

ZORAN MARKOVIĆ

BIOGRAPHY



Dr Zoran Marković was born on the 24th of January 1948 in Belgrade. He completed both his primary and secondary education in Belgrade. He graduated in 1971 from the Group of Mathematics at the Faculty of Natural Sciences and Mathematics in Belgrade. He completed his postgraduate studies in Mathematical Logic and obtained his master's degree in May 1974 at the Faculty of Natural Sciences and Mathematics in Belgrade. He received his doctorate in May 1979 from the University of Pennsylvania in Philadelphia, USA. The doctoral thesis successfully underwent the procedure of nostrification at the Faculty of Natural Sciences and Mathematics in Belgrade. From the 1st of January 1972, he was employed at the Mathematical Institute in Belgrade, where he obtained the titles of research associate (1980), senior research associate (1986) and scientific advisor (2006). In 1974/1975 he completed his military service. He further improved his studies at the University of Pennsylvania in Philadelphia, USA, where he spent three years (1975–1979) and, for one academic year, he held lectures at the University of California in Berkeley, USA, as a visiting Assistant Professor. In 1986, he was appointed Assistant Professor for up to 1/3 of a professor's time at the Faculty of Mathematics in Belgrade, and Associate Professor (in 1989 and 2006). In 1985 he served as the acting director of the Mathematical Institute SANU. On the 1st of June 1986, he was appointed Head of the said Institute. In 1992/1993 he took study trips to Amsterdam and Athens. In 1994, 2003 and 2006, he was re-appointed Head of the Institute, a position he held until 2014. During 1987 and 1988 he led the subproject "Mathematical Aspects of Artificial Intelligence". He also led the subproject "General Cryptographic Mechanisms for Data Protection and Implementation Services" (from 1998 to 2000) and from 2005 to 2006 he managed the project 6411 "Win Logon System Based on Smart Cards for Secure Access Control of Workstations". Furthermore, he participated in the following HORIZON projects: "NUCLEUS – New Understanding of Communication, Learning and Engagement in Universities and Scientific Institutions" (from 2015 to 2019) and "LeTSGEPs – Leading Towards Sustainable Gender Equality Plans in research performing organizations" (from 2020 to 2023). He is the recipient of the award of the Serbian Academy of Sciences and Arts in the field of mathematics and related sciences for 2013 and MISANU Award for 2021.

Important socio-professional activities

- Member and President of the Council of the Mathematical Institute SANU (1982–1984)
- Member and Deputy Chairman of the Mathematics Committee of RSIZ [Self-Managing Community of Interest] for Science (1986–1990)

- Member of the Board of the Science Fund of the Republic of Serbia (1990–1991) and member of the Fund’s numerous committees (for investments, for writing regulations, etc.)
- Member of the Science Council of the Ministry of Science (1992–1996)
- Member of the Council of the Institute of Informatics SANU (1989–1994)
- Member of organizational or program committees of a number of scientific meetings and conferences.
- Head of the Seminar for Mathematical Logic of the Mathematical Institute SANU (1990–1992)
- Member of the Scientific Council of the Mathematical Institute SANU (1985–).

Teaching activities

- Assistant Professor (up to 1/3 of a professor’s time) at the University of Kragujevac (1982–1984)
- Visiting Professor at the University of California, Berkeley (1985)
- Visiting Professor at the University of California, Davis (1985)
- Assistant Professor (up to 1/3 of a professor’s time) at the Faculty of Mathematics of the University of Belgrade (1986–1989)
- Associate Professor (up to 1/3 of a professor’s time) at the Faculty of Mathematics of the University of Belgrade (1989-), (subjects: Mathematical Logic, Algebra, Theory of Algorithms, Theory of Formal Languages and Automata)
- Several postgraduate courses within the Seminar for Mathematical Logic of the Mathematical Institute SANU (Descriptive Set Theory and Theory of Recursive Functionals)
- Mentor of the doctoral dissertation by Dr Mirjana Šovljanski
- Member of a number of commissions for the review and evaluation and/or defense of doctoral dissertations and master's theses.

