

Mirjana Mikalački, PhD

~ Curriculum Vitae ~

PERSONAL DATA

Name: Mirjana Mikalački (*maiden name: Rakić*)
Date and place of birth: February 21, 1984, Novi Sad, Serbia.
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PROFESSIONAL EXPERIENCE

- 2024 - Full Professor, University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics
- 2019 - 2024 Associate Professor, University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics
- 2014 - 2019 Assistant Professor, University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics
- 2009 - Teaching Associate for Informatics and Computer Science for talented children at “Jovan Jovanović – Zmaj” grammar school in Novi Sad
- 2009 - 2014 Research and Teaching Assistant at University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics
- 2007 - 2009 Junior Researcher and Teaching Assistant at University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics

EDUCATION

- 2014 PhD in Computer Science, University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics (advisor – Miloš Stojaković)
- 2007 BSc in Computer Science (four-year study programme, graduate thesis in the field of Computer Graphics), University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics, GPA: 9.93 (max 10.00)
- 2003 Grammar school “Jovan Jovanović - Zmaj”, Novi Sad

RESEARCH INTERESTS

Positional Games, Graph Theory, Graph Algorithms.

LANGUAGES

1. **Serbian** – mother tongue

2. **English** – fluent: passed CPE (Certificate of Proficiency in English) exam of the University of Cambridge in 2005
3. **German** – very good comprehension and writing

GRANTS - PARTICIPATION

1. 2025-2026 (Gr. Nr. 001545243 2025 13440 003 000 000 001 03 005): Bilateral cooperation project with Germany: *“Efficient strategies for securing sustainable networks”* (principal investigator)
2. 2023-2024: Bilateral cooperation project with France: *“Combinatorial and algorithmic aspects of positional games on graphs”*
3. 2022-2024: (ERASMUS+ KA2 action, grant Nr. KA210-SCH-ABDA6A90) **Computer supported Math teaching, COMPMATH**
4. 2021-2024: (Grant No. 142-451-2686/2021) Project of the Provincial Secretariat for Higher Education and Scientific Research *“Visible light technologies for indoor sensing, localization and communication in Smart Buildings”*
5. 2021-2022: Project of the Ministry of Education, Science and Technological Development within the activity "Development of Higher Education" **UVIS Unapređenje predmeta verovatnoće i statistike na osnovnim akademskim studijama informatike**
6. 2020-2022: (ERASMUS+ KA2: 2020-1-RS01-KA203-065388) Mathematics of the Future: Understanding and Application of Mathematics with the help of Technology, **FutureMath**
7. 2020-2021: (Grant No. 142-451-3227/2020) Short term project of the Provincial Secretariat for Higher Education and Scientific Research *“Igre i algoritmi na grafovima sa primenama na IoT mrežama velikih skala”*
8. 2018: Project of the Ministry of Education, Science and Technological Development within the activity "Development of Higher Education" **INTIMA/INF INoviranje Teorijsko-Informatičkih i MATematičkih predmeta na osnovnim akademskim studijama INFormatike**
9. 2017 (Grant No. 142-451-3727/2017) Project of the Provincial Secretariat for Higher Education and Scientific Research *“Digitalni vodič kroz turističke atrakcije AP Vojvodine”*(principal investigator)
10. 2017 (Grant No. 142-451-2787/2017) Short term project of the Provincial Secretariat for Higher Education and Scientific Research *“Razvoj novih metoda distribuirane komunikacije i obrade informacija u 5G Internetu Stvari – pilot projekat pripreme EU H2020 aplikacije”*
11. 2015-2018: SCOPES project 160453 *Developing Capacity for High-Productivity Large-Scale Computing.*
12. 2013-2015: Grant No. HUSRB/1203/221/024 - IPA project *“Non-Standard Forms of Teaching Mathematics and Physics: Experimental and Modeling Approach”*.
13. 2011-2014 (extended till 2019): Grant No.174019 of the Ministry of Education and Science of the Republic of Serbia, *“Numerical Linear Algebra and Discrete Structures”*.
14. 2011-2014 (extended till 2016): Grant of the Secretariat of Science and Technological Development of the Autonomous Province of Vojvodina, *“Applied Linear and Combinatorial Algebra”*.
15. 2010-2011: Grant No. HU-SRB/0901/221/088 - IPA project *“Teaching Mathematics and Statistics in Sciences: Modeling and Computer-aided Approach”*.
16. 2009-2010: Grant No. 144025 of the Ministry of Science of the Republic of Serbia *“Numerical Linear Algebra, Stochastics and Statistics with Applications”*.

