



Marija Jelić Milutinović, PhD

Curriculum Vitae

PERSONAL DATA

E-mail: marija.jelic@matf.bg.ac.rs

Web page: <http://www.matf.bg.ac.rs/p/-marija-jelic>

Address: Studentski trg 16, 11000 Belgrade, Serbia

EDUCATION

- 2021 **PhD in Mathematics**
Department of Topology, Faculty of Mathematics, University of Belgrade
Thesis: Combinatorial topology and graph complexes
Advisor: Prof. dr Siniša Vrećica, GPA: 10,00 (out of 10,00)
Award for thesis: Annual Award of the Mathematical Institute of the Serbian Academy of Sciences and Arts in the field of mathematics and mechanics for PhD Students in 2021.
- 2013 **MSc in Mathematics**
Department of Topology, Faculty of Mathematics, University of Belgrade
Thesis: Equivariant index theory
Advisor: Prof. dr Siniša Vrećica, GPA: 10,00 (out of 10,00)
- 2012 **BA in Mathematics**
Faculty of Mathematics, University of Belgrade
GPA: 10,00 (out of 10,00)
Award: „The best student of generation at the University of Belgrade“
Award: „The best student of generation at the Faculty of Mathematics“
- 2004-2008 Mathematical Grammar School, Belgrade
(„Matematička gimnazija“- school with the High National Distinction Status)
Graduated as „The best student of generation“

APPOINTMENTS

- 2021-present **Assistant Professor**, Faculty of Mathematics, University of Belgrade
Courses held: Topology A, Topology B, Convex Analysis, Obvious topology, Mathematics 1
- 2015-2021 **Teaching Assistant**, Faculty of Mathematics, University of Belgrade
Courses held: Topology A, Topology B, Algebraic topology, Mathematical Analysis 1A, 1B, 1, and 3;
Obvious topology, Master courses in Topology
- 2016 Fall **Research Fellow at the Institute for Computational and Experimental Research in Mathematics**,
ICERM - Brown University, Providence, United States of America
- 2012-2015 **Teaching Associate**, Faculty of Mathematics, University of Belgrade
Courses held: Topology A, Topology B, Algebraic topology, Mathematical Analysis 1A and 1B,
Obvious topology
- 2012-2014 Teaching special mentoring program class of gifted students, Mathematical Grammar School, Belgrade

RESEARCH INTEREST

Combinatorial Topology, Algebraic Combinatorics, Algebraic Topology

PUBLICATIONS

- [1] *"Topology of cut complexes of graphs"*
SIAM Journal on Discrete Mathematics 38(2) (2024), 1630-1675
Authors: M. Bayer, M. Denker, M. Jelić Milutinović, R. Rowlands, S. Sundaram, and L. Xue.
- [2] *"Total Cut Complexes of Graphs"*
Discrete & Computational Geometry (2024) <https://doi.org/10.1007/s00454-024-00630-4>
Authors: M. Bayer, M. Denker, M. Jelić Milutinović, R. Rowlands, S. Sundaram, and L. Xue.
- [3] *"The Tripartite-Circle Crossing Number of Graphs With Two Small Partition Classes"*
Computing in Geometry and Topology 3(1)(2024), 9:1–9:21.
Authors: C. Camacho, S. Fernández-Merchant, M. Jelić Milutinović, R. Kirsch, L. Kleist, E. Bailey Matson, J. White
- [4] *"Perfect Matching Complexes of Honeycomb Graphs"*
Electronic Journal of Combinatorics, 30(2) P2.45 (2023)
Authors: M. Bayer, M. Jelić Milutinović, and J. Vega.
- [5] *"General polygonal line tilings and their matching complexes"*
Discrete Mathematics, vol. 346, Issue 7 (2023), 113428
Authors: M. Bayer, M. Jelić Milutinović, and J. Vega.
- [6] *"On the Topology of Cut Complexes of Graphs"*
Séminaire Lotharingien de Combinatoire 89B.8 (2023) Proceedings of the 35th Conference on Formal Power Series and Algebraic Combinatorics
Authors: M. Bayer, M. Denker, M. Jelić Milutinović, R. Rowlands, S. Sundaram, and L. Xue.
- [7] *"Matching complexes of trees and applications of the matching tree algorithm"*
Annals of Combinatorics 26 (2022), 1041–1075
Authors: M. Jelić Milutinović, H. Jenne, A. McDonough, and J. Vega.
- [8] *"Bounding the tripartite-circle crossing number of complete tripartite graphs"*
Journal of Graph Theory (2021), 1–23, <https://doi.org/10.1002/jgt.22763>.
Authors: C. Camacho, S. Fernández-Merchant, M. Jelić Milutinović, R. Kirsch, L. Kleist, E. Bailey Matson, J. White.
- [9] *"Manifold Matching Complexes"*
Mathematika 66(2020), 973–1002
Authors: M. Bayer, B. Goeckner, and M. Jelić Milutinović.
- [10] *"Combinatorics of unavoidable complexes"*
European Journal of Combinatorics 83(2020), 103004
Authors: M. Jelić Milutinović, D. Jojić, M. Timotijević, S. T. Vrećica, and R. T. Živaljević.
- [11] *"Bounding the tripartite-circle crossing number of complete tripartite graphs"- EUROCOMB 2019 publication*
Acta Mathematica Universitatis Comenianae 88(3)(2019), 515-520.
Authors: C. Camacho, S. Fernández-Merchant, M. Jelić Milutinović, R. Kirsch, L. Kleist, E. Bailey Matson, J. White.
- [12] *"Cyclohedron and Kantorovich-Rubinstein polytopes"*
Arnold Mathematical Journal, 4(1)(2018), 87-112
Authors: F.D. Jevtić, M. Jelić, and R. T. Živaljević.
- [13] *"On Knaster's problem"*
Marija Jelić, Publications de l'Institut Mathématique, 99(113)(2016), 43-49.
- [14] *"Methods of Equivariant Topology in Two Nice Discrete Geometry Problems"*
Marija Jelić, The Graduate Journal of Mathematics, 1(1) (2016), 18–27.

