Mustafa R. S. Kulenović — Curriculum Vitae

University of Rhode Island
Department of Mathematics and Applied Mathematical Sciences
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Education

Ph.D. in Mathematics *May 1981*

Contributions to the Oscillation Theory of Ordinary and Partial Differential Inequalities of Second Order

Advisor: Prof. I. Aganović and M. K. Grammatikopoulos
University of Sarajevo, Bosnia and Herzegovina (former Yugoslavia).

M. S. in Mathematics, University of Sarajevo, Bosnia and Herzegovina *1977*

B. S. in Mathematics, University of Sarajevo, Bosnia and Herzegovina *1974*

Employment

Professor of Mathematics Step 3 *July 2018-present*
Department of Mathematics, University of Rhode Island, Kingston, RI
Professor of Mathematics *July 2006-June 2016*
Department of Mathematics, University of Rhode Island, Kingston, RI.
Associate Professor of Mathematics *June 2002-June 2006*
Department of Mathematics, University of Rhode Island, Kingston, RI.
Assistant Professor of Mathematics *June 2000-June 2002*
Department of Mathematics, University of Rhode Island, Kingston, RI.
Professor of Mathematics *June 1990 – September 1994*
Department of Mathematics, University of Sarajevo, Bosnia and Herzegovina.
Associate Professor of Mathematics *September 1987 – June 1989*
Department of Mathematics, University of Sarajevo, Bosnia and Herzegovina.
Assistant Professor of Mathematics *June 1982–April 1987*
Department of Mathematics, University of Sarajevo, Bosnia and Herzegovina.
Visiting Assistant Professor of Mathematics *August 1985–December 1986*
Department of Mathematics, University of Rhode Island, Kingston, RI.
Visiting Lecturer of Mathematics *August 1987-June 1989, August 1998–July 2000*
Department of Mathematics, University of Rhode Island, Kingston, RI.
Visiting Associate Professor of Mathematics *August 1989 – June 1990*
Department of Mathematics, American University in Cairo, Cairo, Egypt.
Visiting Professor of Mathematics/ Adjunct *August 1994-July 1998*
Department of Mathematics, University of Rhode Island, Kingston, RI.

Doctoral Teaching Assistant *1974 to 1981*
Department of Mathematics, University of Sarajevo, Bosnia and Herzegovina.

Awards and Honors:

2015-2016 **Maitland P. Simmons Research Award**, University of Rhode Island

Member of the Academy of Sciences of Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina, December 2012

Outstanding Research and Intellectual Property recognition, University of Rhode Island, May 2010.

Distinguished Professor, University of Tuzla, Bosnia and Herzegovina, 2008 - present.

Silver Medal of University of Sarajevo, Bosnia and Herzegovina 1971-1974

Research Interests and Citations

Interests:

Theoretical and applied aspects of difference equations; Global behavior of solutions; Oscillation theory of differential equations; Asymptotic behavior of delay differential equations; Dynamical aspects of difference equations; Bifurcation theory; Chaotic dynamics; Evolutionary Dynamics; Mathematical biology; Population Dynamics; Epidemiology.

Citations:

1. More than 2600 citations in *Scopus* with h-index of 29;
2. More than 1500 references in *MathSciNet*;
3. Over 6200 citations in *Google Scholar* with h-index of 38 ;
4. More than 5000 citations in *Research Gate*.

Publications

Books and Monographs

1. *Dynamics of Second Order Rational Difference Equations, with Open Problems and Conjectures*, Chapman&Hall/CRC Press, 2001. (with G. Ladas)
2. *Discrete Dynamical Systems and Difference Equations with Mathematica*, Chapman&Hall/CRC Press, 2002. (with O. Merino)

Published Journal Articles (peer-reviewed)

3. On a result of Caratheodory, *Radovi ANU BiH, Odj. Prir. i Mat. Nauka* LXVI, 1980, 91-94, (with J. Alajbegović, H. I. Miller and M. Radić).
4. On the Asymptotic Behavior of Second Order Differential Inequalities with Alternating Coefficients, *Math. Nachr.* 98(1980), 317-327, (with M. K. Grammatikopoulos).
5. Oscillation Theorems for Nonlinear Second Order Differential Inequalities,*Fasciculi Mathematici,* 150(1981), 37-50.

6. On the nonexistence of L^2 Solutions of n-th Order Differential Equations, *Proc. Edinburgh Math. Soc.,* 24(1981), 131-136, (with M. K. Grammatikopoulos).

7. Summability Methods in Second Order Nonlinear Oscillations, *Glasnik Mat.* 17(1982), 39-58.

   Oscillatory and Nonoscillatory Behavior of Solutions of Certain Nonlinear Differential Equations of n-th Order, *Radovi ANU BiH, Odj. Pri. i Mat. Nauka* LXIX, 20(1982), 42-54.

8. On Certain Second Order Nonlinear Differential Inequalities, *Radovi ANU BiH, Odj. Pri. Mat. Nauka* LXIX, 20(1982), 101-113.

9. Hille-Wintner Type Comparison Theorems for Differential Inequalities, *Math. Nachr.* 108(1982), 7-21.

10. On a Result of Etgen and Lewis, *Czechoslovak Math. J.,* 32 (107)(1982), 373-376.

11. Asymptotic Analysis of a Nonlinear Second Order Difference Equation I, *Zbornik Radova PMF Novi Sad,* 12(1982), 73-92, (with M.Budinčević).

12. On the Oscillation of Second Order Differential Inequalities, *Radovi ANU BiH, Odj. Prir. i Mat. Nauka* LXXIV, 22(1983), 21-31.

13. On Oscillations of Nonlinear Partial Differential Inequalities, *Radovi ANU BiH, Odj. Prir. i Mat. Nauka* LXXIV, 22(1983), 67-72.

14. Oscillations and Asymptotic Behavior of Nonlinear Differential Inequalities and Equations with Deviating Argument,*Ukrain. Mat. Z.* 36 (3)(1984), 309-316, (In Russian), (with M. K. Grammatikopoulos).

15. Stability of Asymptotic Behavior of Solutions of Nonlinear Differential Inequalities with Respect to the Argument Delay, *Ukrain. Mat. Z.* 36 (3)(1984), 437-443, (In Russian), (with M. K. Grammatikopoulos).

16. Maintenance of Asymptotic Behavior of Nonlinear Differential Inequalities under the Effect of Delay, *Proc. IX International Conf. on Nonlinear Oscillations,* Kiev 1981, Naukova Dumka 1984, Vol. 2, 199-202, (with M. K. Grammatikopoulos).

17. Maintenance of Asymptotic Behavior of Nonlinear Differential Inequalities under the Effect of Advanced and Mixed Argument, *Acta Math. Hungarica* 44 (1-2), (1984), 21-35.

18. First Order Functional Differential Inequalities with Oscillating Coefficients, *Nonlinear Analysis TMA* 8 (9), (1984), 1043-1054, (with M. K. Grammatikopoulos).

19. Asymptotic Analysis of Nonlinear Second Order Difference Equations, *An. Stiint. Univ. "Al. I. Cuza" Iasi, Sect. 1a Mat.* 30(1984), 39-52, (with M. Budinčević).