Dr Zoran Marković participated in initiating and implementing numerous initiatives at the Mathematical Institute. Apart from regular duties as head of the Institute, he also participated in the following activities:

- Introduction of personal computers in business activities and scientific work of the Institute (in 1986 the Institute did not have a single computer);
- Transition to “desk-publishing” of all editions of the Institute;
- Development of an information system for monitoring the projects of the Mathematical Institute (1988) – as the initiator and co-author of the project;
- Development of the information system of the Board of RSIZ [Self - Managing Community of Interest] for Science (1989) (co-author);
- Development of one part of the information system of the Science Fund of the Republic of Serbia (1990);
- Design and creation of researchers’ databases for the Ministry of Science and Technology of the Republic of Serbia (1994);
- Introduction of a comprehensive information system of the Mathematical Institute (library, projects, computing, financial operations, personnel service, archives) (1994–1996);
- Introduction of the system of evaluation and rewarding of scientific associates of the Institute;
- Introduction of the rulebook for financing scientific trips of the Institute’s associates;

- Organization of submitting reports for national scientific projects coordinated by the Mathematical Institute (1985), as well as the formation and implementation of new projects whether scientific (1986 RSIZ for Science, 1988 Ministry of Development of SFRY, 1991 Republic Science Fund, 1996, 2002, 2006, 2010 Ministry of Science of the Republic of Serbia), or innovation and strategic-technological projects.
- Organization of activities related to the procurement of scientific literature in the circumstances of international sanctions and the blockade of the Federal Republic of Yugoslavia (around 50–100 scientific journals and a large number of books were procured due to the great engagement of associates);
- Organization of the local *Zentralblatt für Mathematik* editorial office, including the development of the information system;
- Organization of the 40th, 50th and 60th anniversaries of the Mathematical Institute;
- Reorganization of the editorial board of the journal *Publications de l'Institut Mathématique*.

BIBLIOGRAPHY

1. **Marković, Z.** (1977). Reduced products of saturated intuitionistic theories. *Publications de L'Institute Matematique*, 21(35), 131–133.
2. **Marković, Z.** (1979). An intuitionistic omitting types theorem. *Publications de L'Institute Matematique*, 25(40), 167–169.
3. **Marković, Z.** (1981). On Axiomatizability and Preservation in Kripke Models. *Publications de L'Institute Matematique*, 30(44), 1981, 111–112.
4. **Marković, Z.** (1983). On reduced products of Kripke models. *Publications de L'Institute Matematique*, 34(48), 117–120.
5. **Marković, Z.** (1983). Some preservation results for classical and intuitionistic satisfiability in Kripke models. *Notre Dame Journal of Formal Logic*, 24, 395–398.
6. **Marković, Z.** (1984). Kripke Models for Intuitionistic Theories with Decidable Atomic Formulas. *Publications de L'Institute Matematique*, 36(50), 3–7.
7. Mijajlović, Ž., **Marković, Z.** & Došen, K. (1986). Hilbert's problems and logic. (Hilbertovi problemi i logika). (Serbo-Croat). *Matematička Biblioteka*, 48. Beograd: Zavod za Udžbenike i Nastavna Sredstva.
8. **Marković, Z.** (1993). On the structure of Kripke models of Heyting arithmetic. *Zeitschrift für mathematische Logik und Grundlagen der Mathematik*, 39, 531–538.
9. Rakić, M. & **Marković, Z.** (1993). Optimal short-term operation planning of interconnected hydro-thermal power systems. *Yugoslav Journal of Operations Research*, 3(1), 73–102.
10. **Marković, Z.** (1995). Omitting types in Kripke models. *Filomat*, 9(3), 803–807.
11. **Marković, Z.** (1998). Intuitionistic and classical satisfiability in Kripke Models. *Facta Universitatis, Series: Mathematics and Informatics*, 13, 1–5.
12. Mijajlović, Ž. & **Marković, Z.** (1998). Some recurrence formulas related to the differential operator θD . *Facta Universitatis, Series: Mathematics and Informatics*, 13, 7–17.