PREPRINTS

- [15] *"Topology of cut complexes of graphs II",*
arXiv:2407.08158, submitted.
Authors: M. Bayer, M. Denker, M. Jelić Milutinović, S. Sundaram, and L. Xue.
- [16] *"Matching Complexes of Outerplanar Graphs",*
arXiv:2411.04601, submitted.
Authors: M. Bayer, M. Jelić Milutinović, and J. Vega.

INTERNATIONAL MATHEMATICAL COMPETITIONS

- 2011 Second prize - 18th International Mathematics Competition for University Students IMC
2010 Second prize - 17th International Mathematics Competition for University Students IMC
2009 Second prize - 16th International Mathematics Competition for University Students IMC
2008 **Silver medal - 49th International Mathematical Olympiad**, Spain
2008 Silver medal - 25th Balkan Mathematical Olympiad, Republic of Macedonia
2008 **Gold medal – 1st Romanian Master in Mathematics**, Romania
2007 **Bronze medal - 48th International Mathematical Olympiad**, Vietnam
2007 Silver medal – International Arhimede contest, Romania
2007 Bronze medal - 24th Balkan Mathematical Olympiad, Greece
2006 **Bronze medal - 47th International Mathematical Olympiad**, Slovenia
2004 Silver medal - Junior Balkan Mathematical Olympiad, Serbia

** The first female participant from the area of former Yugoslavia who won three medals at International mathematical Olympiads (IMO).*

Physics competitions, 2004-2006: 3 first prizes at republic/federal physics competitions in Serbia and Montenegro

PROJECTS and GRANTS

- 2024-present Member of project **A-PLUS -Approximate Algebraic Structures of Higher Order: Theory, Quantitative Aspects and Applications**
Selected by Program for Excellent Projects of Young Researchers and Scientists in the Early Stage of Career – PROMIS 2023, financed by the Science Fund of the Republic of Serbia
Note: This project is the only project in pure mathematics selected by PROMIS 2023
- 2022-present Member of project **MEGIC -Integrability and Extremal Problems in Mechanics, Geometry and Combinatorics**, selected by program IDEAS, financed by the Science Fund of the Republic of Serbia
- 2020-present *Grant by the Ministry of Education, Science, and Technological Development of the Republic of Serbia, for the Faculty of Mathematics, no. 451-03-47/2023-01/ 200104 for year 2023.*
- 2020-2021 *Bilateral project between Slovenia and Serbia- Discrete Morse theory and its applications*
Project coordinators: Aleš Vavpetič (Institute for mathematics, physics and mechanics, University of Ljubljana, Slovenia) and Đorđe Baralić (Mathematical Institute SANU, Serbia)
- 2014-2019 *Project 174034 - Topology, geometry and global analysis on manifolds and discrete structures, financed from national funds*

ORGANIZING ACTIVITIES

- 2023 MSRI Special Session: Geometric and Topological Combinatorics
Joint Mathematics Meetings, Boston, USA, 2023. (with M. Bayer and J. Vega)

CONFERENCES, RESEARCH VISITS, TALKS

- 2024 Celebration on the occasion of prof. Siniša Vrećica and prof. Rade Živaljević 70th birthday
Mathematical Institute, Serbian Academy of Sciences and Arts, October 14 2024
Talk: Graph Complexes
- 2024 Combinatorial Algebraic Topology and Applications II, Italy
Invited talk: *Simplicial Complexes from Graphs*
- 2024 11th Heidelberg Laureate Forum, Germany
- 2022 XII Symposium "Mathematics and Applications", Belgrade, Serbia
Talk: *Cut Complexes of Graphs*
- 2022 29th British Combinatorial Conference, Lancaster, United Kingdom
Talk: *Cut Complexes*
- 2022 14th Nordic Combinatorial Conference, Tromsø, Norway
Talk: *Perfect Matching Complexes of Honeycomb Graphs*
- 2022 Copenhagen-Jerusalem Combinatorics Seminar
Talk: *Matching complexes of graphs & Manifolds*
- 2021 MSRI (Mathematical Sciences Research Institute, Berkeley, USA) Summer Research Program
Supported by the National Science Foundation (USA) under Grant No. DMS-1440140
Research program with M. Bayer and J. Vega.

