

## LIST OF PUBLICATIONS

*Margit Kovács*

- [1] *Programming RAZDAN-3* (in Hungarian), KSH, Budapest, 1969. (with A. Györgyi and T. Márkus)
- [2] ERATRA auto code (in Hungarian), *Computing Center of Universities*, Information sheet, **3** (1969), 14–29. (with Gyné Kluge)
- [3] Subroutine system of RAZDAN-3 (in Hungarian), *Computing Center of Universities*, Information sheet, **3** (1969), 43–76.
- [4] RAZDAN-ALGOL (in Hungarian), Computing Center of ELTE, Information sheet, **6** (1971), 9–55.
- [5] Solving an overdetermined system of algebraic equations (in Hungarian), *Computing Center of Universities*, Information sheet, **6** (1971), 75–76.
- [6] Determination of the characteristic polynomial of a matrix using the LeVerriere method (in Hungarian), *Computing Center of Universities*, Information sheet, **6** (1971), 83–83.
- [7] Gaussian quadrature for determining single integrals (in Hungarian), *Computing Center of Universities*, Information sheet, **6** (1971), 92–93.
- [8] Romberg’s method for determining single integrals (in Hungarian), *Computing Center of Universities*, Information sheet, **6** (1971), 94–95.
- [9] Runge–Kutta–Gill method (in Hungarian), *Computing Center of Universities*, Information sheet, **6** (1971), 100–103.
- [10] Generate uniformly distributed pseudorandom numbers in the interval  $[0, 1]$  (in Hungarian), *Computing Center of Universities*, Information sheet, **6** (1971), 117–117.
- [11] Determining the local minimum of a multivariate function using a combination of the quadratic approximation and the conjugate gradient method (in Hungarian), *Computing Center of Universities*, Information sheet, **9** (1972), 186–192.

- 
- [12] Determining the local minimum of a multivariate function using a modified conjugate gradient method (in Hungarian), *Computing Center of Universities*, Information sheet, **9** (1972), 193–195.
- [13] RAMOST- Representation of the autocode of the Odra 1204 computer to the RAZDAN-3 computer, (in Hungarian), *Computing Center of Universities*, Information sheet, **10** (1973), 5–8.
- [14] Developments and modifications in the RAZDAN-ALGOL translation program (in Hungarian), *Computing Center of Universities*, Information sheet, **14** (1974), 5–8.
- [15] Some methods for the minimization of functions (in Russian), *Computing Center for Universities*, **9**, Budapest, 1975, 36 pp.
- [16] Some methods for the minimization of functions (in Russian), Technical Report **9**, *Computing Center for Universities*, Budapest, 1975.
- [17] Determining the local minimum of a multivariable function under conditions a, b (in Hungarian), *Computing Center for Universities*, Information sheet, **15** (1975), 77–82.
- [18] Computational aspects of the solution of a type of problems in system identification (in Russian), *Computing Center for Universities*, **18**, Budapest, 1977, 48 pp. (with K. Barra)
- [19] A continuous method for the nonlinear programming problem with equality constraints, in: *Numerical methods. Papers from the Third Colloquium held at Keszthely, September 5–10, 1977*, Edited by Pál Rózsa, *Colloq. Math. Soc. János Bolyai*, **22**, North-Holland Publishing Co., Amsterdam-New York, 1980, pp. 423–429.
- [20] On the regularization of the not well posed extremal problem by using a barrier function (in Russian), *Numerical Analysis (in Russian)*, *Works Sci. Res. Comput. Cent. Moscow State Univ. and Budapest Univ. Comput. Cent.*, (1978), 62–78.
- [21] A method for the minimization of a quadratic functional by application of a pseudoinverse (MINSQ) (in Russian), *Computing Center for Universities*, **80**, Budapest, 1978, 28–36. (with N.M. Andruševskii and B.M. Ščedrin)
- [22] Regularization of ill-posed extremal problems with the use of the barrier function method, (in Russian), *Numerical Analysis (in Russian)*, *Works of the Scientific Research Computing Center of Moscow State University and of the Budapest Computing Center for Universities*, Edited by V.I.

