

## CURRICULUM VITAE

**Bogdana Oliynyk**

### **Official address**

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### **Current position**

Head of Mathematics Department, Professor

### **Research interests**

Group theory (transformation groups, wreath products, groups acting on trees); Semigroup theory (infinite transformation semigroups); Metric geometry (universal metric spaces, Hamming spaces, metric products, isometry groups); Dynamical Systems (shift spaces, automorphisms of shifts).

### **Education and degrees**

- 1996 M.S. in Mathematics (with honors) in Taras Shevchenko National University of Kyiv.
- 2002 Ph.D. defended in Taras Shevchenko National University of Kyiv. Thesis title: *“Isomorphic embeddings and Gromov–Hausdorff metric of finite metric spaces”*. Supervisor: Prof. Igor V. Protasov.
- 2014 Dr. Hab. (Doctor of Science) defended in Taras Shevchenko National University of Kyiv. Thesis title: *“Isometry groups and algebraically-combinatorial properties of metric spaces with conditions finiteness”*. Advisor: Prof. Volodymyr V. Kirichenko.

### **Professional career**

- from 02.09.2013 Head of Mathematics Department, National University of Kyiv-Mohyla Academy, Faculty of Computer Science (Ukraine).
- from 01.10.2017 to 31.01.2018 Visiting Professor, Silesian University of Technology, Institute of Mathematics (Poland).
- 2010–2013 Researcher working on habilitation, Taras Shevchenko National University of Kyiv, Mechanics and Mathematics Department (Ukraine).
- 2006–2010 Associate Professor, National University of Kyiv-Mohyla Academy, Faculty of Computer Science (Ukraine).
- 2001–2006 Assistant Professor at National University of Kyiv-Mohyla Academy, Faculty of Computer Science (Ukraine).

## **Membership in professional bodies/professional registration**

- Chief Editor of “Mohyla Mathematical Journal” .
- Member of the Academic Council of National University of Kyiv-Mohyla Academy.
- Member of the Scientific Council of the Ministry of Education and Science of Ukraine.
- Member of the Scientific and Methodic commission on biology, natural sciences and mathematics of the higher education sector of Scientific and Methodic Council of the Ministry of Education and Science of Ukraine.

## **Scholarships and prizes**

- Award of National University of Kyiv-Mohyla Academy named by Petro Mohyla (2010).
- Diploma Podolsk district state administration in Kyiv (2014).
- Diploma of the Scientific Council of the Ministry of Education and Science of Ukraine (2015).

## **Track record of grants**

- Project Leader of Grant 0112U005849 “Group representations, invariant theory and applications” of the The State Fund For Fundamental Researches of Ukraine and by Grant Ukraine 01/0007 of the Bulgarian Science Fund in the frames of the Bilateral Scientific Cooperation between Bulgaria and Ukraine (2013).
- Project of Grant “Cremona transformation and locally nilpotent derivation of algebra of polynomials: theory and applications to cryptography and coding information” of The State Fund For Fundamental Researches of Ukraine (2007, 2008, 2010).

## **Teaching Courses:**

- Dynamical Systems,
- Mathematical Models of Social Choice,
- Computational Geometry,
- Algorithms on Graphs,
- Discrete mathematics,
- Algebra and Geometry,
- Algebra and Number Theory,
- Mathematical logic and Theory of Algorithms,

- Complexity theory of algorithms,
- Cryptography.

#### **Textbooks for students:**

- Yu. V. Bodnarchuk, B.V. Oliynyk, Foundations of Discrete Mathematics, 2009, Kyiv-Mohyla Academy Publishing House.
- Yu. V. Bodnarchuk, B.V. Oliynyk, Linear Algebra and Analytic Geometry, 2011, Kyiv-Mohyla Academy Publishing House.

#### **Participation in congresses (The 5 most relevant in the last 5 years);**

- Symmetry vs Regularity, Pilsen, Czech Republic, July 1 - July 7, 2018.
- The Sixth International Conference on Analytic Number Theory and Spatial Tessellations, Kyiv, September 24-28, 2018.
- 7-th International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2018), August 28-31, 2018, Kyiv, Ukraine.
- Groups and Their Actions, Bedlewo (near Poznan), Poland, June 22–26, 2015.
- Conference on Geometric Group Theory, Wroclaw, Poland, June 29 – July 3, 2015.
- Talk on the Seminar of Algebra and Logic of Department of Algebra and Logic of Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences (December 2013).
- The 9-th International Algebraic Conference in Ukraine, L'viv, Ukraine, July 8–13, 2013.

#### **Selected Publications**

1. Oliynyk, B. *Isometry Group of Marczewski–Steinhaus Space*, Ukrainian Mathematical Bulletin, 2006, Vol. 3, No. 2, P. 251–257
2. Oliynyk, B. *Wreath product of metric spaces*, Algebra Discrete Math., 2007, No. 4, P. 123 – 130.
3. Oliynyk, B. *Isometry groups of non standard metric products*, Central European Journal of Mathematics, 2013, Vol.11, No.2, P. 264-273.
4. Oliynyk, B., Sushchanskii V. *The isometry groups of the Hamming spaces of periodic sequences*, Siberian Mathematical Journal. 2013. Vol. 54, no. 1, P. 124–136.
5. Oliynyk, B. *Infinitely iterated wreath products of metric spaces*, Algebra Discrete Math., 2013, Vol. 15, no. 1, P. 48–62.

6. Oliynyk, B. *The diagonal limits of Hamming spaces*, Algebra Discrete Math., 2013, Vol. 15, no. 2, P. 229–236.
7. Oliynyk, B., Sushchanskii V. *Imprimitivity systems and lattices of normal subgroups in  $D$ -hyperoctahedral groups*, Siberian Mathematical Journal. 2014. Vol. 55, no. 1, P. 165–177.
8. Oliynyk, B. *Isometric groups of an extended Hamming space and an infinite-dimensional hypercube*. (Ukrainian. English summary) Dopov. Nats. Akad. Nauk Ukr., Mat. Pryr. Tekh. Nauky 2013, No. 12, P. 25–29.
9. Gerdiy, O., Oliynyk, B. *On representations of permutations groups as isometry groups of  $n$ -semimetric spaces* Algebra Discrete Math., 2015, Vol. 19, No 1, P. 58–66.
10. Bezushchak O., Oliynyk B., Sushchansky V., *Representation of Steinitz's lattice in lattices of substructures of relational structures* Algebra Discrete Math., 2016, Vol. 21, No 2, P. 184–201.
11. Marharyta Dudenko, Bogdana Oliynyk, *On unicyclic graphs of metric dimension 2*, Algebra Discrete Math., 2017, Vol. 23, No. 2, P. 216-222 .
12. M. Kuzucuoğlu, B. Oliynyk , V. I. Sushchanskyy , *Homogeneous monomial groups and centralizers*, Communications in Algebra, 2018, Vol. 46, No. 2, P. 597–609.