## RICHARD WIEGANDT SEPTUAGE-NARIAN

## E. Tamás Schmidt

Mathematical Institute, Budapest University of Technology and Economics, Műegyetem rkp. 3-9, H-1111 Budapest, Hungary

Richard Wiegandt has played a leading role in the development of ring theory and radical theory for nearly forty years, contributing much to the present-day vitality of these fields. He also has many important results in other fields: categories, semigroups, near-rings, automata theory, topology, combinatorics. He is a leading researcher of radical theory, one of the most fruitful in this theory.

Richard Wiegandt was born in September, 1932, in Budapest, Hungary. Richard is married since 1957 and has two sons. He started his research as a student of Professor L. Rédei in Szeged. After graduating from Szeged, he worked as a high school teacher in the remote town Orosháza.

In 1961 he started his Ph.D. studies at the L. Eötvös University in Budapest under the supervision of L. Fuchs and he got the Ph.D. in 1967. In 1975, he was awarded the degree, Doctor of Sciences for his achievements in the ring theory.

Since 1964, he has worked at the Rényi Mathematical Institute of the Hungarian Academy of Sciences, promoted in 1970 and 1978. He also thought at the L. Eötvös University, Budapest, and the Technical University of Budapest.

He has written more then 140 papers, more then 40 with coauthors from all around the world. Richard spent time at universities in Australia, Austria, Canada, Egypt, Germany, Pakistan, Poland, South Africa, Taiwan and USA. Richard was invited speaker at many conferences. He is a dedicated teacher and has many excellent students.

In the middle of the fifties - when Richard started his career - two mathematicians, Kurosh and Amitsur, independently elaborated a general radical theory. Some ten years later Divinsky published his famous book on radicals. About that time, Richad's interest turned to radical theory. Developing the theory of radicals and searching for applications in other areas, mainly in ring theory, Wiegandt published many deep results. Mainly through him and his collaborators, radical theory became a great and deep theory.

## List of reviewed publications of Richard Wiegandt

- [1] On complete semigroups, Acta Sci. Math. Szeged 19 (1958), 93-97.
- [2] On complete semimodules, Acta Sci. Math. Szeged 19 (1958), 219-223.
- [3] On the general theory of Möbius inversion formula and Möbius product, *Acta Sci. Math.* Szeged **20** (1959), 164–180.
- [4] Bemerkung über die einstufig nichtregulären Ringe, Acta Sci. Math. Szeged 21 (1960), 350–352.
- [5] Bemerkung zu einer Arbeit von Herrn Steinfeld, Acta Sci. Math. Szeged 23 (1962), 74–75.
- [6] Über die Struktursätze von Halbringen, Annales Univ. Sci. Budapest 5 (1962), 51–68
- [7] Über halbeinfache linear kompakte Ringe, Studia Sci. Math. Hungar. 1 (1966), 31–38.
- [8] Über linear kompakte reguläre Ringe, Bull. Acad. Polon. Sci. 13 (1965), 445–446.
- [9] Über transfinit nilpotente Ringe, Acta Math. Acad. Sci. Hungar. 17 (1966), 101–114.
- [10] Über lokal linear kompakte Ringe, Acta Sci. Math. Szeged 28 (1967), 255–260.
- [11] Vizsgálatok a lineárisan kompakt gyűrűk elméletében (Beiträge zur Theorie der linear kompakten Ringe) I, MTA III. Oszt. Közl. 16 (1966), 239–267.
- [12] Vizsgálatok a lineárisan kompakt gyűrűk elméletében (Beiträge zur Theorie der linear kompakten Ringe) II, MTA III. Oszt. Közl. 16 (1966), 333–363.
- [13] (with O. Steinfeld): Uber die Verallgemeinerungen und Analoga der Wedderburn-Artinschen und Noetherschen Struktursätze, *Math. Nachr.* **34** (1967), 143–156.
- [14] Radical and semisimplicity in categories, Acta Math. Acad. Sci. Hungar. 19 (1968), 345–364.
- [15] On compact objects in categories, Publ. Math. Debrecen 15 (1968), 267–281.
- [16] (with F. Szász): On the dualization of subdirect embeddings, Acta Math. Acad. Sci. Hungar. 20 (1969), 289–302.