- Dmitriev, E.A. Žogolev, D. Olah and T. Markus, *Computing Center for Universities*, **82**, Budapest, 1978, pp. 62–78.
- [23] Local convergence of the pseudoinverse method for the solution of problems of minimization of functions with equality constraints (in Russian), *Numerical Analysis* (in Russian), *Works of the Scientific Research Computing Center of Moscow State University and of the Budapest Computing Center for Universities*, Edited by V.I. Dmitriev, E.A. Žogolev, D. Olah and T. Markus, *Computing Center for Universities*, **81**, Budapest, 1978, pp. 43–61.
- [24] *On Regularization of Ill Posed Extremal Problems*, PhD thesis, MGU VMiK, 1979.
- [25] Continuous analogue of gradient-type iterative regularization (in Russian) *Mosc. Univ. Comput. Math. Cybern.*, **3** (1979), 37–44; translation from *Vestn. Mosk. Univ., Ser. XV*, **3** (1979), 36–42.
- [26] Continuous analog of gradient-type iterative regularization (in Russian), *Mosc. Univ. Comput. Math. Cybern.*, **3** (1979), 37–44; translation from *Vestn. Mosk. Univ., Ser. XV 1979, No. 3*, 36–42.
- [27] Continuous methods of nonlinear programming (in Russian), in: *Algorithms '79, Proc. of 5th Symp. on Algorithms*, Strebse Pleso, 1979, 149–151.
- [28] Regularization of incorrectly posed extremal problems using penalty and barrier functions, *Mosc. Univ. Comput. Math. Cybern. 1980, No. 2*, 30–36. (with F.P. Vasil'ev)
- [29] On the regularization of incorrect extremal problems with the use of penalty and barrier functions (in Russian), *Vestn. Mosk. Univ., Ser. XV 1980*, **2** (1980), 29–35. (with F.P. Vasil'ev)
- [30] On the regularization of ill-posed extremal problems using a general penalty function (in Russian), in: *Problems of numerical mathematics and systems programming*, Work Collect., Budapest 1980, 19–41. (with F.P. Vasil'ev)
- [31] Regularization of ill posed extremal problems using penalty functions of a general form, in: *Problems of Numerical Mathematics and System Programming, Works of the Scientific Research Computing Center of Moscow State University and of the Budapest Computing Center for Universities*, 1980, 19–41. (with F.P. Vasil'ev)
- [32] Convergence of the method of generalized barrier functions, *Mosc. Univ. Comput. Math. Cybern. 1981, No. 1*, 47–52.

- 
- [33] Data entry and data management (in Hungarian), in: *PP Statistics user manual I.*, Computing Center for Universities, Information sheet, Budapest, 1981, 5–59. (with K. Orendi)
- [34] Correlation and regression analysis (in Hungarian), in: *PP Statistika felhasználói kézikönyv I.*, Computing Center for Universities, Information sheet, Budapest, 1981, 26–75.
- [35] PP Statistics summary tables, Messages, error signals, *PP Statistics user manual I.*, Computing Center for Universities, Information sheet, Budapest, 1981, 5–210. (with Gy. Németh, K. Orendi, J. Pintér and K. Várnai)
- [36] Solving non-linear programming tasks using the method of regularized minimization (in Hungarian), Computing Center of ELTE, Information sheet, **28-29** (1981), 63–79.
- [37] On the asymptotic behavior of trajectories of nonstationary differential equations, in: *Problems of Computational Mathematics, Works of the Scientific Research Computing Center of Moscow State University and of the Budapest Computing Center for Universities*, 1982, 72–78.
- [38] An estimation for realization rate of competitive market equilibrium with fuzzy set technique, in: *Models and Algorithms*, Vol. 27, Computing Center of ELTE, Budapest, 1982, 33–42. (with P. Várlaki)
- [39] On the convergence of the iterative regularization, in: *Mathematische Optimierung Theorie und Anwendungen, Proc. of 27. Intern. Wiss. Koll. TH Ilmenau*, 1982, 55–57.
- [40] Mathematische Modellierung des parallelen Fertigungsreihe, in: *Kurzreferate. 11. Jahrestagung Grundlagen der Modellierung und Simulationstechnik*, Rostock, 1982, 123–125. (with K. Várnai, R. Fullér, Cs. Láng and L. Ugray)
- [41] Fuzzy estimations for validity grade of competitive market equilibrium in transportation (in Hungarian), *Sigma* **16(4)** (1983), 331–347. (with P. Várlaki)
- [42] Modeling and analysis of economic fuzzy equilibrium, in: *ACI'83, Proc. of IASTED Int. Symp. on Applied Control and Identification*, Copenhagen, 1983, 27–31. (with P. Várlaki)
- [43] Some convergence theorems on nonstationary minimization processes, *Math. Operationsforsch. Stat., Ser. Optimization* **15(2)** (1984), 203–210.