20. Harmless and Harmful Retarded and Advanced Actions in Mathematical Models in Biology, *Proc. of IV Yugoslav Conf. on Applied Math.,* Split 1984, (1985), 11-18.

21. Oscillations and Asymptotic Properties of First Order Differential Equations and Inequalities with a Deviating Argument, *Math. Nachr.* 123(1985), 7-21, (with M. K. Grammatikopoulos).

22. Asymptotic Properties of Second Order Differential Inequalities with a General Deviating Argument, *Fasciculi Mathematici* 15(1984), 83-96.

23. Asymptotic Behavior of Solutions of Certain Differential Equations and Inequalities of Second Order, *Radovi Matematički* 1(2)(1985), 275-295.

24. Asymptotic Behavior of Solutions of Elliptic Differential Equations via Ordinary Differential Inequalities, *ZAMM* 66(1985), 374-376.

25. Asymptotic Behavior of Solutions of Generalized Emden-Fowler Equation with Deviating Argument, *Proc. of the Colloquium on Differential Equations* (Szeged, 1984), North Holland, (1987), 615-632.

26. On Oscillations of Nonlinear Delay Equations, *Quart. Appl. Math.* 45(1987), 155-164, (with G. Ladas and A. Meimaridou).

27. Necessary and Sufficient Condition for Oscillations of Neutral Differential Equations, *J. Austral. Math. Soc. Series B,* 28(1987), 362-375, (with G. Ladas and A. Meimaridou).

28. Stability of Solutions of Linear Delay Differential Equations, *Proc. Amer. Math. Soc.* 100(1987), 433-441, (with G. Ladas and A. Meimaridou).

29. L^p-Perturbations of Linear Differential Equations, *Glasnik Mat.,* 22(1987), 309-325, (with M. Budinčević).

30. Linearized Oscillations Theory for Second Order Differential Equations, *Proc. of the Conference; Oscillations, Bifurcations and Chaos,* Toronto, July 1986, CMS (8), 261-268, (with G. Ladas).

31. Sturm Comparison Theorems for Neutral Differential Equations, *Proc. of the Conference; Oscillations, Bifurcations and Chaos,* Toronto, July 1986, CMS (8), 163-170, (with E. A. Grove and G. Ladas).

32. Sufficient Conditions for Oscillations and Nonoscillations of Neutral Equations, *J. Differential Equations,* 68(1987), 373-382, (with E. A. Grove and G. Ladas).

33. On Oscillations of Nonlinear Delay Equations, *Quart. Appl. Math.* 45(1987), 155-164, (with G. Ladas and A. Meimaridou).

34. Linearized Oscillations in Population Dynamics, *Bull. Math. Biol.* 49 (5)(1987), 615-627, (with G. Ladas).

35. Oscillations of the Sunflower Equation, *Quart. Appl. Math.* 46 (1988), 23-28, (with G. Ladas).

36. Oscillations of Second Order Linear Delay Differential Equations, *Applicable Anal.* 27(1988), 109-123, (with G. Ladas and Y. G. Sficas).

37. Some Comparison and Oscillation Results for First Order Differential Equations and Inequalities with a Deviating Argument, *J. Math. Anal. Appl.,* 131(1988), 67-84, (with M. K. Grammatikopoulos).

38. Time Lags in a "Food Limited" Population Model, *Applicable Anal.* 31(1988), 225-237 (with K. Gopalsamy and G. Ladas).

39. Oscillations in a Periodic Delay Differential Equations, *Proc. of Int. Conf. on Differential Equations,* Columbus, OH, March 1988, 348-352, (with K. Gopalsamy and G. Ladas).

40. Global Attractivity in Population Dynamics, *Comput. Math. Appl.,* 19(1989), 925-928, (with G.Ladas and Y.G.Sficas).

41. Oscillations of Neutral Equations with Variable Coefficientes, *Radovi Matematicki,* 5 (2)(1989), (with Q. Chuanxi and G. Ladas).

42. A Myskis-Type Comparison Result for Neutral Equations, *Math. Nachr.*, 146(1990), 195-206, (with E. A. Grove and G. Ladas).

43. Oscillations of a System of Delay Logistic Equations, *J. Math. Anal. Appl.,* 146(1990), 192-202, (with K. Gopalsamy and G. Ladas).

44. Comparison Results for Oscillations of Delay Equations, *Annal. Mat. Pura Appl.,* 156(1990), 1-14, (with G. Ladas and Y. G. Sficas).

45. Environmental Periodicity and Time Delays in a "Food-Limited" Population Model, *J. Math. Anal. Appl.,* 147(1990), 545-555, (with K. Gopalsamy and G. Ladas).

46. On a Logistic Equation with Piecewise Constant Argument, *Differential and Integral Equations,* 4(1991), 215-223, (with K. Gopalsamy and G. Ladas).

47. Oscillations and Global Attractivity in Respiratory Dynamics, *Dynamics and Stability of Systems,* 4(2)(1989), 131-139, (with K. Gopalsamy and G. Ladas).

48. Oscillations and Global Attractivity in Models of Hematopoiesis, *Dynamics and Differential Equations,* 2(2)(1990), 117-132, (with K. Gopalsamy and G. Ladas).

49. Global Attractivity in Nicholson's Blowflies, *Applicable Anal.,* 43(1992), 109-124, (with G. Ladas and Y. G. Sficas).

50. Perturbations of a Linear Differential Equation, *Zbornik Radova PMF Novi Sad,* 23(1993), 113-120, (with M.Budinčević).

51. ℓ^p-perturbations of a Linear Difference Equation, *Zbornik Radova PMF Novi Sad,* 23(1993), 157-166, (with M.Budinčević).

52. Oscillation of the Euler Differential Equation with Delay, *Czechoslovak Math. J.*, 45(120)(1995), 1-6.

53. On the Recursive Sequence $x_{n+1} = (\alpha x_n + \beta x_{n-1})/(\gamma x_n + \delta x_{n-1})$, *Math. Sci. Res. Hot-Line* 2(1998), no.5, 1-16 (with G. Ladas and W. S. Sizer).

54. Existence of Nonoscillatory Solution of Second Order Linear Neutral Delay Equation, *J. Math. Anal. Appl.,* 228 (1998), 436-448 (with S. Hadžiomerspahić).

55. Linearized Oscillations for Neutral Equations with Positive and Negative Coefficients, *Radovi Matematicki*, 9 (1) (1999), 33-49, (with S. Hadžiomerspahić).

56. On the Recursive Sequence $x_{n+1} = (\alpha + \beta x_{n-1})/(\gamma + x_n)$, *Math. Sci. Res. Hot-Line* 4(2) (2000), 1-11 (with C. Gibbons and G. Ladas).

57. Necessary and Sufficient Conditions for the Oscillation of a Second Order Linear Differential Equation, *Math. Nachr.,* 213(2000), 105-115 (with Ć. Ljubović).

58. The Asymptotic Behavior of Nonoscillatory Solutions of Some Nonlinear Differential Equations, *Nonlinear Analysis TMA* 42(5), (2000), 821-833, (with Ć. Ljubović).

59. All Solutions of the Equilibrium Capillary Surface Equation are Oscillatory, *Appl. Math. Lett.* 13 (5)(2000), 107–110 (with Ć. Ljubović).