- [17] (with F. Szász): On the duality of radical and semisimple classes in categories, Acta Math. Acad. Sci. Hungar. 21 (1970), 175–182.
- [18] On subdirect embeddings in categories, Fund. Math. 68 (1970), 7-12.
- [19] A note on Kurosh-Amitsur radical properties, Annales Univ. Sci. Budapest 12 (1969), 63-65.
- [20] On the socle of an object in categories, Acta Sci. Math. Szeged 31 (1970), 245–251.
- [21] A note on compact objects, Publ. Math. Debrecen 18 (1971), 99-102.
- [22] Local and residual properties in bicategories, *Acta Sci. Math.* Szeged **32** (1971), 195–205.
- [23] Structure theorems for objects, Publ. Math. Debrecen 19 (1972), 191-198.
- [24] A note on lower radicals, Annales Univ. Sci. Budapest 13 (1970), 165-166.
- [25] On the structure of lower radical semigroups, Czechoslovak Math. J. 22 (1972), 1–6.
- [26] On structure spaces, Studia Sci. Math. Hungar. 6 (1971), 205-209.
- [27] Radical-semisimple classes, Periodica Math. Hungar. 3 (1973), 243-245.
- [28] (with F. Szász): On hereditary radicals, *Periodica Math. Hungar.* 3 (1973), 235–241. Correction: *ibidem* 6 (1975), 21.
- [29] Radicals coinciding with the Jacobson radical on linearly compact rings, Beiträge Alg. und Geom. Halle 1 (1971), 195–199.
- [30] Homomorphically closed semisimple classes, Studia Univ. Babeş-Bolyai Cluj, 17/2 (1972), 17-20.
- [31] Semisimple properties preserved by surjections, Coll. Math. Soc. J. Bolyai 6, Rings, Modules, and Radicals, Keszthely, 1971, North-Holland, 1973, 507-514.
- [32] (with Eqbal Ahmed): On lower radicals of semigroups, Math. Nachr. 57 (1973), 163–167.
- [33] (with M. A. Rashid): The herditariness of the upper radical, Acta Math. Acad. Sci. Hungar. 24 (1973), 343–347.
- [34] (with A. V. Arhangel'skiĭ): Connectednesses and disconnectednesses in topology, General Topology & Appl. 5 (1975), 9–33.
- [35] On linearly compact primitive and semisimple rings, Appendix to M. Petrich: Rings and semigroups, Springer Lecture Notes in Math. 380 (1974), 152–166.
- [36] Radical and semisimple classes of rings, Queen's Papers in Pure & Appl. Math. 37 Kingston Ontario, 1974, pp iv+248.
- [37] On N-radicals, J. Nat. Sci. & Math. Lahore, 13 (1973), 255–262.
- [38] (with E. Fried): Connectednesses and disconnectednesses of graphs, Algebra Universalis 5 (1975), 411–428.
- [39] A general radical theory and its application in topology and graph theory, Stud. Alg. und Anwend. 1, Universale Algebra und Theorie der Radikale Berlin, 1976, 77–84.
- [40] A condition in general radical theory and its meaning for rings, topological spaces and graphs, *Acta Math. Acad. Sci. Hungar.* **26** (1975), 233–240.
- [41] Characterization of the Baer radical by almost nilpotent rings, Publ. Math. Debrecen 23 (1976), 15-17. Correction: ibidem 25 (1978), 327-328.
- [42] (with L. Márki and P. N. Stewart): Radicals and decomposability of semigroups and rings, *Annales Univ. Sci. Budapest* 18 (1975), 27–36.