ACTIVITIES WITHIN PROJECTS

1. M. Rakić, *Maths in modeling astronomical phenomena*, a chapter in electronic book Interesting Mathematical Problems in Sciences and Everyday Life (IPA HU-SRB/0901/2211/088), 2011.

AWARDS

- Faculty award “PMF – to sam ja”, for promoting the Faculty of Sciences, 2017

- Faculty award for the best teaching assistant on the Department of Mathematics and Informatics according to the students' opinion between 2009 and 2012.
- University award “Aleksandar Saša Popović”, for the best graduated Computer Scientist for achieving exceptional results in studying and in writing graduation thesis in academic year 2006/2007.
- Award from “Eurobank EFG”, within project “We invest in European values” for exceptional results in studying in 2006.

SCHOLARSHIPS

- DAAD research scholarship for one month research stay at Free University Berlin (August 2013).
- Scholarship from the Serbian Ministry of Science, in academic year 2007/2008 and 2008/2009 - Researcher on the Project of The Serbian Ministry of Science: “**Numerical Linear Algebra, Stochastics and Statistics with Applications**” (grant no. 144025).
- Scholarship from German Government and Industry and fund “dr Zoran Djindjic”, which covered 3.5 months internship in Siemens AG in Germany in 2007.
- Scholarship from the Serbian Ministry of Education and Sports, the Fund for talented Students, in academic year 2006/2007.
- University scholarship for Talented Students of the University of Novi Sad in academic year 2005/2006.
- Scholarship from the Serbian Ministry of Education and Sports in academic year 2004/2005.

ORGANIZATION OF WORKSHOPS AND CONFERENCES

1. *Third Novi Sad workshop on Foundations of Computer Science*, <https://www.dmi.uns.ac.rs/nsfocs/2024/index.html>, (joint with Miloš Stojaković, Marko Savić and Jelena Stratijev), Novi Sad, Serbia, July 22-26, 2024.
2. *Sparse Graphs Coalition 2021 Session 6: Positional games on sparse/random graphs* (co-organized with Miloš Stojaković) <https://sparse-graphs.mimuw.edu.pl/doku.php?id=sessions:2021sessions:2021session6>
3. *Second Novi Sad workshop on Foundations of Computer Science*, <https://www.dmi.uns.ac.rs/nsfocs/2017/index.html>, (joint with Miloš Stojaković, Marko Savić, Nikola Trkulja and Jelena Knežević), Novi Sad, Serbia, July 17-21, 2017.
4. *Novi Sad workshop on Foundations of Computer Science*, <https://www.dmi.uns.ac.rs/nsfocs/2015/index.html>, (joint with Miloš Stojaković, Marko Savić and Nikola Trkulja), Novi Sad, Serbia, July 20-24, 2015.
5. *Pannonian Mathematical Modelling conference* – in the auspice of the IPA project Non-Standard Forms of Teaching Mathematics and Physics: HUSRB/1203/221/024 – (joint with Arpad Takači, Đurđica Takači, Aleksandar Takači, Srđan Škrbić and Miroslav Marić), Novi Sad, Serbia, April 25-26, 2015.
6. *VI International Conference of Teaching and Learning mathematics* – in the auspice of the IPA project Non-Standard Forms of Teaching Mathematics and Physics: HUSRB/1203/221/024 – (joint with Arpad Takači, Đurđica Takači, Gordana Stankov, Aleksandar Takači, Srđan Škrbić and Miroslav Marić), Novi Sad, Serbia, January 23-25, 2015.

