Siniša Crvenković

Personal

Born 1949 in Vršac, Serbia.
Married to Prof. dr Zagorka Lozanov-Crvenkovic, two children: Nikola and Marko, two granddauthers: Višnja and Danica.

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Education and Degrees

- B.Sc. in Mathematics: University of Novi Sad, 1972.
- M.Sc. in Mathematics: University of Belgrade, 1978/1979.
- Thesis: Some Classes of Completely Regular Semigroups.
- Ph.D. in Mathematics: University of Novi Sad, 1981.
- Thesis: On Some Classes of Semigroups.

Positions Held

- 1981-1984: Assistant Professor, Institute of Mathematics, Faculty of Sciences, University of Novi Sad.
- 1984-1985: Adjunct Associate Professor, Department of Mathematical Sciences, University of Arkansas, Fayetteville, Arkansas, U.S.A.
- 1986-1992: Associate Professor, Institute of Mathematics, Faculty of Sciences, University of Novi Sad.
- 1992-2017: Full Professor, Institute/Department of Mathematics (and Informatics), Faculty of Sciences, University of Novi Sad.

- 1999-2017: Full Professor, Faculty of Science, University of Banja Luka, Republic of Srpska, Bosnia and Herzegovina.
- 2021-2022: Alfa BK University Belgrade.
- Fall 2000: Visiting Professor, Department of Mathematics and Statistics, University of New Brunswick, Canada.
- Fall 2001: Visiting Professor (an LMS fellow), Department of Pure Mathematics, University of St Andrews, Scotland, UK.
- Fall 2005: Visiting Professor, Department of Mathematics, Politecnico di Milano, Italy.

Education Related Activities

- 1990-1992: Head of Algebra, Institute of Mathematics, Faculty of Sciences, University of Novi Sad.
- 1996-2002: Head of Algebra and Discrete Mathematics, Institute of Mathematics, Faculty of Sciences, University of Novi Sad.
- 2004-2012: Head of General Algebra and Theoretical Computer Science, Department of Mathematics and Informatics, Faculty of Sciences, University of Novi Sad.
- 1990-1994: Gymnasium J. J. Zmaj, Teaching Professor at special classes for gifted children.

Courses Conducted

Analysis of Algorithms, Formal Languages and Automata, Theory of Algorithms, Methodology of Mathematical Education, Linear Algebra, General Algebra, Mathematical Logic and Set Theory.

Research Interests

Universal Algebra, Semigroup Theory, Algorithmic Problems in Algebra, Theory of Automata and Formal Languages, Philosophy and History of Mathematics.

Ph.D. Students

Ph.D. students: Rozalia Madarasz, Igor Dolinka, Milovan Vincic, Ivan Pavkov.

Invited Lectures and Conference Talks

- 10 invited lectures at international conferences.
- about 20 invited lectures at mathematical seminars at the following universities and institutions: Jozsef Attila University Szeged, University of Nis, University of Skopje, Mathematical Institute of the Hungarian Academy of Sciences, Mathematical Institute of

the Serbian Academy of Sciences and Arts, University of Arkansas, University of New Brunswick, University of St Andrews, University of Banja Luka, Alfa BK University Belgrade, Faculty of Sciences and Mathematics, University of Maribor, Slovenia.
- about 30 talks at international conferences in Austria, Czechoslovakia, Germany, Hungary, Poland, U.S.A., Russia, Bosnia and Hercegovina, North Macedonia and Serbia.

Memberships in Professional Organizations

- 1989-: Member of the AMS and a referee for the Mathematical Reviews.
- 1993-2001: Head of the Board of Trustees of Serbian Mathematical Society.
- 2016-: Member of the Board of Trustees of Society of Mathematicians of Novi Sad.

Fellowships

- IREX Postdoctoral Fellowship in the Mathematical Sciences, 1984-1985.