- [43] Radicals defined by means of elements, Österreich. Akad. Wiss., math.-naturw. Kl., S.-ber., Abt. II 184 (1975), 117-125.
- [44] (with J. Wiesenbauer): Über die Unabhängigkeit der Distributivitätsbedingungen, Atti Accad. Naz. Rend. Cl. Fis. Mat. Natur. Roma 58 (1975), 819–822.
- [45] (with L. C. A: van Leeuwen and C. Roos): Characterizations of semisimple classes, J. Austral. Math. Soc. Ser. A 23 (1977), 172–182.
- [46] (with A. Widiger): Theory of radicals for hereditarily artinian rings, Acta Sci. Math. Szeged 39 (1977), 305–312.
- [47] (with L. Rédei and O. Steinfeld): Die wissenschaftliche Tätigkeit von Andor Kertész, *Publ. Math. Debrecen* **23** (1976), 1–9.
- [48] (with L. C. A. van Leeuwen): Three examples concerning the lower radical construction, *Periodica Math. Hungar.* **9** (1978), 121–126.
- [49] (with W. G. Leavitt): Torsion theory for not necessarily associative rings, *Rocky Mountain J. Math.* 9 (1979), 259–271.
- [50] (with L. C. A. van Leeuwen): Constructions and compositions of radical and semisimple classes, *Annales Univ. Sci. Budapest* **21** (1978), 65–75.
- [51] (with C. G. Chehata): Radical theory for fully ordered groups, Mathematica Cluj 20 (1978), 143–157.
- [52] (with P. N. Ánh): Linearly compact semisimple rings and regular modules, *Math. Japonica* **23** (1978), 335–338.
- [53] (with T. Anderson): Weakly homomorphically closed semisimple classes, Acta Math. Acad. Sci. Hungar. 34 (1979), 329–336.
- [54] (with E. Fried): Abstract relational structures and their torsion theory, Contr. to General Algebra J. Heyn, Klagenfurt, 1979, 97-111.
- [55] (with L. C. A. van Leeuwen): Radicals, semisimple classes and torsion theories, *Acta Math. Acad. Sci. Hungar.* **36** (1980), 37–47.
- [56] (with E. Fried): Abstract relational structures I, (General theory), Algebra Universalis 15 (1982), 1-21.
- [57] (with E. Fried): Abstract relational structures II, (Torsion theory), Algebra Universalis 15 (1982), 22–39.
- [58] (with L. Márki): On semisimple classes of semigroups with zero, Semigroups, Springer Lecture Notes in Math. 855 (1981), 55–72.
- [59] (with T. Anderson): Semisimple classes of alternative rings, *Proc. Edinburgh Math. Soc.* **25** (1982), 21–26.
- [60] Semisimple classes and H-relations, Studia Sci. Math. Hungar. 13 (1978), 181–185.
- [61] (with T. Anderson): On essentially closed classes of rings, Annales Univ. Sci. Budapest 24 (1981), 107-111.
- [62] (with L. C. A: van Leeuwen): Semisimple and torsionfree classes, Acta Math. Acad. Sci. Hungar. 38 (1981), 73–81.
- [63] (with Ju. M. Rjabuhin): On special radicals, supernilpotent radicals and weakly homomorphically closed classes, *J. Austral. Math. Soc.* Series A **31** (1981), 152–162.
- [64] (with P. N. Stewart): Quasi-ideals and bi-ideals in radical theory of rings, Acta Math. Acad. Sci. Hungar. 39 (1982), 289–294.