60. Invariants and Related Liapunov Functions for Difference Equations, *Appl. Math. Lett.* 13 (7)(2000), 1-8.

61. On the Recursive Sequence $x_{n+1} = \dfrac{ax_n + bx_{n-1}}{A + x_n}$, *J. Differ. Equations Appl.* 6(5) (2000), 563-576 (with G. Ladas and N. R. Prokup).

62. Open Problems and Conjectures: On Period Two Solutions of $x_{n+1} = \dfrac{\alpha + \beta x_n + \gamma x_{n-1}}{A + Bx_n + Cx_{n-1}}$, *J. Differ. Equations Appl.* 6(5) (2000), 641-646 (with G. Ladas).

63. On the Recursive Sequence $y_{n+1} = \dfrac{p + y_{n-1}}{qy_n + y_{n-1}}$, *J. Math. Anal. Appl.* 251 (2000), 571-586 (with W. A. Kosmala, G. Ladas, and C. T. Teixeira).

64. A Rational Difference Equation , *Comput. Math. Appl.* 41 (2001), 671-678 (with G. Ladas and N. R. Prokup).

65. On the Recursive Sequence $x_{n+1} = \dfrac{\alpha + \beta x_n}{Bx_n + Cx_{n-1}}$, *Nonlinear Analysis TMA* 47, (2001), 4603-4614 (with K. Cunningham, G. Ladas, and S. Valicenti).

66. Existence of Nonoscillatory Solution for Linear Neutral Delay Equation, *Fasciculi Mathematici ,* 32 (2001), 61-72 (with S. Hadžiomerspahić).

67. On the Dynamics of $x_{n+1} = \dfrac{\alpha + \beta x_n + \gamma x_{n-1}}{A + x_n}$, New Trends in Difference Equations, Proc. Fifth Internat. Conf. Difference Equations, (Temuco, Chile, 2000), 141-158, Francis & Taylor, London and New York, 2002 (with C. Gibbons and G. Ladas).

68. On the Trichotomy Character of $x_{n+1} = \dfrac{\alpha + \beta x_n + \gamma x_{n-1}}{A + x_n}$, *J. Differ. Equations Appl.* 8(2002), 75-92 (with C. Gibbons, G. Ladas, and H. Voulov).

69. A Coupled System of Rational Difference Equations, *Comput. Math. Appl.* (2002), 43 (2002), 849-867 (with D. Clark).

70. On the Stability of Solutions of Certain Systems of Differential Equations with Piecewise Constant Argument, *Czechoslovak Math. J.*, 52(127) (2002), 449–461 (with S. R. Grace and H. El-Metwally).

71. Global Asymptotic Behavior of a Two-dimensional System of Difference Equations, *Radovi Matematicki*, 11 (2002), 59-78 (with M. Nurkanović) .

72. Asymptotic Behavior of Certain Third Order Rational Difference Equation, Radovi Matematicki, 11 (2002), 79-101 (with S. Kalabušić).

73. Asymptotic Behavior of a Two-dimensional Linear Fractional System of Difference Equations Modeling Cooperation,, *J. Differ. Equations Appl.* 1 (2003), 149-159, (with M. Nurkanović).

74. Global Asymptotic Behavior of a Two-dimensional Difference Equation Modelling Competition, *Nonlinear Analysis TMA* , 52/7(2003), 1765-1776 (with D. Clark and J. F. Selgrade).

75. Asymptotics of the Rational Difference Equation of Third Order, *J. of Concrete And Applicable Mathematics,* 1(3) (2003), 149-162 (with S. Kalabušić and C. B. Overdeep).

76. Nonoscillatory Solutions for System of Neutral Delay Equation, *Nonlinear Analysis TMA*, 54(2003), 63-81, (with H. El-Metwally and S. Hadžiomerspahić).

77. On the Recursive Sequence $x_{n+1} = \dfrac{\gamma x_{n-1} + \delta x_{n-2}}{C x_{n-1} + D x_{n-2}}$, *J. Difference Equ. Appl.* 9(2003), 701-720 (with S. Kalabušić).

78. On the Dynamics of $x_{n+1} = \dfrac{\alpha + \beta x_n}{A + B x_n + C x_{n-1}}$ Facts and Conjectures, *Comput. Math. Appl.,* 45 (2003), 1087-1099 (with G. Ladas, L. F. Martins, and I. W. Rodrigues).

79. Open Problems and Conjectures: On the Dynamics of $x_{n+1} = p_n + \dfrac{x_{n-1}}{x_n}$, *J. Difference Equ. Appl.* 11(2003), 1053-1056 (with G. Ladas and C. B. Overdeep).

80. Rate of Convergence of Solutions of Rational Difference Equation of Second Order, *Advances in Difference Equations*, 1 (2004), 121-140 (with S. Kalabušić).

81. Stability of Lyness' Equation with Period-three Coefficient, *Radovi Matematički*, 12 (2004), 153-161 (with Z. Nurkanović).

82. On the Recursive Sequence $x_{n+1} = \dfrac{\gamma x_{n-1} + \delta x_{n-k}}{C x_{n-1} + D x_{n-k}}$, *J. Difference Equ. Appl.* 10(2004), 915-928, (with S. Kalabušić and C. B. Overdeep).

83. On the Dynamics of $x_{n+1} = p_n + \dfrac{x_{n-1}}{x_n}$, *J. Difference Equ. Appl.* 10 (2004),905-914 (with G. Ladas and C. B. Overdeep).

84. Compensatory versus Overcompensatory Dynamics in Density-dependent Leslie Models, *J. Differ. Equations Appl.* 10(2004), 1251-1266 (with A.-A. Yakubu).

85. Progress report on Rational Difference Equations, *J. Difference Equ. Appl.* 10(2004), 1313-1327 (with E. A. Grove and G. Ladas).

86. On the Dynamics of $x_{n+1} = \dfrac{p x_{n-1} + x_{n-2}}{x_n}$, *Math. Sci. Res. J.*, 8(2004),137-146 (with C. A. Clark and S. Valicenti).

87. Asymptotic Behavior of a System of Linear Fractional Difference Equations, *Journal of Inequalities and Applications*, (2005), 127-144 (with M. Nurkanović).

88. The Amplitudes of Nonlinear Oscillations, *Appl. Math. Lett*, 18 (2005), 505-511 (with N. Moussa).

89. Stability of the Gumowski-Mira Equation with Period-Two Coefficient, *J. Math. Anal. Appl.*, 307(2005), 292-304 (with C. A. Clark and E. J. Janowski).

90. On A System of Rational Difference Equations, *J. Difference Equ. Appl.* 11 (2005), 565-580 (with C. A. Clark and J. F. Selgrade).

91. Global behavior of a three-dimensional linear fractional system of difference equations, *J. Math. Anal. Appl.*, 310(2005), 673-689 (with Z. Nurkanović).

92. A Global Attractivity Result for Maps with Invariant Boxes, *Discrete Contin. Dyn. Syst.* 6(2006), 97-110 (with O. Merino).