Other Professional Activities

- 1986: Member of the Editorial Board of the Proceedings of the 5th Conference "Algebra & Logic" (Cetinje, 1985).
- 1989: Editor of the Proceedings of the 6th Conference "Algebra & Logic" (Sarajevo, 1987).
- 1999: Co-editor of the Proceedings of the 8th Conference "Algebra & Logic" (Novi Sad, 1998).
- 1997-2000: Supervisor at the Regional Center for the Gifted Children, Novi Sad.
- 2003-: Member of the Editorial Board of the Bulletin of Society of Mathematicians of Banja Luka.
- 2007: Editor of the Proceedings of the II Novi Sad Algebraic Conference – NSAC 2005 (Novi Sad, 2005).
- 2014-: Member of Advisory Board of the Publications de l'Institut Mathématique, Mathematical Institute of the Serbian Academy of Sciences and Arts, Belgrade, Serbia.
- 2005-: Member of Editorial Board of the Bulletin of Society of Mathematicians Banja Luka, Bosnia and Hercegovina.

Books

1. S.Crvenkovic and R.Tosic, *A Collection of Problems in Theory of Algorithms*, v+99 pages, University of Novi Sad, 1980. (in serbian)
2. R.Sz.Madarasz and S.Crvenkovic, *Relation Algebras*, xiii+230 pages, Mathematical Institute of the Serbian Academy of Sciences and Arts, Belgrade, 1992. (in serbian)
3. R.Sz.Madarasz and S.Crvenkovic, *An Introduction to the Theory of Automata and Formal Languages*, University Textbook Series, Vol. 15, v+208 pages, University of Novi Sad, 1995. (in serbian)

4. S.Crvenkovic, *450 Years of Ars Magna - The Beginning of Algebra,* 38 pages, Prosvetni pregled, Belgrade, 1996. (in serbian)
5. S.Crvenkovic, I.Dolinka and R Sz.Madarasz, *Selected Topics in General Algebra: Groups, Rings, Fields, Lattices*, University Textbook Series, Vol. 47, iv+237 pages, University of Novi Sad, 1998. (in serbian)
6. S.Crvenkovic, R.Sz.Madarasz, and N.Mudrinski, *A Collection of Problems in Automata Theory*, Univeristy of Novi Sad, 2005. (in serbian)
7. D. T. Mihailović, D. Kapor, S. Crvenković, A. Mihailović, *Physics of complex systems: Discovery in the age of Gödel*, CRC Press, London, 2024.

Selected publications

1. XIAN, X., SHAO, Y., CRVENKOVIĆ, S. (2023) Semiring varieties related to closure congruences of Green's relations, Publ. Math. Debrecen (2023), 401-413
2. ĐAPIĆ, P., PAVKOV, I., CRVENKOVIĆ, S. and TANACKOV, I. (2022) Generating Integrally Indecomposable Newton Polygons with Arbitrary Many Vertices. Mathematics, 10 (14), pp. 1-10
3. ZHAO, X., REN, M., CRVENKOVIĆ, S., YONG, S. and ĐAPIĆ, P. (2020) The Variety Generated by an AI-semiring of Order Three. Ural Mathematical Journal, 6 (2), pp. 117-132
4. AKSENTIJEVIĆ, A., MIHAILOVIĆ, D. T., KAPOR, D., CRVENKOVIĆ, S., NIKOLIĆ-DJORIĆ, E., MIHAILOVIĆ, A. (2020) Complementarity of information obtained by Kolmogorov and Aksentijević-Gibson complexities in thr analysis of binary time series, Chaos, Solitons & Fractals, Elsevier, 130, 109394, pp. 1-16
5. MIHAILOVIĆ, D., KAPOR, D., CRVENKOVIĆ, S., GUALTIERI, C. and ARSENIĆ, I. (2018) Models and Modeling in the Environmental Sciences: between Epistemology and Practice. In:ARABI, M. et al.(eds.) Proceedings of 9th International Congress on Environmental Modelling and Software, Fort Collins, Colorado, 2018. Fort Collins, Colorado, pp. 21-28
6. CRVENKOVIĆ, S. (2018) Theory of algebraic equations of Mihailo Petrović, Serbian Academy of Sciences and Arts, Scientific meetings, Mihailo Petrović Alas redarding one hundred and fifty years since birth, pp. 7-34 (in serbian)
7. MITROVIĆ, M., CRVENKOVIĆ, S. and RANĐELOVIĆ, B. (2017) Constructive semigroups with Apartness: Foundation of the Order Theory. In:6th International Conference Logic and Application, Dubrovnik, 2017. Dubrovnik, pp. 34-37
8. CRVENKOVIĆ, S., MITROVIĆ, M. and ROMANO, D. (2016) Basic notions of (constructive) semigroups with apartnes. Semigroup Forum, 92 (3), pp. 659-674
9. YONG, S., CRVENKOVIC, S. and MITROVIĆ, M. (2016) Distributive lattices of Jacobson rings. Publications de l'Institut Mathematique, Beograd, 100 (114), pp. 87-93
10. CRVENKOVIĆ, S. (2015) Lord of Formal Theories. Anals of the Branch in Novi Sad of Serbian Academy of Sciences and Arts (11), pp. 44-57