- [65] (with B. J. Gardner): Characterizing and constructing special radicals, Acta Math. Acad. Sci. Hungar. 40 (1982), 73–83.
- [66] (with L. Márki): Remarks on radicals in categories, Category Theory, Springer Lecture Notes in Math. 962 (1982), 190-196.
- [67] (with W. Lex): Torsion theory for acts, Studia Sci. Math. Hungar. 16 (1981), 263–280.
- [68] (with G. Betsch): Non-hereditary semisimple classes of near-rings, *Studia Sci. Math. Hungar.* 17 (1982), 69–75.
- [69] Near-rings and radical theory, Conf. on Near-rings and Near-fields San Benedetto del Tronto, Italy, 1981, 49–58.
- [70] (with I. A. Amin): Torsion and torsionfree classes of acts, Contr. to General Algebra 2, B. G. Teubner, Stuttgart and Hölder-Pichler-Tempsky, Wien, 1983, 19–34.
- [71] (with N. V. Loi): Small ideals and the Brown-McCoy radical, Coll. Math. Soc. J. Bolyai 38, Radical Theory, Eger 1982, North-Holland, 1985, 253-264.
- [72] (with A. Suliński): Radicals of rings graded by abelian groups, Coll. Math. Soc. J. Bolyai 38, Radical Theory, Eger 1982, North-Holland, 1985, 607-617.
- [73] (with M. M. Parmenter and P. N. Stewart): On the Groenewald-Heyman strongly prime radical, Quaest. Math. 7 (1984), 225-240.
- [74] (with S. Veldsman): On the existence and non-existence of complementary radical and semisimple classes, *Quaest. Math.* 7 (1984), 213–224.
- [75] (with T. Anderson and K. Kaarli): Radicals and subdirect decompositions, Comm. in Algebra 13 (1985), 479–494.
- [76] (with P. N. Ánh and N. V. Loi): On the radical theory of Andrunakievich varieties, Bull. Austral. Math. Soc. 31 (1985), 257–269.
- [77] (with B. de la Rosa): Characterizations of the Brown-McCoy radical, Acta Math. Hungar. 46 (1985), 129-132.
- [78] (with N. V. Loi): Involution algebras and the Anderson-Divinsky-Suliński property, *Acta Sci. Math.* Szeged **50** (1986), 5–14.
- [79] (with P. N. Ánh): Semisimple classes of nonassociative rings and Jordan algebras, Comm. in Algebra 13 (1985), 2669–2690.
- [80] On the commutativity of certain semigroups, Theory of Semigroups, Proc. Greifswald Conf. 1984, 125-127.
- [81] On subdirectly irreducible near-rings which are fields, Proc. Conf. on Near-rings and Near-fields, Tübingen, Germany, 1985, North-Holland, 1987, 295–298.
- [82] On rings with subsets satisfying permutation identities, Karachi J. Math. 3 (1985), 1–7.
- [83] (editor with L. Márki): Colloquia Mathematica Societatis János Bolyai 38, Radical Theory, Eger 1982, North-Holland, 1985.
- [84] Radical theory of rings, Math. Student 51 (1983), 145-185.
- [85] (with L. Márki and R. Mlitz): A general Kurosh-Amitsur radical theory, Comm. in Algebra 16 (1988), 249-305.
- [86] (with L. Márki and R. Mlitz): A note on radical and semisimple classes of topological rings, Acta Sci. Math. Szeged 51 (1987), 145–151.
- [87] (with B. de la Rosa): On dual radicals and ring elements, J. Austral. Math. Soc. Series A 44 (1988), 164–170.