93. Global Attractivity of the Equilibrium of $x_{n+1} = (px_n + x_{n-1})/(qx_n + x_{n-1})$ for $q < p$, *J. Difference Equ. Appl.* 12 (2006), 101-108 (with O. Merino).

94. Competitive-Exclusion versus Competitive-Coexistence for Systems in the Plane, *Discrete Contin. Dyn. Syst. B* 6 (2006), 1141-1156 (with O. Merino).

95. A Note on Unbounded Solutions of a Class of Second Order Rational Difference Equations, *J. Difference Equ. Appl.* 12 (2006), 12 (2006), 777-781 (with O. Merino).

96. Asymptotic Behavior of a Competitive System of Linear Fractional Difference Equations, *Advances in Difference Equations* Art. ID 19756 3(2006), 1-13 (with M. Nurkanović).

97. Stability of the k-th Order Lyness' Equation with a Period-k Coefficient, *Int. J. of Bifurcations and Chaos*, 17(2007), 143-152 (with E. J. Janowski and Z. Nurkanović).

98. Stability analysis of Pielou's equation with period-two coefficient, *J. Difference Equ. Appl.* 13 (2007), 383-406 (with O. Merino).

99. Convergence to a Period-two Solution for a Class of Second Order Rational Difference Equations, *Proc. Tenth Internat. Conf. Difference Equations* Munich (Germany), World Scientific, (2007), 344-353 (with O. Merino).

100. Global Dynamics Behavior of $y_{n+1} = \frac{py_n + y_{n-1}}{r + qy_n + y_{n-1}}$ *Advances in Difference Equations*, Article ID 41541 pp. 22. (2007), (with A. Brett).

101. Stability of Lyness' Equation with Period-Two Coefficient via KAM Theory, *J. Concr. Appl. Math.*, 6(2008), 229-245 (with Z. Nurkanović).

102. Global Dynamics of a Rational System of Difference Equations in the Plane, *Comm. Appl. Nonlinear Anal.*, 15(2008), 71-84 (with Dž. Burgić and M. Nurkanović).

103. Non-hyperbolic Dynamics for Competitive Systems in the Plane and Global Period-doubling Bifurcations, *Adv. Dyn. Syst. Appl.* 3(2008), 229-249 (with Dž. Burgić and S. Kalabušić).

104. Period-Two Trichotomies of a Difference Equation of Order Higher than Two, *Sarajevo Journal of Mathematics*, 4(2008), 73-90 (with Dž. Burgić and S. Kalabušić).

105. Attractivity and Global Stability for Linearizable Difference Equations, *Comput. Math. Appl.*, 57(2009), 1592-1607 (with E. J. Janowski).

106. Rational Systems in the Plane - Open Problems and Conjectures, *J. Difference Equ. Appl.*, 15(2009), 303-323 (with E. Camouzis, G. Ladas and O. Merino).

107. Global Bifurcation for Competitive Systems in the Plane, *Discrete Contin. Dyn. Syst. B* 12 (2009), 133-149 (with O. Merino).

108. Global Attractivity Results for Mixed Monotone Mappings in Partially Ordered Complete Metric Spaces, *Fixed Point Theory Appl.*, (2009), Article ID 762478, 17 pages (with Dž. Burgić and S. Kalabušić).

109. Global Behavior of Two Competitive Rational Systems of Difference Equations in the Plane, *Comm. Appl. Nonlinear Anal.*, 15(2009), 1-18 (with A. Brett, M. Garić-Demirović and M. Nurkanović).

110. Global Behavior of Four Competitive Rational Systems of Difference Equations in the Plane, *Discrete Dynamics in Nature and Society*, (2009), Article ID 153058, 34 pages (with M. Garić-Demirović and M. Nurkanović).

111. Basins of Attraction of Equilibrium Points of Monotone Difference Equations, *Sarajevo Journal of Mathematics*, 5(2009), 211-233 (with A. Brett).

112. Global Dynamics of a Competitive System of Rational Difference Equations in the Plane, *Advances in Difference Equations*, Volume 2009 (2009), Article ID 132802, 30 pages (with S. Kalabušić and E. Pilav).

113. Invariant Manifolds for Competitive Discrete Systems in the Plane, *Int. J. of Bifurcations and Chaos*, 20(2010), 2471-2486. (with O. Merino).

114. Global Attractivity Results in Partially Ordered Complete Metric Spaces, *Nonlinear Studies*, 18(2011), 141-154 (with A. Brett and S. Kalabušić).

115. Dynamics of Certain Anti-competitive Systems of Rational Difference Equations in the Plane, *J. Difference Equ. Appl.*, 17(2011), 1599-1615 (with S. Kalabušić).

116. Dynamics of a Two-dimensional System of Rational Difference Equations of Leslie-Gower type, *Advances in Difference Equations*, Volume 2011 (2011), 29 pages, (with S. Kalabušić and E. Pilav).

117. Multiple Attractors for a Competitive System of Rational Difference Equations in the Plane, *Abstract Appl. Anal.*, 2011, Article ID 295308, 35 pages (with S. Kalabušić and E. Pilav).

118. Periodic Solutions of Linearizable Difference Equations, *International J. Difference Equ.*, 6(2011), 113-125 (with E. Janowski and E. Silić).

119. Global Behavior of a Two-dimensional Competitive System of Difference Equations with Stocking, *Matematical and Computer Modelling*, 55 (2012), 1998-2011 (with M. Nurkanović).

120. Basins of Attraction of an Anti-competitive System of Difference Equations in the Plane, *Comm. Appl. Nonlinear Anal.*, 19(2012), 41–53 (with M. Nurkanović).

121. Global Dynamics of Certain Competitive System in the Plane, *J. Difference Equ. Appl.*, 12 (2012), 1951–1966 (with O. Merino and M. Nurkanović).

122. Basins of Attraction of Equilibrium Points of Second Order Difference Equations, *Appl. Math. Lett.*, 25 (2012), 2110–2115 (with M. Garić-Demirović and M. Nurkanović).

123. Global Behavior of Some Rational Second Order Difference Equations, *International J. Difference Equ.*, 7(2012), 153–162 (with M. Mehuljić).

124. Global Dynamics of Three Anticompetitive Systems of Difference Equations in the Plane, *Discrete Dyn. Nat. Soc.*, Volume2013 (2013), Article ID 751594, 11 pages (with M. DiPippo).

125. Deterministic Discrete Dynamical Systems: Advances in Regular and Chaotic Behavior with Applications, *Discrete Dyn. Nat. Soc.*, Volume2013 (2013), 419369 DOI: 10.1155, 2 pages (with R. Abu-Saris, A. Fathi and A. Peris).

126. Global Dynamics of an Anti-competitive System of Rational Difference Equations in the Plane, *J. Difference Equations Appl.*, 19(2013), 1849-1871 (with S. Kalabušić and E. Pilav).

127. Global Dynamics of Anti-Competitive Systems in the Plane, *Dyn. Contin. Discrete Impuls. Syst. Ser. A Math. Anal.*, 20(2013), 477-505 (with S. Kalabušić and E. Pilav).

128. Existence of a Period-two Solution in Linearizable Difference Equations, *Discrete Dyn. Nat. Soc.*, Volume 2013, Article ID 421545, 9 pages (with E. Janowski).