11. CRVENKOVIĆ, S., MITROVIĆ, M. and DANIEL, A. (2015) Semigroups with apartness: constructive versions of some classical theories. In:Proceedings of the Conference The 46th Annual Iranian Mathematics Conference, 2015, pp. 64-68

12. YONG, S., REN, M., CRVENKOVIĆ, S. and MITROVIĆ, M. (2015) The semiring variety generated by any finite number of finite fields and distributive lattices. Publications de l'Institut Mathematique, Beograd, 98 (112), pp. 45-51

13. YONG, S., CRVENKOVIĆ, S. and MITROVIĆ, M. (2014) The Variety of Semirings Generated by Distributive Lattices and Finite Fields. Publications de l'Institut Mathematique, Beograd, 95 (109), pp. 101-109

14. CRVENKOVIĆ, S. and PAVKOV, I. (2013) Factoring bivariate polynomials with integer coefficients via Newton polygons. Filomat, 27 (2), pp. 215-226

15. CRVENKOVIĆ, S., MITROVIĆ, M. and ROMANO, D. (2013) Semigroups with apartness. Mathematical Logic Quarterly, 59 (6), pp. 407-414

16. YONG, S., CRVENKOVIĆ, S. and MITROVIĆ, M. (2013) The Zeleznikov problem on a class of additively idempotent semirings. Journal of the Australian Mathematical Society, 95 (03), pp. 404-420

17. CRVENKOVIĆ, S., MIHAILOVIĆ, D. and BALAŽ, I. (2012) Formal Concept Analysis and Category Theory in Modeling Interaction of Living Systems and their Environment. In: MIHAILOVIĆ, D.(ed.) Essays on Fundamental and Applied Environmental Topics. New York: Nova Science Publishers, pp. 23-43

18. MIHAILOVIĆ, D., BUDINČEVIĆ, M., BALAŽ, I., CRVENKOVIĆ, S. and ARSENIĆ, I. (2012) Coupled maps serving the exchange processes on the environmental interfaces regarded as complex systems. Natural Science, 4 (8), pp. 569-580

19. CRVENKOVIĆ, S., MITROVIĆ, M. and ROMANO, D. (2010) Complementary pair of quasi-antiorders. Reports on Mathematical Logic, 45, pp. 135-142

20. BOGDANIĆ, D., CRVENKOVIĆ, S. and ROMANO, D. (2009) Another isomorphism theorem on anti-ordered semigroups. International Journal of Contemporary Mathematical Sciences, 4 (5), pp. 241-245

21. CRVENKOVIĆ, S., MIHAILOVIĆ, D. and BALAŽ, I. (2009) Use of formal concept analysis for construction of subjective interface between biological systems and their environment. In: MIHAILOVIĆ, D. and VOJINOVIĆ-MILORADOV, M. (eds.) Environmental , Health and Humanity Issues in the Down Danubian Region, Multidisciplinary Approaches. Singapore: World Scientific Printers, pp. 189-199