- [88] (with L. Márki): Basic concepts of Kurosh-Amitsur radicals in various structures, a historical survey, Contr. to General Algebra 4, Proc. Krems Conf. 1985, B. G. Teubner, Stuttgart and Hölder-Pichler-Tempsky, Wien, 1987, 111–124.
- [89] (with T. Anderson and K. Kaarli): On left strong radicals of near-rings, Proc. Edinburgh Math. Soc. 31 (1988), 447–456.
- [90] Sections 42, 55, 56, 77, 78, 80 and 81 in A. Kertész: Lectures on Artinian Rings edited by R. Wiegandt, Akadémiai Kiadó, Budapest, 1987.
- [91] Recent results in the general radical theory of rings and ring-like structures, Rings, Modules and Radicals, Proc. Hobart Conf. 1987, Pitman Res. Notes in Math. 204, Longman Sci. & Tech., 1989, 153-171.
- [92] (with K. I. Beïdar): Splitting theorems for nonassociative rings, Publ. Math. Debrecen 38 (1991), 121-143.
- [93] On splitting torsion theories of acts, Contr. to General Algebra 6, B. G. Teubner Stuttgart, Hölder-Pichler-Tempsky Wien, 1988, 311–316.
- [94] On split null extensions in radical theory, Radical Theory, Proc. 1988 Sendai Conf. Uchida Rokakuho, Tokyo 1989, 143–151.
- [95] (with N. V. Loi): On involution rings with minimum condition, Ring Theory, Israel Conf. Proc. 1 (1989), 206-214.
- [96] Kurosh-Amitsur radical theory for acts, Karachi J. Math., 5 (1989), 1-7.
- [97] (with K. I. Beĭdar): Rings with involution and chain conditions, J. Pure & Appl. Algebra 87 (1993), 205–220.
- [98] Splitting theorems in algebra, Contr. to General Algebra 7, Hölder-Pichler-Tempsky Wien, B. G. Teubner Stuttgart, 1991, 361–371.
- [99] (with B. de la Rosa and Julia van Niekerk): A concrete analysis of the radical concept, *Math. Pannonica* 3/2 (1992), 3–15. Correction: *ibidem* 4/1 (1993), 151.
- [100] (with P. N. Ánh): Morita duality for Grothendieck categories, J. Algebra 168 (1994), 273–293.
- [101] (with H. J. Weinert): A Kurosh-Amitsur radical theory for proper semifields, Comm. in Algebra 20 (1992), 2419-2458.
- [102] (with H. J. Weinert): Complementary radical classes of proper semifields, Coll. Math. Soc. J. Bolyai 61, Theory of Radicals, Szekszárd 1991, North-Holland 1993, 297-310.
- [103] (with B. de la Rosa and S. Veldsman): On the theory of Plotkin radicals, Chinese J. Math. 21 (1993), 33-54.
- [104] (with Y. Fong): Subdirect irreducibility and radicals, Quaest. Math. 16 (1993), 103–113.
- [105] (with P. H. Lee): On radicals and rings with involution, P.U.M.A. Ser. A 3 (1992), 219-224.
- [106] (with Y. Fong and S. Veldsman): Radical theory in varieties of near-rings in which the constants form an ideal, *Comm. in Algebra* 21 (1993), 3369–3384. Corrigendum: *ibidem* 22 (1994), 3197–3198.
- [107] (with B. de la Rosa and Y. Fong): Complementary radicals revisited, Acta Math. Hungar. 65 (1994), 253–264.
- [108] (with Y. Fong and F. K. Huang): Radical theory for group semiautomata, *Acta Cybernetica* 11 (1994), 169–188.