- 
- [44] Regularization of ill-posed extremal problems with imprecisely given data, in: *Computational Mathematics*, A. Wakulicz (ed), Banach Center Publications, vol. 13. PWN - Polish Scientific Publishers, Warsaw, 1984, 237–263. (with F.P. Vasil'ev)
- [45] The influence of some nonlinearities for design of vehicle structures, *Periodica Politechnica – Transportation Engineering*, **12(1-2)** (1984), 51–57. (with P. Michelberger and E. Nándori)
- [46] Analysis of a mathematical method in multifoil activation neutron spectrometry, in: *Mathematical Models in Physics and Chemistry and Numerical Methods of their Realization*, A.A. Samarskiĭ and I. Kátaĭ (eds), TEUBNER TEXTE zur Mathematik vol. 61, Teubner, 1984, 248–257. (with É.M. Zsolnay and E.J. Szondy)
- [47] Mathematical analysis of the yield fluctuation laws (in Hungarian), *Sigma* **19(4)** (1985), 307–3324. (with S. József, K.M. Dobos and I. Zsigmond)
- [48] Fuzzy clustering via goal programming, in: *Mathematische Optimierung - Theorie und Anwendungen, Proc. 30. Intern. Wiss. Koll. TH Ilmenau*, Ilmenau, 1985, 75–77.
- [49] Effect of the change of cross sectional characteristics on the force distribution of vehicle frames, *Acta Technica Academiae Scientiarum Hungaricae*, **98(3-4)** (1985), 346–366. (with P. Michelberger and E. Nándori)
- [50] An estimation of convergence rate of continuous analog of regularized gradient method for linear programming problem, in: E.A. Grebenikov and S.V. Mironov (eds), *Numerical Methods of Boundary and Initial Problems of Differential Equations*, Moscow, 1986, 98–106. (with F.P. Vasil'ev, M.M. Potapov and Yu.H. Chekanov)
- [51] On the convergence rate of the continuous version of the regularized gradient method, *Optimization*, **18(5)** (1987), 689–696. (with F.P. Vasil'ev)
- [52] Fuzzification of ill-posed linear systems, in: *Numerical Methods*, D. Greenspan and P. Rózsa (eds), *Colloquia Mathematica Societatis János Bolyai*, vol. 50, North Holland, 1987, 501–512.
- [53] On  $\mu$ -fuzzy economic equilibrium and its stability, in: *Dynamic Modelling and Control of National Economies*, L.F. Pau et al. (eds), IFAC Proceeding Series, vol. 5., Pergamon Press, 91–96. (with P. Várlaki)
- [54] Fuzzy linear programming with triangular fuzzy parameters, in: *Proc. of Intern. Symp. on Identification, Modelling and Simulation, Publications of IASTED*, M.H. Hamza (ed), Paris, 1987, 447–451.

