Koriolan Gilezan
(Coriolan Ghilezan)
1929-2023

Professor Koriolan Gilezan (Coriolan Ghilezan, 1929-2023) devoted his life to the development of mathematical science and the profession. Throughout his career, he taught at the Zrenjanin Gymnasium, the Higher Pedagogical School, and the University of Novi Sad.

He was born on October 31, 1929, in Ečka (Ecica), Kingdom of Yugoslavia, as the youngest child in the family of Ghilezan Solomon and Ana (née Friscan), with an older brother, Nistor, and sister, Felicia. He completed the elementary school in Ečka in 1941 and gymnasium in Vršac in 1949. He finished his undergraduate studies in mathematics at the Faculty of Science and Mathematics,

University of Belgrade, in 1955, where he was recognized for his academic excellence. During 1955/56 he served in the mandatory military service in the island of Vis.

At the Faculty of Science and Mathematics, University of Belgrade, Prof. Gilezan defended his magisterium in 1967, entitled *Minimizacija funkcija šema čiji kontakti imaju određen broj pozicija* (Minimization of function schemes whose contacts have a certain number of positions, in Serbian) and his doctoral dissertation in 1972, entitled *Neke generalizacije pseudo-Bulovog programiranja* (Some generalizations of pseudo-Boolean programming, in Serbian), under the supervision of Prof. Slaviša Prešić.

His teaching career began in 1956 at gymnasium “Koča Kolarov” in Zrenjanin.

From 1962, he was a lecturer at the college Viša pedagoška škola in Zrenjanin. From 1972 until his retirement in 1995, he held a professorship at the University of Novi Sad, within the Faculty of technology and the Faculty of Science and Mathematics. He was also an external member of the Mathematical Institute of the Serbian Academy of Sciences and Arts.

The main areas of his scientific research were Boolean algebras and discrete mathematics. He co-authored the first book in Serbian on the subject, *Bulova algebra i primene* (Boolean algebra and applications), published by Mathematical Institute in Belgrade, 1977, which, due to its comprehensive coverage from theory to software and hardware applications in computing, has influenced generations of students in computer science, engineering and mathematics. He was one of the pioneers in researching pseudo-Boolean programming and multivalued logics. Along with S. Rudeanu, he derived an interpolation formula for discrete functions that covers canonical disjunctive and conjunctive normal forms, as well as, Post-Carvallo and Moisil interpolation forms.

Prof. Gilezan introduced a new definition of partial derivatives of pseudo-Boolean functions, demonstrating that any discrete function can be represented using them. He also explored the differential calculus of generalized pseudo-Boolean functions and initiated the theory of partial differential equations for this class of functions. In the late 1970s, he gave lectures on fuzzy sets, thereby introducing this new field of mathematics to Serbia, which had a significant impact on a good number of young researchers. His work has been cited by prominent mathematicians, including I. Rosenberg, P. Hammer, and F. Robert.

His results are presented in the capital monographs of S. Rudeanu Boolean Functions and Equations (1974) and Lattice Functions and Equations (2013). Prof. Gilezan was an active member of the seminars and colloquia of the Mathematical Institute from the early 1960s throughout his whole career. He maintained a permanent collaboration with the University of Bucharest and the University of Timisoara. From 1977, for over 20 years, he acted as one of the first reviewers from Yugoslavia for the Mathematical Reviews. He refereed and reviewed papers and books by leading authors in a wide range of areas, including Boolean algebra, discrete functions, optimization of Boolean functions, Boolean equations, group theory, fuzzy sets, discrete fuzzy functions, multi-valued logics, theory of switching circuits, and finite automata.

He was a favourite professor to his pupils and students. His radiant character has been appreciated by colleagues and friends.

Selected Publications

1. *Bulova algebra i primena* (with Boško Latinović), (Boolean algebra and application, in Serbian) Matematički institut Beograd, vi+213 pp. (1977).
2. *Neke generalizacije pseudo-Bulovog programiranja*, (Some generalizations of pseudo-Boolean programming, in Serbian) Doctoral thesis, University of Belgrade (1971).

3. *Minimizacija funkcija šema čiji kontakti imaju određen broj pozicija*, (Minimization of function schemes whose contacts have a certain number of positions, in Serbian) Magister's thesis, University of Belgrade (1967).
4. *Une généralisation du théoreme de Löewenheim sur les équations de Boole*, Publications de l'Institut Mathématique (Beograd) (N.S.) 11(25): 57–59 (1971).
5. *Certaines équations function pseudo-booléennes généralisées*, Publications de l'Institut Mathématique (Beograd) (N.S.) 20(34): 99–109 (1976).
6. *Interpolation formulas over finite sets* (with Sergiu Rudeanu), Publications de l'Institut Mathématique (Beograd) (N.S.) 25(39): 45–49 (1979).
7. *Les dérivées partielles des functions pseudo-Booléennes généralisées*, Discrete Applied Mathematics 4(1): 37–45 (1982).
8. *Generalized pseudo-Boolean functional equations of the third order* (with Miloš Udicki), Review of Research, Faculty of Science, Mathematics Series 19(2): 81–91 (1989).
9. *Anti-inverse Boolean semigroups*, Review of Research, Faculty of Science, Mathematics Series 23(2): 233–237 (1993).
10. *Taylor formula of Boolean and pseudo-Boolean function*, Review of Research, Faculty of Science, Mathematics Series 25(2): 141–149 (1995).

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3. Gilezan, K., "Taylor formula of Boolean and pseudo-Boolean function", *Review of Research, Faculty of Science, Mathematics Series (Zb. Rad., Prir.-Mat. Fak., Univ. Novom Sadu, Ser. Mat.)* 25(2): 141–149 (1995). [MR1413966(98a:90063)]

4. Gilezan, K., "Anti-inverse Boolean semigroups", *Review of Research, Faculty of Science, Mathematics Series (Zb. Rad., Prir.-Mat. Fak., Univ. Novom Sadu, Ser. Mat.)* 23(2): 233–237 (1993). [MR1333550]

5. Gilezan, K., Udicki, M., "On a class of second functional equations of alternative functions", *Review of Research, Faculty of Science, Mathematics Series (Zb. Rad. Prirod.-Mat. Fak., Univ. u Novom Sadu, Ser. Mat.)* 23(1): 219–225 (1993). [MR1319787(96f:39018)]

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