- [109] (with C. Roos): On the radical theory of graded rings which are inversive hemirings, Studia Sci. Math. Hungar. 32 (1996), 107-117.
- [110] (editor with L. Márki): Colloquia Mathematica Societatis János Bolyai 61, Theory of Radicals, Szekszárd 1991, North-Holland 1993.
- [111] On the structure of involution rings with chain condition, Tap Chí Toán Hoc (J. Math., Vietnam Math. Soc.) 21 (1993), 1-12.
- [112] On powers of radicals, Kyungpook Math. J. 34 (1994), 227–228.
- [113] (with K. I. Beĭdar): Кольца с инволуцией и условиями на цепи би-идеалов (Rings with involution and chain conditions on bi-ideals), Усп. Мат. Наук 48, 5(293), (1993), 159–160; English translation: Russian Math. Surv. 48 #5, 161–162 (1993).
- [114] (with R. Mlitz): Semisimple classes of hypernilpotent and hyperconstant nearring radicals, *Archiv Math.* **63** (1994), 414–419.
- [115] A note on supplementing radicals, Northeast. Math. J. 11 (1995), 476-482.
- [116] (with S. Tumurbat): On the lattice of strongly hereditary radicals, Contr. to General Algebra 9, Proc. Linz Conf. 1994, Hölder-Pichler-Tempsky Wien, B. G. Teubner Stuttgart, 1995, 309–312.
- [117] (with H. J. Weinert): On the structure of semifields and lattice-ordered groups, *Periodica Math. Hungar.* **32** (1996), 129–147.
- [118] (with G. F. Birkenmeier): Essential covers and complements of radicals, Bull. Austral. Math. Soc. 53 (1996), 261–266.
- [119] (with R. Mlitz and A. D. Sands): Radicals coinciding with the von Neumann regular radical on artinian rings, *Monatsh. für Math.* **125** (1998), 229–239.
- [120] (with H. E. Heatherly and E. K. S. Lee): Involutions on universal algebras, in: G. Saad and M. J. Thomsen (eds), Nearrings, Nearfields and K-Loops, Proc. Hamburg Conf. 1995, Kluwer 1997, 269–282.
- [121] (with K. I. Beidar): Radicals induced by the total of rings, Beiträge Alg. und Geom. 38 (1997), 149–159.
- [122] (with U. A. Aburawash): The Rees and Steinfeld theorems for semigroups with involution, Semigroup Forum 57 (1998), 440–444.
- [123] (editor with B. J. Gardner and Liu Shaoxue): Rings and Radicals, Proc. International Conf. Shijiazhuang '94, Pitman Research Notes in Math. Series 346, Longman 1996.
- [124] (with G. F. Birkenmeier): Pseudocomplements in the lattice of torsion classes, Comm. in Algebra 26 (1998), 197–220.
- [125] (with P. N. Ánh): Compactness in categories and interpretations, in: S. K. Jain and S. Tariq Rizvi (eds), Advances in Ring Theory, Birkhäuser 1997, 17–30.
- [126] (with R. Mlitz): Near-ring radicals depending only on the additive groups, Southeast Asian Bull. Math., Springer-Verlag 22 (1998), 171–177.
- [127] Laudatio anläßlich des 70. Geburtstages von Herrn Prof. Dr. Gy. Maurer, Grazer Math. Berichte 337 (1998), 3–7.
- [128] Rings distinctive in radical theory, Quaest. Math. 22 (1999), 303–328.
- [129] (with K. I. Beidar): Radical assignments and radical classes, Bul. Acad. Ştiinţe Rep. Moldova, Matematica 2/30 (1999), 17-27.
- [130] Supplementing radicals for nonassociative rings, Nonassoc. Alg. & Appl., São Paulo 1998, Lecture Notes in Pure & Appl. Math. 211, Marcel Dekker 2000, 457–469.