22. CRVENKOVIĆ, S., PIKULA, M. and ROMANO, D. (2009) Some remarks on class preserving mappings of coequality relational systems. International Journal of Mathematical Sciences and Engineering Applications, 3 (1), pp. 1-8

23. CRVENKOVIĆ, S., ROMANO, D. and VINČIĆ, M. (2008) A note on band anticongruence of ordered semigroups. International Journal of Algebra, 2 (1), pp. 1-11

24. CRVENKOVIĆ, S. and ROMANO, D. (2007) A Theorem on Anti-ordered Factor-semigroups. Publications de l'Institut Mathematique, Beograd, 81 (95), pp. 23-39

25. CRVENKOVIC, S. and TASIĆ, V. (2007) Second cohomology and nilpotency class 2. Publications de l'Institut Mathematique, Beograd, 81 (95), pp. 3-10

26. CRVENKOVIĆ, S., DOLINKA, I. and TASIĆ, V. (2006) A locally finite variety of rings with an undecidable equational theory. Quarterly Journal of Mathematics, Oxford, 57, pp. 297-307

27. CRVENKOVIĆ, S. and DOLINKA, I. (2002) Congruences on *-regular semigroups. Periodica Mathematica Hungarica, 45, pp. 1-13

28. CRVENKOVIĆ, S. and DOLINKA, I. (2002) On axioms for commutative regular equations without addition. Theoretical Computer Science, 289, pp. 531-551

29. CRVENKOVIĆ, S. and DOLINKA, I. (2002) Varieties of involution semigroups and involution semirings: a survey. Bulletin of Society of Mathematicians of Banja Luka, 9, pp. 7-47

30. CRVENKOVIĆ, S. and TASIĆ, V. (2002) Decidability of semigroup identities in soluble groups. Journal of Group Theory, 5, pp. 107-118

31. CRVENKOVIĆ, S., DOLINKA, I. and VINČIĆ, M. (2002) On subdirect decomposition and varieties of some rings with involution. Bietrage zur Algebra und Geometrie, 43, pp. 423-432

32. CRVENKOVIĆ, S., DOLINKA, I. and ÉSIK, Z. (2001) On equations for union-free regular languages. Information and Computation, 164, pp. 152-172

33. CRVENKOVIC, S., DOLINKA, I. and RUŠKUC, N. (2001) Finite semigroups with few term operations. Journal of Pure and Applied Algebra, 157, pp. 205-214

34. CRVENKOVIĆ, S., DOLINKA, I. and RUŠKUC, N. (2001) The Berman conjecture is true for finite surjective semigroups and their inflations. Semigroup Forum, 62, pp. 103-114

35. CRVENKOVIĆ, S., DOLINKA, I. and VINČIĆ, M. (2001) Involution semigroups are not globally determined. Semigroup Forum, 62, pp. 477-481

36. CRVENKOVIĆ, S. and DOLINKA, I. (2000) Finite semigroups with slowly growing pn-sequences. Algebra Universalis, 43, pp. 259-268

37. CRVENKOVIĆ, S. and DOLINKA, I. (2000) Separability and decidability results for varieties of Jonsson dynamic algebras. Algebra Universalis, 43, pp. 79-97

38. CRVENKOVIĆ, S., DOLINKA, I. and ÉSIK, Z. (2000) The variety of Kleene algebras with conversion is not finitely based. Theoretical Computer Science, 230, pp. 235-245

39. CRVENKOVIĆ, S., DOLINKA, I. and RUŠKUC, N. (2000) Notes on the number of operations of finite semigroups. Acta Scientriarum Mathematicarum, 66, pp. 23-31

40. CRVENKOVIĆ, S., DOLINKA, I. and VINČIĆ, M. (2000) Equational bases for some 0-direct unions of semigroups. Studia Scientiarum Mathematicarum Hungarica, 36, pp. 423-431

41. CRVENKOVIĆ, S., DOLINKA, I. and ÉSIK, Z. (1999) A note on equations for commutative regular languages. Information Processing Letters, 70, pp. 265-267