- [55] Fuzzy LP problems with exponential fuzzy numbers, in: *Proc. of Intern. Tagung Math. Optimierung-Theorie und Anwendungen, Eisenach*, 1987, 93–96.
- [56] A relation based approach to the FMP problems, in: *Frühjahrstagung Nichtlineare Optimierung*, R. Tichachke et al. (eds), Breitenstein, 1987, 55–60.
- [57] Algebraic structure of symmetrical  $M$ -fuzzy numbers, *BUSEFAL*, **35** (1988), 60–69. (with Tran Lam Hach)
- [58] On the  $g$ -fuzzy linear systems, *BUSEFAL*, **37** (1988), 69–77.
- [59] Stability of the fuzzy solution of systems of linear algebraic equations with fuzzy coefficients (in Russian), *Mosc. Univ. Comput. Math. Cybern. 1989, No. 1*, (1989), 4–9; translation from *Vestn. Mosk. Univ., Ser. XV 1989, No. 1*, (1989), 5–9. (with F.P. Vasil'ev and R. Fullér)
- [60] Fuzzification of linear systems of equalities and inequalities (in Russian), *Comput. Math. Model. 2, No. 4*, (1991), 375–380; translation from *Current Problems in Applied Mathematics, Work Collect.*, Moskva, (1989), 73–80. (with R. Fullér)
- [61] An optimum concept for fuzzified linear programming problems, in: *Operations Research Proceedings 1990*, W. Bühler et al. (eds), DGOR, Springer-Verlag, 1992, 34–39.
- [62] Linear programming with centered fuzzy numbers, *Annales Univ. Sci. Budapest., Sect. Comp.*, **12** (1991), 159–165.
- [63] Convergence rate for regularized barrier function methods, *Optimization*, **22(3)** (1991), 427–438. (with F.P. Vasil'ev)
- [64] Algebraic structure of centered  $M$ -fuzzy numbers, *Fuzzy Sets Syst.*, **39(1)** (1991), 91–99. (with Tran Lam Hach)
- [65] Fuzzy linear model fitting to fuzzy observations, *Fuzzy Regression Analysis*, M. Fedrizzi and J. Kacprzyk (eds), *Studies Fuzziness*, Omnitech Press, Warsaw, 1991, 16–123.
- [66] An optimum concept for fuzzified mathematical programming problems, in: *Fuzzy Optimization*, M. Fedrizzi et al. (eds), *Lect. Notes Econ. Math. Syst.*, vol. 368, Springer Verlag, 1991, 36–44.
- [67] Fuzzy regression on fuzzy observations, in: *Joint Hungarian-Japanese Symposium on Fuzzy Systems and Applications*, T.L. Kóczy and K. Hirota (eds), Japan Society for Fuzzy Theory and Systems (SOFT) and Technical University of Budapest, 1991, 76–78. (with S. József)