129. Global Dynamics of Certain Homogeneous Second Order Quadratic Fractional Difference Equation, *The Scientific World Journal, Mathematical Analysis*, Volume 2013, Article ID 210846, 10 pages (with M. Garić-Demirović and M. Nurkanović).

130. Birkhoff Normal Forms and KAM theory for Gumowski-Mira Equation, *The Scientific World Journal, Mathematical Analysis*, Volume 2014, Article ID 819290, 8 pages (with Z. Nurkanović and E. Pilav).

131. Basins of Attraction of Equilibrium and Boundary Points of Second Order Difference Equation, *J. Difference Equations Appl.*, 20(2014), 947–959 (with S. Jašarević).

132. Global Dynamics of Quadratic Second Order Difference Equation in the First Quadrant, *Appl. Math. Comp.*, 227(2014), 50-65 (with J. Bekteševi ć and E. Pilav).

133. Local Dynamics and Global Attractivity of a Certain Second Order Quadratic Fractional Difference Equation, *Advances in Difference Equations*, Volume 2014 (2014), 32p. (with E. Pilav and E. Silić).

134. Global Period-doubling Bifurcation of Quadratic Fractional Second Order Difference Equation, *Discrete Dyn. Nat. Soc.*, Volume 2014, 13p. (with S. Kalabušić and M. Mehuljić).

135. Global Asymptotic Stability for Linear Fractional Difference Equation, *Journal of Difference Equations*, 1(2014), 12 p. (with A. Brett and E. J. Janowski).

136. Basins of Attraction of a System of Difference Equations in the Plane, *International J. Difference Equ.*, 9(2014), 207–222 (with S. Kalabušić and E. Pilav).

137. Two Species Competitive Model with the Allee Effect, *Advances in Difference Equations*, Volume 2014 (2014), (2014), 2014:307, 28p. (with A. Brett).

138. Dynamics of a Two-dimensional Competitive System of Rational Difference Equations with Quadratic Terms, *Advances in Difference Equations*, (2014), 2014:301, 32 p. (with V. Hadžiabdić and E. Pilav).

139. Naimark-Sacker bifurcation of a certain second order quadratic fractional difference equation, *Journal of Computational and Mathematical Sciences*, 4 (2014),1025–1043 (with E. Pilav and E. Silić).

140. Basins of Attraction of Certain Homogeneous Second Order Quadratic Fractional Difference Equation, *J. Concr. Appl. Math.*, 13(2015), 35–50 (with M. Garić-Demirović and M. Nurkanović).

141. Global Dynamics of a Certain Two-dimensional Competitive System of Rational Difference Equations with Quadratic Terms, *J. Comp. Anal. Appl.*, 19(2015),156–166 (with M. Pilling).

142. Bifurcation in Deterministic Discrete Dynamical Systems: Advances in Theory and Applications, *Discrete Dyn. Nat. Soc.*, (2015), 3 p. (with R. Abu-Saris, Sui Sun Cheng and A. Fathi).

143. Basins of Attraction for Two Species Competitive Model with quadratic terms and the singular Allee Effect, *Discrete Dyn. Nat. Soc.*, Volume 2015 (2015), 16 p. (with A. Brett).

144. Asymptotic approximations of the stable and unstable manifolds of the fixed points of a two-dimensional cubic map, *International J. Difference Equ.*, 10(2015), 39-58 (with J. Bektešević and E. Pilav).

145. Global Dynamics of Cubic Second Order Difference Equation in the First Quadrant, *Advances in Difference Equations*, (2015), 2015: 176, 38p., (with J. Bektešević and E. Pilav).

146. Global Asymptotic Stability for Quadratic Fractional Difference Equation, *Advances in Difference Equations*, (2015), 2015:179, 13 p. (with M. DiPippo and E. J. Janowski).

147. Birkhoff Normal Forms, KAM theory and Symmetries for Certain Second Order Rational Difference Equation with Quadratic Term, *International J. Difference Equ.*, 10(2015),181–199 (with S. Jašarević Hrustić, Z. Nurkanović and E. Pilav).

148. Global Dynamics and Bifurcations of Certain Second Order Rational Difference Equation with Quadratic Terms, *Qual. Theory Dyn. Syst.*, 15 (2016), 283–307. (with S. Jašarević Hrustić and M. Nurkanović).

149. Asymptotic approximations of a stable and unstable manifolds of a two-dimensional quadratic map, *J. Comput. Anal. Appl.*, 21(2016), 35–51 (with J. Bektešević and E. Pilav).

150. Global Dynamics and Bifurcations of Two Quadratic Fractional Second Order Difference Equations, *J. Comput. Anal. Appl.*, 21(2016), 132–143 (with S. Kalabušić and M. Mehuljić).

151. Naimark-Sacker bifurcation of second order rational difference equation with quadratic terms, *The Journal of Nonlinear Science and Applications*, (2016), 14p. (with S. Moranjkić and Z. Nurkanović).

152. Global Dynamics and Bifurcation of a Perturbed Sigmoid Beverton-Holt Difference Equation, *Mathematical Methods in Applied Sciences*, 39(2016), 2696—2715. (with S. Moranjkić and Z. Nurkanović).

153. Local Dynamics and Global Stability of Certain Second Order Rational Difference Equation with Quadratic Terms, *Discrete Dyn. Nat. Soc.*, Volume 2016 (2016), 14p. (with S. Jašarević Hrustić and M. Nurkanović).

154. Basins of Attraction of Period-Two Solutions of Monotone Difference Equations, *Advances in Difference Equations*, (2016), 2016: 25p., (with A. Bilgin and E. Pilav).

155. Birkhoff normal forms, KAM theory and time reversal symmetry for certain rational map, *Mathematics*, 2016; 4(1):20, (with E. Denette and E. Pilav).

156. Asymptotic approximations of the stable and unstable manifold of the fixed point of a certain rational map by using functional equations, *Sarajevo J. Math.*, 12 (25) (2016), 233–250, (with E. Pilav).

157. Global Attractivity for Nonautonomous Difference Equations via Linearization, *J. Comp. Anal. Appl.*, 23(2017), 1311–1322 (with A. Bilgin).

158. The Naimark-Sacker bifurcation and asymptotic approximation of the invariant curve of certain difference equation, *J. Comp. Anal. Appl.*, 23(2017), 1335–1346 (with T. Khyat and E. Pilav).

159. The invariant curve caused by Neimark-Sacker bifurcation of a perturbed Beverton-Holt difference equation, *International J. Difference Equ.*, 12(2017), 267-280 (with T. Khyat and E. Pilav).

160. Global Asymptotic Stability for Discrete Single Species Population Models, *Discrete Dyn. Nat. Soc.*, Volume 2017 (2017), 15 p. (with A. Bilgin).

161. Bifurcation and Global Dynamics of a Leslie-Gower Type Competitive System of Rational Difference Equations with Quadratic Terms, *Abstract and Appl. Anal.*, (2017), 21 p. (with V. Hadžiabdić and E. Pilav).

162. Global Dynamics of the Polynomial Second Order Difference Equation in the First Quadrant, *Comm. Appl. Nonlinear Anal.*, 24(2017), 46–81 (with J. Bektešević and E. Pilav).