- 2021 *Graduate Research Workshop in Combinatorics 2021*
- 2020 *Women in Quant Finance Event* (online event hosted by G-Research, London, UK)
- 2020 *Bay Area Discrete Math Day* (online event hosted by the University of California, Davis, USA)
- 2018 *TRIPODS Summer Bootcamp: Topology and Machine Learning*, ICERM, Providence, RI, USA
- 2018 *Graduate Research Workshop in Combinatorics*, Iowa, USA
- 2018 *Einstein Workshop Discrete Geometry and Topology*, FU Berlin, Germany
- 2017 *Introductory Workshop: Geometric and Topological Combinatorics*, MSRI, Berkeley, USA
- 2017 *Connections for Women Workshop: Geometric and Topological Combinatorics*, MSRI, Berkeley, USA
- 2017 *NSFOCS 2017*, Novi Sad Workshop on Foundations of Computer Science, Novi Sad, Serbia
Talk: *Combinatorics of unavoidable complexes*
- 2017 *Mathematics Research Communities Summer Conference "Beyond Planarity: Crossing Numbers"*, Utah, USA
- 2016 *Research Visit*, The University of Texas at Dallas, USA
- 2016 Fall ICERM - Institute for Computational and Experimental Research in Mathematics, Providence, RI, USA
Semester Program "Topology in Motion",
Workshops: *Unusual Configuration Spaces*,
Stochastic Topology and Thermodynamic Limits,
Topology and Geometry in a Discrete Setting
Talk: *On Knaster's Problem*
- 2016 *The Mathematics of Jiri Matoušek Conference*, Prague, Czech Republic
- 2016 *Rational Homotopy Theory Summer School*, Rabat, Morocco
- 2015 *Discrete Geometry Workshop*, Moscow, Russia
- 2015 *3rd Heidelberg Laureate Forum*, Heidelberg, Germany
- 2015 *BMS Summer school on Convex geometry - discrete and computational*, Berlin, Germany
- 2015 *Summer school on Computational topology*, ACAT 2015, Slovenia
- 2015 *Oberwolfach Seminar: Topological Combinatorics of Configuration Spaces*, Germany
- 2015 *HTCA 2015 - Homology: Theoretical and Computational Aspects*, Genoa, Italy
- 2015 *XXIst Oporto Meeting on Geometry, Topology and Physics - Applications of Topology*, Lisbon, Portugal
- 2012 *XVII Geometrical Seminar*, Zlatibor, Serbia
- 2010 *Geometry, Dynamics, Integrable Systems – GDIS*, Fruška Gora, Serbia
- 2008 *Geometry, Dynamics, Integrable Systems – GDIS*, Belgrade, Serbia

SOME SYNERGISTIC ACTIVITIES

- 2022 *Invited interview for the celebration of 10th anniversary of the European Girls Mathematical Olympiad*
<https://egmo2022.hu/videos/>
- 2022 *Presentation at the workshop „Perspectives of the young scientists in Serbia“, organized by the Student Seminar of the Mathematical Institute (Serbian Institute for Sciences and Arts)*
- 2018 *Coordinator at 35th Balkan Mathematical Olympiad*, Serbia
- 2017 *Coordinator at 6th European Girls' Mathematical Olympiad*, Switzerland
- 2016 *Deputy leader for Serbia team at 5th European Girls' Mathematical Olympiad*, Romania
- 2015 *Deputy leader for Serbia team at 4th European Girls' Mathematical Olympiad*, Belarus
- 2014 *Deputy leader for Serbia team at 3rd European Girls' Mathematical Olympiad*, Turkey
- 2013 *Deputy leader for Serbia team at 2nd European Girls' Mathematical Olympiad*, Luxembourg
- 2013 *Leader for the team of University of Belgrade at 7th SEEMOUS*, Athens, Greece
- 2012 *“May - the Month of Mathematics” event*, a volunteer
- 2012 *Deputy leader for Serbia team at Arhimede contest*, Romania
- 2011 *Award: „Winner of Club 27 for Science“, by Erste bank, for year 2010*
- 2009 *Member of Jury for the 26th Balkan Mathematical Olympiad*, Serbia