Calculus: Fall 2020–Spring 2021
- Introduction to Category Theory: Fall–Winter 2021, Winter–Summer 2024
- General Topology, Winter–Summer 2023

**Other.** Expert of the Ministry of Education and Science of Ukraine for conducting scientific and technical expertise of objects in the field of scientific and technical activities (Order of the Ministry of Education and Science No. 982, July 12, 2024), **2024 – till now.**

## PUBLICATIONS LIST

- [1] Максименко С. И., **Фещенко Б. Г.** Гомотопические свойства пространств гладких функций на 2-торе. *Український математичний журнал*, 66(9), 1205–1212, 2014.  
English translation: Sergiy Maksymenko, **Bogdan Feshchenko**. Homotopy properties of spaces of smooth functions on 2-torus. *Ukrainian Mathematical Journal*, 66(9), 1205–1212, 2014. [arXiv:1401.2296](#)
- [2] Sergiy Maksymenko and **Bohdan Feshchenko**. Orbits of smooth functions on 2-torus and their homotopy types. *Matematychni Studii*, 44(1), 67–83, 2015. [arXiv:1409.0502](#)
- [3] Sergiy Maksymenko and **Bohdan Feshchenko**. Smooth functions on 2-torus whose Kronrod-Reeb graph contains a cycle. *Methods of Functional Analysis and Topology*, 21(1), 22–40, 2015. [arXiv:1411.6863](#)
- [4] **Богдан Фещенко**. Деформації гладких функцій на 2-торі, граф Кронрода-Ріба яких є деревом. *Праці Інституту математики НАН України*, 12(6), 22–40, 2015.  
English translation: **Bohdan Feshchenko**. Deformations of smooth function on 2-torus whose KR-graph is a tree. *Proceedings of National Academy of Sciences of Ukraine*, 12(6), 22–40, 2015. [arXiv:1804.08966](#)
- [5] **Bohdan Feshchenko**. Actions of finite groups and smooth functions on surfaces. *Methods of Functional Analysis and Topology*, 22(3), 210–219, 2016. [arXiv:1610.01219](#)
- [6] **Bohdan Feshchenko**. Deformations of smooth functions on 2-torus. *Proceedings of the International Geometry Center*, 12(3), 30–50, 2019. [arXiv:1903.01753](#)
- [7] Anna Kravchenko and **Bohdan Feshchenko**. Automorphisms of Kronrod-Reeb graphs of Morse functions on 2-torus. *Methods of Functional Analysis and Topology*, 26(1), 88–96, 2020. [arXiv:1912.00624](#)
- [8] **Bohdan Feshchenko**. Deformations of circle-valued functions on 2-torus. *Proceedings of the International Geometry Center* 14(2), 117–136, 2021. [arXiv:2104.06151](#)
- [9] **Bohdan Feshchenko** Homotopy type of stabilizers of smooth functions with non-isolated singularities on surfaces. *Topology and its Applications* 386:109830, (2026). [doi: 10.1016/j.topol.2026.109830](#), [arXiv:2305.08255](#)
- [10] **Богдан Фещенко**. Алгебраїчна структура фундаментальної групи орбіт гладких функцій на 2-торі. “Актуальні проблеми сучасної математики: методи, моделі та застосування” *Збірник праць Ін-ту математики НАН України*, 21(1), 205–216, 2024. (review paper, in Ukrainian).
- [11] **Bohdan Feshchenko**. Normal forms of functions with degenerate singularities on surfaces equipped with semi-free circle actions. [arXiv:2412.18944](#), 18 p., (in preparation, current version, 2024)