163. Global stability of a quadratic anti-competitive system of rational difference equations in the plane with Allee effects., *J. Comp. Anal. Appl.*, 25(2018), 1311-1323 (with V. Hadžiabdić and E. Pilav).

164. Invariant Curves for Planar Competitive and Cooperative Maps, *J. Difference Equations Appl.*, 24(2018), 898-915 (with O. Merino)

165. Global Dynamics of A Cooperative Discrete System in the Plane, *Int. J. of Bifurcations and Chaos*, 28(2018), (with A. Bilgin, A. Brett and E. Pilav).

166. Global Behavior of Certain Nonautonomous Linearizable Three Term Difference Equations, *Mathematics*, 2018; 4(1):20, (with E. J. Janowski).

167. Global Dynamic Scenarios for Competitive Maps in the Plane, *Advances in Difference Equations*, (2018), 2018: 28p., (with E. Bertrand).

168. Global Dynamics of Higher-Order Transcendental-Type Generalized Beverton–Holt Equations, *International J. Difference Equations*, 13(2018), 71-84 (with E. Bertrand).

169. Global Asymptotic Stability and Naimark-Sacker Bifurcation of Certain Mix Monotone Difference Equation, *Discrete Dyn. Nat. Soc.*, Volume 2018 (2018), Art. ID 7052935, 22 pp. (with S. Moranjkić, M. Nurkanović and Z. Nurkanović).

170. Birkhoff Normal Forms, KAM theory and continua of periodic points for certain planar system, *J. Comp. Anal. Appl.*, 27(2019), 470-480 (with N. Mujić and E. Pilav).

171. Global Dynamics of Leslie-Gower Competitive Systems in the Plane, *Mathematics*, 7(1) 76 (2019),18 p. (with D. McArdle).

172. Global dynamics of perturbation of certain rational difference equation, *Turkish J. Math.*, 43(2019), 894-915 (with S. Hrustić, S. Moranjkić and Z. Nurkanović).

173. Global Dynamics of a Cooperative System with Ceiling Density Dependence, *International J. Difference Equations*, 14(2019),59–74 (with S. Van Beaver).

174. Global dynamics of certain mix monotone difference equation via center manifold theory and theory of monotone maps, *Sarajevo J. Math.*, 15 (28), (2019), 129 – 154, (with M. Nurkanović and Z. Nurkanović).

175. Global Dynamics and Bifurcations of Two Second Order Difference Equations in Mathematical Biology, *J. Comp. Anal. Appl.*, 28(2020), 615–627. (with S. Van Beaver).

176. Global Dynamics of Delayed Sigmoid Beverton-Holt Equation, *Discrete Dyn. Nat. Soc.*, Volume 2020 (2020), 15p. (with T. Khyat).

177. Period-Doubling and the Naimark-Sacker Bifurcations of Certain Second Order Quadratic Fractional Difference Equation, *International J. Difference Equations*, 15(2020),121-152 (with N. Mujić and E. Pilav).

178. Global Dynamics of Monotone Second Order Difference Equation, *J. Comp. Anal. Appl.*, 29(2021),172–184, (with S. Kalabušić and M. Mehuljić).

179. Global Dynamics of Generalized Second-Order Beverton-Holt Equations of Linear and Quadratic Type, *J. Comp. Anal. Appl.*, 29(2021),185–202, (with E. Bertrand).

180. Properties of Basins of Attraction for Planar Discrete Cooperative Maps, *Discrete Contin. Dyn. Syst. B*, 26(2021), 2721–2737 (with J. Marcotte and O. Merino).

181. Asymptotic Behavior of a Discrete-Time Density-Dependent SI Epidemic Model With Constant Recruitment, *Journal of Applied Mathematics and Computing*, (2021) 67:733–753 (with M. Nurkanović and A.-A. Yakubu)

182. The Neimark-Sacker bifurcation and global stability of perturbation of sigmoid Beverton-Holt difference equation, *Discrete Dyn. Nat. Soc.*, Volume 2021 (2021), 15p. (with C. O'Loughlin and E. Pilav)

183. Global Dynamics of Modified Discrete Lotka-Volterra Model, Progress on difference equations and discrete dynamical systems, Springer Proc. Math. Stat., 341, Springer, Cham, [2023], 32 p. (with S. Van Beaver).

Software

Dynamica

Computer package written in *Mathematica*, intended for use in the numerical studies and simulations of difference equations and discrete dynamical systems. (with O. Merino) (software supplement of book 2.)

Dynamic Analyzer

Computer package written in *Mathematica*, intended for use in the symbolical and numerical studies of difference equations and discrete dynamical systems. (with E. Pilav)

Teaching Experience

Undergraduate courses, University of Rhode Island 1994 to present

MTH 107	Introduction to Finite Mathematics
MTH 108	Topics in Mathematics
MTH 111	Precalculus
MTH 131	Applied Calculus I
MTH 132	Applied Calculus II
MTH 141	Calculus I
MTH 142	Calculus II
MTH 215	Introductory Linear Algebra
MTH 243	Multivariable Calculus
MTH 244	Differential Equations
MTH 215	Linear Algebra
MTH 381	History of Mathematics
MTH 361	Advanced Engineering Mathematics I
MTH 362	Advanced Engineering Mathematics II
MTH 418	Matrix Analysis
MTH 437	Advanced Calculus I
MTH 438	Advanced Calculus II
MTH 442	Difference Equations
MTH 451	Introduction to Probability and Statistics
MTH 452	Mathematical Statistics

Graduate courses, University of Rhode Island 1994 to present

MTH 535	Measure Theory I
MTH 536	Measure Theory II
MTH 542	Global Character of Difference Equations I
MTH 543	Global Character of Difference Equations II
MTH 545	Ordinary Differential Equations I
MTH 546	Ordinary Differential Equations II
MTH 571	Numerical Analysis
MTH 572	Numerical Partial Differential Equations

More than 20 independent studies courses in topics of Bifurcation Theory of Differential and Difference Equations, Global Dynamics of Difference Equations, Population Dynamics.

Graduate Student Advising

PhD Students

- **Advisor:** Ćamila Ljubović, University of Sarajevo, 1992.
- **Advisor:** Svjetlan Hadžiomerspahić, University of Sarajevo, 1993(deceased).

- **Advisor:** Mehmed Nurkanović, University of Sarajevo, 2002.
- **Advisor:** Senada Kalabušić, University of Sarajevo, 2003.
- **Advisor:** Carol B. Overdeep, University of Rhode Island, RI, USA, 2003.
- **Advisor:** Cathy Ann Clark, University of Rhode Island, RI, USA, 2004.
- **Advisor:** Zehra Nurkanović, University of Sarajevo, 2005.
- **Advisor:** Dževad Burgić, University of Tuzla, 2008.
- **Advisor:** Ann Brett, University of Rhode Island, RI, USA, 2010.
- **Advisor:** Jasmin Bektešević, University of Sarajevo, 2015.
- **Advisor:** Sabina Jašarević Hrustić, University of Tuzla, 2015.
- **Advisor:** Samra Moranjkić, University of Tuzla, 2016 (co-adviser).
- **Advisor:** Mark DiPippo, University of Rhode Island, RI, USA, 2016.
- **Advisor:** Enesa Silić, University of Sarajevo, 2016.
- **Advisor:** Arzu Bilgin, University of Rhode Island, RI, USA, 2016
- **Advisor:** Toufik Khyat, University of Rhode Island, RI, USA, 2017.
- **Advisor:** Elliott Bertrand, University of Rhode Island, RI, USA, 2018.
- **Advisor:** Naida Mujić, University of Sarajevo, 2018.
- **Advisor:** Sarah van Beaver, University of Rhode Island, RI, USA, 2019.
- **Advisor:** James Marcotte, University of Rhode Island, RI, USA, 2019 (co-adviser).