- 
- [68] On a special class of fuzzy linear programming, in: *Joint Hungarian-Japanese Symposium on Fuzzy Systems and Applications*, T.L. Kóczy and K. Hirota (eds), Japan Society for Fuzzy Theory and Systems (SOFT) and Technical University of Budapest, 1991, 95–97.
- [69] On the fuzzy quadratic assignment problem, in: *Joint Hungarian-Japanese Symposium on Fuzzy Systems and Applications*, T.L.Kóczy and K. Hirota (eds), Japan Society for Fuzzy Theory and Systems (SOFT) and Technical University of Budapest, 1991, 98–101. (with I. Zsigmond)
- [70] Fuzzy linear programming problems with min- and max-extended algebraic operations on centered fuzzy numbers, in: *Computer, Management & Systems Science, IFSA '91 Brussels*, R. Lowen and M. Roubens (eds), Brussels, 1991, 125–128.
- [71] Stable embedding of ill-posed linear equality and inequality systems into fuzzified systems, *Fuzzy Sets Syst.*, **45(3)** (1992), 305–312.
- [72] An optimum concept for fuzzified linear programming problems: A parametric approach, *Tatra Mt. Math. Publ.*, **1** (1992), 57–64. (with F. Herrera and J.L. Verdegay)
- [73]  $g, p$ -fuzzification of arithmetic operations, *Tatra Mt. Math. Publ.*, **1** (1992), 65–71. (with T. Keresztfalvi)
- [74] Fuzzy linear programming problems with homogeneous linear fuzzy functions, in: *Proc. of IPMU'92, Universitat de les Illes Balears*, 1992, 361–364. (with F. Herrera and J.L. Verdegay)
- [75] A parametric approach for  $(g, p)$ -fuzzified linear programming problems, *J. Fuzzy Math.*, **1(3)** (1993), 699–713. (with F. Herrera and J.L. Verdegay)
- [76] Optimality for fuzzified mathematical programming problems: A parametric approach, *Fuzzy Sets Syst.*, **54(3)** (1993), 279–285. (with F. Herrera and J.L. Verdegay)
- [77] A parametric approach for  $(g, p)$ -fuzzified linear programming problems, *J. Fuzzy Math.*, **1(3)** (1993), 699–713. (with F. Herrera and J.L. Verdegay)
- [78] Optimality for fuzzified mathematical programming problems: A parametric approach, *Fuzzy Sets Syst.*, **54(3)** (1993), 279–285. (with F. Herrera and J.L. Verdegay)

- [79] Fuzzy linear programming problems with min- and max-extended algebraic operations on centered fuzzy numbers, in: *Fuzzy Logic: State of Arts*, R. Lowen and M. Roubens (eds), Kluwer Academic Publishers, 1993, 265–275.
- [80] A convexity concept for fuzzy functions on  $\mathbb{R}^n$ , in: *Proc. of the Fifth IFSA World Congress*, Vol. 1, Seoul, 1993, 330–332.
- [81] On fuzzy IF THEN \*\*\* ELSE inference rule, in: *Proc. of Intern Seminar on Diagnostics and Control through Neural Interpretation of Fuzzy Sets*, Marienhamn, 1993, Part 1.
- [82] Efficient solutions of fuzzy linear programming, in: *Proc. of CIFT'92, Current Issues in Fuzzy Technologies*, Trento, 1993, 70–76.
- [83] On the convergence rate of regularization methods for ill-posed extremal problems, *Banach Center Publ.*, **29**, Polish Academy of Sciences, Institute of Mathematics, Warsaw, 1994, 233–244. (with F.P. Vasil'ev)
- [84] Homogeneous linear fuzzy functions and ranking methods in fuzzy linear programming problems, *Int. J. Uncertain. Fuzziness Knowl.-Based Syst.*, **2(1)** (1994), 25–35. (with F. Herrera and J.L. Verdegay)
- [85] Fuzzy linear programming with centered fuzzy numbers, *Stud. Fuzziness*, Physica-Verlag, Heidelberg, 1994, 135–147.
- [86] Fuzzy linear programming with centered fuzzy numbers, in: M. Delgado et al. (eds), *Fuzzy optimization. Recent advances*, Heidelberg: Physica-Verlag. *Stud. Fuzziness*. **2** (1994), 135–147.
- [87] On fuzzy inference with "IF THEN .....ELSE" rule using generalized means, in: *Proc. of 3th Int. Conf. on Fuzzy Logic, Neural Nets and Soft Computing*, Iizuka, 1994, 249–250.
- [88] Fuzzy multicriteria decision using neuron modell, in: *Proc. of 3th Int. Conf. on Fuzzy Logic, Neural Nets and Soft Computing*, Iizuka, 1994, 103–104.
- [89] A reasoning approach to fuzzy linear programming, in: *Proc. of CIFT'94, Current Issues in Fuzzy Technologies*, Trento, 1994, 122–125.
- [90] Possibilistic estimations of imperfections in structural analysis, *Acta Technica Academiae Scientiarum Hungaricae*, **107(3-4)** (1995-96), 369–394. (with E. Nándori)
- [91] On the convexity of fuzzified functions, *Annales Univ. Sci. Budapest., Sect. Comp.*, **18** (1999), 125–136.