42. CRVENKOVIĆ, S. and DOLINKA, I. (1998) A variety with undecidable equational theory and solvable word problem. International Journal of Algebra and Computation, 8, pp. 625-630

43. CRVENKOVIĆ, S. and DOLINKA, I. (1996) Undecidable varieties with solvable word problems - I. Facta Universitatis: Series Mathematics and Informatics, 11, pp. 1-8

44. CRVENKOVIĆ, S. and RUŠKUC, N. (1995) Log-linear varieties of semigroups. Algebra Universalis, 33, pp. 370-374

45. CRVENKOVIĆ, S. (1995) Word problems for varieties of algebras. Filomat, 9 (3), pp. 427-448

46. CRVENKOVIĆ, S. and MADARÁSZ, R. (1994) On dynamic algebras. Theoretical Computer Science, 134, pp. 79-86

47. CRVENKOVIĆ, S. and MADARÁSZ, R. (1993) On Kleene algebras. Theoretical Computer Science, 108, pp. 17-24

48. CRVENKOVIĆ, S. and RUŠKUC, N. (1993) On semigroups having n2 essentailly n-ary polynomials. Algebra Universalis, 30, pp. 269-271

49. KUNZE, M. and CRVENKOVIĆ, S. (1991) Maximal subsemilattices of the full transformation on a finite set, Dissertationes Mathematicae, Polish Academy of Sciences, 314, pp. 1-31

50. CRVENKOVIĆ, S. and MADARÁSZ, R. (1991) A non-axiomatizability result in algebraic logic. Algebra Universalis, 28, pp. 487-494

51. CRVENKOVIĆ, S. and MADARÁSZ, R. (1990) On equational base for Kleene relation algebras. In:Proceedings of International Conference on Words, Languages, Combinatorics, Kyoto, Japan, 1990. Kyoto, pp. 64-72.

52. CRVENKOVIĆ, S. and MADARÁSZ, R. (1987) On semigroup-relation algebras. In:Proceedings of Algebra and Logic Conference Sarajevo, Sarajevo, 1987. Sarajevo, pp. 17-28

53. KUNZE, M. and CRVENKOVIĆ, S. (1987) Maximal subsemilattices of the full transformation semigroup. Semigroup Forum, 35, pp. 245-250

54. CRVENKOVIĆ, S. and KUNZE, M. (1986) Actions of semilattices. Semigroup Forum, 34, pp. 131-156

55. CRVENKOVIĆ, S. and DUDEK, J. (1985) Rectangular groupoids. Czechoslovak Mathematical Journal, 35 (110), pp. 405-414

56. MILIĆ, S. and CRVENKOVIĆ, S. (1985) Basis class for some classes of semigroups. In:POLLAK, G., SCHWARZ, Š. and STEINFELD, O. (eds.) Colloquia Mathematica Societatis Janos Bolyai 39. Semigroups, Segedin, 1981. Szeged: North-Holland, pp. 157-162

57. CRVENKOVIĆ, S. (1982) On *-regular semigroups. In:Proceedings of the III Algebraic Conference, Belgrade, 1982. Belgrade, pp. 51-57

58. ČUPONA, G., CRVENKOVIĆ, S. and VOJVODIĆ, G. (1982) Representations of semigroups of operations in semigroups of left translations. In:CELAKOSKI, N. and SAMADŽISKI, A. (eds.) Proceedings of the Symposium on n-ary structures, Skoplje, 1982. Skopje: Macedonian Academy of Science and Arts, pp. 209-222

59. CRVENKOVIĆ, S. (1981) Some classes of semigroups, Ph. Thesis, Faculty of Sciences, University of Novi Sad

60. CRVENKOVIĆ, S. (1980) Basis class of one class of semigroups, in ed. N.Celakoski. In:Proceedings of the I Algebraic Conference, University of Skopje, pp. 87-89

61. CRVENKOVIĆ, S. (1979) On some properties of a class of completely regular semigroups, Review of Research of the Faculty of Science, Mathematics Series, 9, pp. 153-160