13. Rašković, M., Đorđević, R. & **Marković, Z.** (2001). A Logic of Approximate Reasoning. *Publications de L'Institute Matematique*, 69(83), 8–12.
14. **Marković, Z.**, Ognjanović, Z., & Rašković, M. (2003). A Probabilistic Extension of Intuitionistic Logic. *Mathematical Logic Quarterly*, 49(5), 415–424.
15. **Marković, Z.**, Ognjanović, Z., & Rašković, M. (2003). An intuitionistic logic with probabilistic operators. *Publications de L'Institute Matematique*, 73(87), 31–38.
16. Rašković, M., Ognjanović, Z., **Marković, Z.** (2003). A Conditional Probability Logic. In S. Radomir & M. Claudio (Eds.), *Proceedings of the Workshop on Computational Intelligence and Information Technologies*. Nis: Faculty of Electronic Engineering Niš; Dept. of Comp. Science University of Dortmund Germany.
17. Rašković, M., Ognjanović, Z., **Marković, Z.** (2004). A Probabilistic Approach to Default Reasoning. In J. Delgrande & Torsten Schaub (Eds.), *Proceedings of the 10th International workshop on Non-monotonic reasoning NMR 2004* (pp. 335–341). Whistler, BC, Canada. ISBN 92-990021-0-X
18. **Marković, Z.**, Ognjanović, Z., & Rašković, M. (2004). What is the Proper Propositional Base for Probabilistic Logic? In L.A. Zadeh (Ed.), *Proceedings of the Information Processing and Management of Uncertainty in Knowledge-Based Systems Conference IPMU 2004* (pp. 443–450). Perugia, Italy. ISBN 88-87242-54-2
19. Rašković, M., Ognjanović, Z., & **Marković, Z.** (2004). A Logic with Conditional Probabilities. In J.J. Alferes & J. Leite (Eds.), *Logics in Artificial Intelligence. JELIA 2004. Lecture Notes in Computer Science*, 3229 (pp. 226–238). Springer, Berlin, Heidelberg. doi: 10.1007/978-3-540-30227-8_21
20. Ognjanović, Z., Ikodinović, N., & **Marković, Z.** (2005). A logic with Kolmogorov style conditional probabilities. In *Proceedings of the 5th Panhellenic logic symposium* (pp. 111–116). Athens, Greece.
21. **Marković, Z.**, Rašković, M., & Ognjanović, Z. (2005). Completeness Theorem for a Logic with imprecise and conditional probabilities. *Publications de L'Institute Matematique*, 78(92), 35–49.
22. Ognjanović, Z., **Marković, Z.** & Rašković, M. (2006). Completeness Theorem for a Logic with Imprecise and Conditional Probabilities. *2005 Summer Meeting of the Association for Symbolic Logic, Logic Colloquium '05, Bulletin of Symbolic Logic*, 12(2), 357.
23. Ikodinović, N., Rašković, M., **Marković, Z.** & Ognjanović, Z. (2007). Measure Logic. In K. Mellouli (Ed.), *Proceedings of the 9th European Conference Symbolic and Quantitative Approaches to Reasoning with Uncertainty ECSQARU-2007* (pp. 128–138). Springer, Berlin, Heidelberg. ISBN:978-3-540-75255-4
24. Rašković, M, Ognjanović, Z., **Marković, Z.**, Ikodinović, N., & Perović, A. (2007). Logics with probabilistic operators. (Serbian) In M. Čangalović et al. (Eds.), *XXXIV simpozijum o operacionim istraživanjima, SYM-OP-IS 2007, Zbornik Radova* (pp. 649–651). Beograd: Fakultet Organizacionih Nauka. ISBN 978-86-7680-124-4