- 
- [92] Decision support algorithms for multicriterial decision situations, Decision support submodels for tender-evaluation, in: *Proc. of ETIK Workshop*, Budapest, December, 1999, 9–14, 1999. (with Sz. Csikai, Á. Rádonyi and K. Rózsa)
- [93] A multiobjective linear programming algorithm based on the Dempster–Shafer composition rule, in: *Proc. of EUROFUSE-SIC'99*, 399–403, 1999. (with Sz. Csikai)
- [94] Decision support algorithms for multicriterial decision situations, Methods based on the theory of evidences, in: *Proc. of ETIK Workshop*, 25 May, 1999, 1–6, 1999. (with A. Béni A., Sz. Csikai and M. Fazekas)
- [95] Tender evaluation process based on the theory of evidences (in Hungarian), *Magyar Távközlés*, **XI/4** (2000), 40–44. (with Sz. Csikai)
- [96] Sensitivity analysis of rod systems under micro-geometrical imperfections, in: J. Bokor et al. (eds), *Studies in Vehicle Engineering and Transportation Sciences*, Hung. Acad. Sci. and University of Technology and Economics, 2000, 11–21. (with F.P. Vasil'ev)
- [97] Decision support algorithms for multicriterial decision situations, Decision support methods for bidders, in: *Proc. of ETIK Workshop*, Budapest, December, 2000, 80–87, 2000. (with Sz. Csikai, Á. Rádonyi and K. Rózsa)
- [98] The application of valued choice functions in group-decision, in: *Proc. MS'2000 Int. Conf. of Modelling and Simulation*, Las Palmas de Gran Canaria, 2000, 933–940. (with Á. Rádonyi and K. Rózsa)
- [99] An application of the evidence theory for multiobjective linear programming, in: *Proc. of MOPGP'00, The Fourth International Conference on Multi-Objective Programming and Goal Programming: Theory & Applications*, Ustron, Poland May 29 – June 1, 2000. (with Sz. Csikai)
- [100] Decision support algorithms for multicriterial decision situations, Conflict resolution in decision making, in: *Proc. of ETIK Workshop*, Budapest, 11 May, 2000, 9–14, 2000. (with Sz. Csikai, Á. Rádonyi and K. Rózsa)
- [101] Decision support algorithms for multicriterial decision situations, Belief based construction of choice functions for group decision, in: *Proc. of ETIK Workshop*, Budapest, May 31, 2001, 55–59, 2001. (with Sz. Csikai, Á. Rádonyi and K. Rózsa)
- [102] Flexible linear programs with a restricted overall flexibility level, *Fuzzy Sets Syst.*, **127(2)** (2002), 177–183. (with R. Fullér and Gy. Schuster)

- 
- [103] Reachability of nonlinear fed-batch fermentation processes, *Int. J. Robust Nonlinear Control*, **12(12)** (2002), 1109–1124. (with G. Szederkényi and K.M. Hangos)
- [104] Pessimistic and optimistic interval solutions of perturbed linear systems, *Annales Univ. Sci. Budapest., Sect. Comp.*, **23** (2004), 239–251. (with E. Nándori)
- [105] The maximum-norm of the restricted denominator approximations, *Comput. Math. Appl.*, **50(7)** (2005), 1115–1123.
- [106] On the stability of the  $R$ -rational choice function, *Annales Univ. Sci. Budapest., Sect. Comp.*, **28** (2008), 79–95. (with B. Bodó)
- [107] Solution of the convex programming problem via second order differential equation system, *Miskolc Math. Notes*, **13(1)** (2012), 23–37. (with T. Hajba)
- [108] The Traffic Reaction Model: A kinetic compartmental approach to road traffic modeling. arXiv:2101.10190 Preprint, arXiv:2101.10190, (2021). <https://arxiv.org/abs/2101.10190>  
(with M. Pereira, B. Kulcsár, Gy. Lipták and G. Szederkényi)