RESEARCH VISITS

1. Research visit to LIRIS, Lyon, France, bilateral cooperation (dec 2024, nov 2023).
2. Research visit to TUHH, Germany, to work with the group of Prof. Anusch Taraz (July 2025, Nov 2018, April 2022).

3. Research visit to FU Berlin, Germany to work with the group of Prof. Tibor Szabó (1.8 – 31.8.2013).
4. Research visit to University of Birmingham, UK, to work with Dan Hefetz (3.3 – 9.3.2013)

PHD STUDENTS

Jovana Forcan, PhD Thesis: Maker-Breaker games on graphs (defended January 2022)
 Maria Kiss (since 2018)

PARTICIPATION IN COURSES, WORKSHOPS AND SUMMER/WINTER SCHOOLS

1. 3rd Workshop on games on graphs, Rogla, Slovenia, 16-20 June 2025.
2. 2nd Workshop on games on graphs, Rogla, Slovenia, 10-15 June 2024.
3. Workshop on Probabilistic and extremal combinatorics, Hamburg, Germany, 18-21 March 2024.
4. 1st Workshop on games on graphs, Rogla, Slovenia, 11-16 June 2023.
5. The Mathematics of Jiří Matoušek Prague, Czech Republic, 23 – 28 July 2016.
6. Symposium on Discrete Mathematics, Berlin, Germany, 15-16 July 2016.
7. TRAIN (Training & Research for Academic Newcomers) programme – Preparing of the project applications and project managing, Novi Sad, April 2016.
8. 7th Emlektabla Workshop on Discrete Geometry, Balatonalmadi, Hungary (29.6.-2.7.2015).
9. Workshop in Combinatorics, Szeged, Hungary (7.3.-9.3. 2014).
10. Oberwolfach seminar *Positional games*, MFO, Germany (19.5.-25.5.2013).
11. 4th Emlektabla Workshop on Positional Games, Tihany, Hungary (6.8.-9.8.2012).
12. CEEPUS Summer school 2012 – *Nature in Mathematics*, Košice, Czech Republic (7.7.-21.7.2012).
13. *Spring School in discrete probability, ergodic theory and combinatorics*, Graz, Austria (4.4.-15.4.2011).
14. "*Biomedical Image Analysis and Bioinformatics*", Course in the auspice of the DAAD-Project Center of Excellence for Applications of Mathematics, Vrnjacka Banja, Serbia (24.9.-30.9.2010),
15. Math-Info2010 - *Towards new interactions between Mathematics and Computer Science*, Marseille, France (1.3.-5.3.2010).
16. *NoNA Summer School on Complexity Theory*, St. Petersburg, Russia (12.8.-16.8.2009).
17. *Winter School on Network Optimization*, Estoril, Portugal (19.1.-23.1.2009).
18. (Pre)DocCourse on "*Quasirandom and Random Graphs*", Humboldt-University Berlin, Berlin (June 2008).

TALKS

1. *The burning game on graphs*, EUROCOMB 2025, Budapest
2. *Multistage Maker-Breaker games*, Constructive and Probabilistic Methods in Combinatorics, Zagreb, Hrvatska, september 2023
3. *Multistage Positional Games*, The 24th Japan Conference on Discrete and Computational Geometry, Graphs, and Games (online), september 2022.
4. *The Game of Toucher and Isolator*, EUROCOMB 2021, Barcelona (online)
5. *The Toucher-Isolator game*, 28th British Combinatorial Conference, Durham (online), 2021.
6. *Positional games*, KWIM-Festtage, Konstanz, Germany (6 – 7.12.2018.) - invited talk