25. Perović, A., Ognjanović, Z., Rašković, M., & **Marković, Z.** (2008). A Probabilistic Logic with Polynomial Weight Formulas. In S. Hartmann & G. Kern-Isberner (Eds.), *Foundations of Information and Knowledge Systems. FoIKS 2008. Lecture Notes in Computer Science, 4932* (pp. 239–252). Springer, Berlin, Heidelberg. doi: 10.1007/978-3-540-77684-0_17
26. Rašković, M., **Marković, Z.**, & Ognjanović, Z. (2008). A Logic with Approximate Conditional Probabilities that can Model Default Reasoning. *International Journal of Approximate Reasoning, 49*(1), 52 – 66. doi:10.1016/j.ijar.2007.08.006
27. Perović, A., Ognjanović, Z., Rašković, M., & **Marković, Z.** (2008). How to Restore Compactness into Probabilistic Logics? In S. Hölldobler, C. Lutz & H. Wansing (Eds.), *Logics in Artificial Intelligence. JELIA 2008. Lecture Notes in Computer Science, 5293* (338–348). Springer, Berlin, Heidelberg. doi: 10.1007/978-3-540-87803-2_28
28. Ognjanović, Z., Rašković, M., & **Marković, Z.** (2009). Probability logics. In Z. Ognjanović (Ed.), *Zbornik radova, subseries Logic in computer science, 12*(20) (pp. 35–111). Matematički institut, Beograd. ISBN 978-86-80593-40-1
29. Perović, A., Ognjanović, Z., Rašković, M. & **Marković, Z.** (2009). Qualitative Possibilities and Necessities. In C. Sossai & G. Chemello (Eds.), *Symbolic and Quantitative Approaches to Reasoning with Uncertainty, Proceedings of the 10th European Conference, ECSQARU-2009, Lecture Notes in Artificial Intelligence, 5590* (pp. 651–662). Springer, Berlin, Heidelberg. doi: 10.1007/978-3-642-02906-6.
30. **Marković, Z.** (2010). Modification of TOPSIS method for solving of multicriteria tasks. *Yugoslav Journal of Operations Research, 20*(1), 117–143. doi: 10.2298/YJOR1001117M
31. Doder, D., Rašković, M., **Marković, Z.** & Ognjanović, Z. (2010). Measures of inconsistency and defaults. *International Journal of Approximate Reasoning, 51*, 832–845. doi:10.1016/j.ijar.2010.05.007
32. Doder, D., Ognjanović, Z. & **Marković, Z.** (2010). An Axiomatization of a First-order Branching Time Temporal Logic. *Journal of Universal Computer Science, 16*(11), 1439–1451. ISSN 0948-695x, online edition: ISSN 0948-6968
33. Doder, D., **Marković, Z.**, Ognjanović, Z., Perović, A. & Rašković, M. (2010). A Probabilistic Temporal Logic That Can Model Reasoning about Evidence. In: S. Link & H. Prade (Eds.), *Foundations of Information and Knowledge Systems, FoIKS 2010, Lecture Notes in Computer Science, 5956* (pp. 9–24). Springer, Berlin, Heidelberg. doi: 10.1007/978-3-642-11829-6_4
34. Ognjanović, Z., Doder, D. & **Marković, Z.** (2011). A Branching Time Logic with Two Types of Probability Operators. In S. Benferhat & J. Grantin (Eds.), *Scalable Uncertainty Management, Proceedings of the 5th International Conference, SUM 2011, Lecture Notes in Artificial Intelligence, 6929* (pp. 219–232). Springer, Berlin, Heidelberg. doi: 10.1007/978-3-642-23963-2
35. Ognjanović, Z., **Marković, Z.**, Rašković, M., Doder, D. & Perović, A. (2012). A propositional probabilistic logic with discrete linear time for reasoning about evidence.

Annals of Mathematics and Artificial Intelligence, 65(2-3), 217–243. doi: 10.1007/s10472-012-9307-9

36. Ognjanović, Z., Rašković, M., **Marković, Z.** & Perović, A. (2012). On probability logic. *The IPSI BgD Transactions on Advanced Research*, 8(1), 2–7. ISSN 1820-4511
37. Borisavljević, M., Ghilezan, S., Janičić, P., Krapež, A., Kurilić, M., Mijajlović, Ž., **Marković, Z.**, Ognjanović, Z., Pantović, J., Petrić, Z., Stanković, M.S., Stanković, R.S., Stojmenović, I. & Vukomanović, Đ. (2013). History of Mathematical Logic in Serbia. In A. Schumann (Ed.), *Logic in Central and Eastern Europe, History, Science, and Discourse* (pp. 470–495). University Press of America. ISBN: 978-0-7618-5891-1
38. Ikodinović, N., Rašković, M. & **Marković, Z.** (2013). Logics with Generalized Measure Operators. *Journal of Multiple-Valued Logic and Soft Computing*, 20(5-6), 527–555. ISSN 1542-3980
39. Stošović, M., Rašković, M., Ognjanović, Z. & **Marković, Z.** (2013). Transforming Electronic Medical Books to Diagnostic Decision Support Systems Using Relational Database Management Systems. In G. Rakocevic, T. Djukic, N. Filipovic & V. Milutinović (Eds.), *Computational Medicine in Data Mining and Modeling* (pp. 79–103). Springer, New York. doi: 10.1007/978-1-4614-8785-2
40. Ikodinović, N., Rašković, M., **Marković, Z.** & Ognjanović, Z. (2014). A first-order probabilistic logic with approximate conditional probabilities. *Logic Journal of the IGPL*, 22(4), 539–564, doi:10.1093/jigpal/jzt048
41. Ikodinović, N., Ognjanović, Z., Rašković, M. & Marković, Z. (2015). First-order probabilistic logics and their applications. *Zbornik Radova*, 18(26), 37–78. ISSN: 0351-9406, ISBN: 978-86-80593-57-9
42. Ognjanović, Z., Rašković, M. & **Marković, Z.** (2016). *Probability Logics. Probability-Based Formalization of Uncertain Reasoning*. Springer International Publishing. doi: 10.1007/978-3-319-47012-2