Current PhD Students

- **Advisor:** Connor O'Loughlin, University of Rhode Island, RI, USA (expected graduation 2023)
- **Advisor:** Susan Trolle, University of Rhode Island, RI, USA (expected graduation 2023)
- **Advisor:** Ryan Sullivan, University of Rhode Island, RI, USA (expected graduation 2025)

MS Students

- Zehra Nurkanović, University of Sarajevo, 2001.
- Ann Brett, University of Rhode Island, RI, USA, 2008.
- Ongun Hasbora, University of Rhode Island, RI, USA, 2009.
- Enesa Silić, University of Tuzla, 2010.
- Elliott Bertrand, University of Rhode Island, RI, USA, 2015.

- Sarah van Beaver, University of Rhode Island, RI, USA, 2016.
- Alyssa Zisk, University of Rhode Island, RI, USA, 2016.
- Carina DiChello, University of Rhode Island, RI, USA, 2021.

Post Doc Students

- Senada Kalabušić, URI, 2002 and 2008/2009.
- Midhat Mehuljić, University of Sarajevo, 2011.
- Esmir Pilav, University of Sarajevo, 2011.
- Vahidin Hadžiabdić, University of Sarajevo, 2011.
- Arzu Bilgin, URI, 2019.

Member of Master or Ph. D. Committee

- Stephanie Costa
- Michael Arciero
- Carol Gibbons
- Lynn McGrath
- Carol Gibbons
- Mihaela Predescu
- Esha Chatterjee
- Zlata Ćerimagić
- Eugene Quinn
- Kenneth McPhillips
- Christopher Carbone
- Cuichun Xu
- Sukanya Basu (2009)
- Evgenii Kostrov (2009)
- Zach Kudlak (2009) - written part
- Chad Griep (2009) - written part
- Shaun Joseph (2010) - written part
- Mia Heissan (2011) - written part
- Adam Gilbert (2011) - written part

- Cynthia Prudence (2011) (URI)
- Manos Drymonis (2011) - written part
- Frank Palladino (2011) (URI)
- Esmir Pilav (2011) University of Sarajevo
- Mirela Garić (2011) University of Tuzla
- Chris Lynd (2012) (URI)
- Amer Hodžić (2012) (URI)
- Gabriel Lugo (2013) (URI)
- Evelina Lapierre (2013) (URI)
- Kent Rudasill (2014) (URI)
- Diana Smith (2014) - written part (URI)
- Midhat Mehuljić (2015) University of Sarajevo
- Bill Jamieson (2015) (URI)
- Chris Staniszewski (2015) (URI)
- Erin Denette (2016) (URI)
- Vahidin Hadžiabdić (2016) University of Sarajevo
- Sean Reilly (2016) (URI)
- Russell Costa (2016)(URI)
- Stephen Sladen (2016)(URI-Master Thesis)
- Xiaonan Dong (2016)(URI-Master Thesis)
- Stephen Morley (2017)(URI-Master Thesis)
- Zhenghan Zhu (2017)(URI)
- Dave McArdle (2017) (URI)
- Erik Benton (2017) (URI-Master Thesis)
- Zachary Kunicki (2018) (URI-Master Thesis)
- Rassoul Diouff (2019) (URI-Master Thesis)
- Robert Tatoian (2019) (URI-Master Thesis)
- Jean Guillaume(2019) (URI)
- Xin Zhou (2019) (URI)

- Abdullah Alharbi (2019)(URI-Master Thesis)
- Nicholas Bianchi (2020) (URI)
- Isabel Nowinowski (2020) (URI-Master Thesis)
- Jiayuan Zhang (2021) (URI)
- Vanessa Leclerc (2021) (URI)

Papers presented at professional meetings since 2000

1. A Coupled System of Rational Difference Equations, Regional Meeting of AMS, Providence, RI, March 2000.

2. On the Recursive Sequence $x_{n+1} = (\alpha x_n + \beta x_{n-1})/(A + x_n)$, Special Session on Difference Equations , Annual Meeting of AMS, Washington, DC January 2000.

3. On the Trichotomy Character of $x_{n+1} = (\alpha + \beta x_n + \gamma x_{n-1})/(A + x_n)$, Annual Meeting of AMS, New Orleans, LA, January 2001

4. Dynamica - package for Simulation of Difference Equations, Annual Meeting of AMS, New Orleans, LA, January 2001.

5. On the Recursive Sequence $x_{n+1} = (a + bx_n)/(Ax_n + Bx_{n-2})$, Special Session on Difference Equations, Annual Meeting of AMS, San Diego, CA, January 2002.

6. Dynamica - package for Simulation of Discrete Dynamical Systems and Difference Equations, Conference on Technology, January 2002, Kingston RI.

7. Asymptotics of the Rational Difference Equation of Third Order, Special Session on Difference Equations, Annual Meeting of AMS, Baltimore, MD, January 2003.

8. On the Dynamics of $x_{n+1} = p_n + x_{n-1}/x_n$, Baltimore, MD, January 2003.

9. On A System of Rational Difference Equations, Special Session on Difference Equations, Annual Meeting of AMS, Phoenix, CA, January 2004.

10. Stability of the k-th Order Lyness Equation with a Period-k Coefficient, Annual Meeting of AMS, Atlanta, GA, January 2005.

11. Competitive Exclusion versus Competitive Coexistence for Systems in the Plane, International Conference on Difference Equations, Munich, July 2005

12. A Global Attractivity Result for Maps with Invariant Boxes, Special Session on Dynamic Equations, Annual Meeting of AMS, San Antonio, TX, January 2006.

13. Attractivity of the Equilibrium for Pielou Equation with Period-two Coefficient, Special Session on Non-autonomous Difference Equations, Annual Meeting of AMS, San Antonio, TX, January 2006.

14. Competitive Exclusion versus Competitive Coexistence for Discrete Systems in the Plane, Progress on Difference Equations, European Advanced Studies Conference 2006, Homburg, Germany, 3/06-3/10/2006.

15. Global Bifurcations in Monotone Discrete Systems in the Plane, Summer Workshop, 7/01/2006, University of Sarajevo, Bosnia and Herzegovina.

16. Generating Research Problems in Difference Equations Senior Class, ICTCM Conference, Boston, February 17, 2007.

17. Global Bifurcations for Competitive Systems in the Plane, Annual Meeting of AMS, San Diego, CA, January 7, 2008.

18. Non-hyperbolic Dynamics for Competitive Systems in the Plane, Annual Meeting of AMS, San Diego, CA, January 7, 2008.

19. Global Attractivity Results for Mappings in Partially Ordered Complete Metric Spaces, Regional Meeting of AMS, Courant Institute, New York City, NY March 15, 2008.