7. *Fast winning strategies in biased Maker-Breaker graph games*, TUHH, Hamburg, Germany (27th November 2018)
8. *Fast winning in positional games on graphs*, GAG Workshop, Lyon, France (23-25.10.2017)
9. *Winning fast in biased Maker-Breaker games*, EUROCOMB 2017, Vienna, Austria (28.8 – 2.9.2017)
10. *Maker-Breaker tournament game*, 7th European Congress of Mathematics, Berlin, Germany, (18.7 – 22.7.2016)
11. *Winning fast in fair biased Maker-Breaker games*, EUROCOMB 2015, Bergen, Norway (31.8 – 4.9.2015)
12. *How fast can Maker win in biased games on $E(K_n)$?*, 5PCC (5th Polish Combinatorial Conference), Bedlewo, Poland (22.9 – 26.9.2014)
13. *Avoider-Enforcer star games*, Workshop in Combinatorics, Szeged, Hungary (7.3 – 9.3. 2014)
14. *Avoider-Enforcer star games*, EUROCOMB 2013, Pisa, Italy (9.9-13.9.2013)
15. *Doubly biased Maker-Breaker Connectivity game*, Combinatorics Seminar, University of Birmingham, UK (7th March 2013)
16. *Doubly biased Maker – Breaker Connectivity game*, 4PCC (4th Polish Combinatorial Conference), Bedlewo, Poland (17.9 – 21.9.2012)
17. *On doubly biased Maker-Breaker games*, CSM 2 (The second Conference of PhD Students in Mathematics), Szeged, Hungary (28.6 – 30.6.2012)
18. *"Maths, Computer graphics and the Solar System"*, Fall Cultural Festival, Szeged, Hungary (October 2011)
19. *Doubly biased Maker – Breaker Connectivity game*, Spring School in discrete probability, ergodic theory and combinatorics, Graz, Austria (4.4 – 15.4. 2011)
20. *Doubly biased Connectivity game*, CSM (The first Conference of PhD Students in Mathematics), Szeged, Hungary (29.6 – 2.7.2010)

TEACHING

University of Novi Sad, Faculty of Sciences

1. Combinatorics, Probability and Statistics
(for students of IT winter semester 2020/2021, ..., 2024/2025)
2. *Automata and algorithms*
(for students of IT summer semester 2020/21, ..., 2024/2025)
3. *Programming I*
(for students of Mathematics summer semester 2020/21, ..., 2024/2025)

Until 2019 I was teaching the following courses:

4. *Office Software – Beginner's course*
(for students of Physics and Chemistry 2014/15 .. 2018/19)
5. *Informatics*
(for students of Optometry 2014/15 .. 2018/19)
6. *Office Software – Advanced course*
(for students of Physics 2014/15 .. 2018/19)

I was a teaching assistant for the course *Graph Theory* (for Master students of Computer Science 2011/12 .. 2017/18) lecturer: M. Stojaković and *Graph Theory* (for Master students of Applied mathematics - Data science since 2016/2017)

Between 2007 and 2015 I was a Teaching Assistant for the following courses:

7. *Office Software – Beginner’s course*
(for students of Physics and Chemistry 2007/08 .. 2009/10) lecturer: M. Stojaković
8. *Office Software – Advanced course*
(for students of Physics and Chemistry 2008/09) lecturer: M. Stojaković
9. *Business Informatics*
(for students of Financial Mathematics 2007/08 .. 2013/14) lecturer: Đ. Herceg
10. *Foundations of Informatics 2*
(for students of Mathematics 2007/08) lecturer: M. Stojaković
11. *Programming I*
(for students of Mathematics 2008/09 .. 2014/15) lecturer: M. Stojaković
12. *Programming I*
(for students of Financial Mathematics 2011/12) lecturer: M. Stojaković
13. *Informatics*
(for students of Optometry 2008/09, 2009/10) lecturer: M. Stojaković
14. *WebDesign*
(for students of Computer Science 2009/10, 2010/11) lecturer: V. Kurbalija