- [131] Some aspects of radical theory, XV Escola de Álgebra, Canela, Brasil 1998, Matemática Contemporânea 16 (1999), 291–305.
- [132] Rings with unique minimal subrings, East-West J. Math. 1 (1999), 237-241.
- [133] (with S. Tumurbat): Principally left hereditary and principally left strong radicals, Algebra Colloquium 8 (2001), 409–418.
- [134] (with L. Márki and R. Mlitz): Brown-McCoy radicals for general near-rings, Quaest. Math. 24 (2001), 481-490.
- [135] (with K. I. Beidar and E. R. Puczyłowski): Radicals and polynomial rings, J. Austral. Math. Soc. 72 (2002), 23–31.
- [136] Radical theory: developments and trends, Mathematics and the 21<sup>st</sup> Century, Cairo 2000, World Scientific 2001, pp. 141–152.
- [137] (with G. F. Birkenmeier): Supplementing radicals and decompositions of nearrings, Acta Math. Hungar. 94 (2002), 269–280.
- [138] (with S. Tumurbat): A note on special radicals and partitions of simple rings, Comm. in Algebra 30 (2002), 1769–1777.
- [139] (with R. Mlitz): Semisimple classes containing no trivial near-rings, Studia Sci. Math. Hungar. 38 (2001), 331–337.
- [140] (with D. Isabel C. Mendes): On essential left ideals of associative rings, *Math. Pannonica* **12**/2 (2001), 217–224.
- [141] (with S. Tumurbat): On subhereditary radicals and Brown-McCoy semisimple rings, Bul. Acad. Ştiinţe Rep. Moldova, Matematica 3/34 (2000), 11-20.
- [142] Sections C.18 (The Jacobson radical) and C.19 (General radical theory) in: A. V. Mikhalev and G. Pilz (eds), *Handbook of the Core of Algebra*, Kluwer.
- [143] (with S. Tumurbat): On polynomial and multiplicative radicals, Submitted to Quaest. Math..
- [144] (with K.I. Beidar, E.R. Puczyłowski): Radicals of polynomial rings, J. Austral Math. Soc. 72 (2002), 23–31.
- [145] (with G.F. Birkenmeier): Supplementing radicals and decompositions of nearrings, Acta Math. Hungar. 94 (2002), 269–280.
- [146] (with S. Tumurbat): A note on special radicals and partitions of simple rings, Comm. Algebra 30 (2002), 1769–1777.
- [147] Rédei szubjektív emlékek történelmi háttérrel (Rédei personel recollections with historical background), Mat. Lapok to appear.
- [148] (with H. J. Weinert): A new Kurosh-Amitsur radical theory for proper semifields I, Math. Pannonica to appear.
- [149] (with H. J. Weinert): A new Kurosh-Amitsur radical theory for proper semi-fields II, Math. Pannonica to appear.

## Other mathematical works (manuscript, lecture notes, etc.) not reviewed but cited by others

[a] Axiomatikus vizsgálatok félgyűrűben (Axiomatische Untersuchungen in Halbringen), *Preisschrift, Univ. Szeged* 1954, 12 Seiten.

- [b] A 110. feladat megoldása (Solution of Problem 110), Mat. Lapok 12 (1961), 225.
- [c] Some problems in the universal algebra with ring-theoretic background, Miniconference on Universal Algebra Szeged 1971, 23.
- [d] (with M. Sadiq Zia): On the terminating of the lower radical construction, unpublished manuscript 1972.
- [e] Lectures on radical and semisimple classes of rings, Lecture Notes in Math., Univ. of Islamabad 1972, pp 140.
- [f] Two problems in the List of Problems, Kolloquium über Algebra June 23, 1978, TU Wien.
- [g] Radical theory of rings, Res. Report 83/1, Univ. Pretoria pp 36.
- [h] 2. feladat az 1983. évi Schweitzer Miklós Matematikai Emlékversenyen (Problem 2 on the 1983 M. Schweitzer Contest in Higher Mathematics), Mat. Lapok 32 (1981–84), 162.
- [i] 1. feladat és megoldása az 1989. évi Schweitzer Miklós Matematikai Emlékversenyen (Problem 1 and its solution on the 1989 M. Schweitzer Contest in Higher Mathematics), Mat. Lapok 1991/4, 21-24.
- [j] Szerkesztési feladatok algebrai úton való megoldása (Algebraic solution of geometrical construction problems), Zsuffa L. (szerk.): Rédei Köri Előadások, 1988–1990 Tiszakécske 1990, 28–42.
- [k] On the structure of semigroups with involution, National Conference on Algebra Cairo 1996, unpublished manuscript.
- [1] (with K. I. Beidar): Radical assignments and radical classes, Seminarberichte Fernuniversität Hagen 63 (1998), 45–53.