20. Global Dynamics of a System of Rational Difference Equations, Regional Meeting of AMS, Wesleyan University, Middletown, CT, October 11, 2008.

21. Dynamics of a System of Rational Difference Equations in the Plane, Regional Meeting of AMS, Wesleyan University, Middletown, CT, October 11, 2008.

22. Two Species Competitive Model with Allee's Effect, Regional Meeting of AMS, Wesleyan University, Middletown, CT, October 11, 2008.

23. Stability of the Gumowski-Mira Equation with Period-Two Coefficient, Annual Meeting of AMS, Washington, D. C., January 7, 2009.

24. Nonhyperbolic Dynamics for Competitive Systems in the Plane and Global Period-doubling Bifurcations, Annual Meeting of AMS, Washington, D. C., January 7, 2009.

25. Global Bifurcations for Competitive Systems in the Plane, Regional Meeting of AMS, Worcester, MA, April 25, 2009.

26. Basins of Attraction for Competitive Discrete Systems in the Plane, Fifth Bosnian Mathematical Conference, Tuzla July 7-8, 2010.

27. Invariant Manifolds for Competitive Discrete Systems in the Plane, Annual Meeting of AMS, New Orleans, LA, January 7, 2011.

28. Invariant Manifolds for Certain Competitive Discrete Systems in the Plane, Annual Meeting of AMS, New Orleans, LA, January 9, 2011.

29. Global Behavior of a Two-dimensional Competitive System of Difference Equations with Stocking, AMS Regional Meeting in Worcester, Worcester MA, April 09, 2011.

30. Global Dynamics of a Two-dimensional Competitive System of Difference Equations, Annual Meeting of AMS, Boston, MA, January 4-7, 2012.

31. Stability of Linearizable Difference Equations, Annual Meeting of AMS, Boston, MA, January 4-7, 2012.

32. Global Behavior of Some Rational Second Order Difference Equations, Regional Meeting in Boston, Boston College, Boston MA, April 6-7, 2013.

33. Global Dynamics of Quadratic Second Order Difference Equation in the First Quadrant, Annual Meeting of AMS, Baltimore, MD, January 15-18, 2014.

34. Global Asymptotic Stability for Quadratic Fractional Difference Equation, Annual Meeting of AMS, Baltimore, MD, January 15-18, 2014.

35. Sharaf al-Tusi (1135-1213): grandfather of differential calculus ? Annual Meeting of AMS, Baltimore, MD, January 15-18, 2014.

36. Local Dynamics and Global Stability of Certain Second Order Rational Difference Equation with Quadratic Terms, AMS Regional Meeting in Rutgers, Rutgers University, New Brunswick NJ, Novemeber 14-15, 2015.

37. Global stability of a quadratic anti-competitive system of rational difference equations in the plane with Allee effects, AMS Regional Meeting in Bowdoin, Bowdoin College, Brunswick Maine, September 24-25, 2016.

38. Invariant Curves for Planar Competitive and Cooperative Maps, Annual Meeting of AMS, Atlanta, GA, January 4-7, 2017.

39. Global Dynamics of Leslie-Gower Competitive Systems in the Plane, AMS Regional Meeting in NYC, Hunter College, NYC, NY May 6, 2017.

40. Global Dynamics of Certain Second Order Rational Difference Equation with Quadratic Terms, AMS Regional Meeting in Boston, Northeastern University, Boston, MA April 22, 2018.

41. Recent Developments for Monotone Discrete Dynamical Systems in the Plane, BMS Mathematical Conference 2018, University of Sarajevo, Bosnia and Herzegovina, July 2018.

42. Invariant Curves for Planar Competitive and Cooperative Maps, Joint Annual Meeting of AMS, MAA and SIAM, Baltimore, MD, January 16-19, 2019.

43. Global Behavior of Certain Nonautonomous Linearizable Three Term Difference Equations, AMS Regional Meeting in Hartford, University of Connecticut, Hartford, CT April 14, 2019.

44. Basin of Attraction of Locally Asymptotically Stable Equilibrium of Cooperative Map in the Plane, ICDEA, London, June 24-28, 2019.

45. Asymptotic Behavior of a Discrete-Time Density-Dependent SI Epidemic Model With Constant Recruitment, JMM, Washington DC, January 6-9, 2021 (virtual meeting).

46. Global Behavior of Certain Nonautonomous Linearizable Three Term Difference Equations, JMM, Washington DC, January 6-9, 2021 (virtual meeting).

47. *Dynamica 5* Software for simulation of Discrete Dynamical Systems, Special Session on Applications and Asymptotic Properties of Discrete Dynamical Systems, AMS Regional Meeting, March 2021 (virtual meeting).

48. Global Dynamics Results for a Class of Planar Cooperative Maps, ICDEA 2021, University of Sarajevo, Bosnia and Herzegovina, July 26-30, 2021.

49. Asymptotic Properties of a Discrete-Time Density-Dependent SI Epidemic Model With Constant Recruitment, JMM, Boston, MA, January 4-7, 2023.

50. Bifurcation analysis of two perturbations of sigmoid Beverton-Holt difference equation, JMM, Boston, MA, January 4–7, 2023.

Conference Organizations

- Co-organizer of the Special Session of AMS Annual Meeting in San Diego, Monotone Discrete Dynamical Systems with Applications, San Diego CA, January 2008.
- Co-organizer of the Special Session of AMS Regional Meeting in Middletown, Real and Complex Dynamics of Rational Difference Equations with Applications, Middletown CT, October 11-12, 2008.

- Co-organizer of the Special Session of AMS Annual Meeting in Washington, D. C. Discrete Dynamical Systems with Periodic Parameters, Washington, D. C., January 2009.
- Co-organizer of the Special Session of AMS Regional Meeting in Worcester, Real Dynamics of Rational Difference Equations with Applications, Worcester MA, April 25-26, 2009.
- Co-organizer of the Special Session of AMS Annual Meeting in New Orleans, LA, Global Dynamics of Discrete Dynamical Systems in the Plane with Applications, New Orleans, LA, January 2011.
- Co-organizer of the Special Session of AMS Regional Meeting in Worcester, Dynamics of Rational Systems of Difference Equations with Applications, Worcester MA, April 09-10, 2011.
- Co-organizer of the Special Session of AMS Annual Meeting in Boston, MA, Global Dynamics of Rational Difference Equations with Applications, Boston, MA, January 2012.
- Co-organizer of the Special Session of AMS Regional Meeting in Boston, Real and Complex Dynamics of Difference Equations with Applications, Boston College MA, April 6–7, 2013.
- Co-organizer of the Special Session of AMS Annual Meeting in Baltimore, MD, Global Dynamics and Bifurcations of Difference Equations, Baltimore, MD, January 15-18, 2014.
- Co-organizer of the Special Session of AMS Regional Meeting in Bowdoin, Autonomous and Non-autonomous Discrete Dynamical Systems with Applications, Bowdoin College ME, September 24–25, 2016.
- Co-organizer of the Special Session of AMS Annual Meeting in Atlanta, GA, Real Discrete Dynamical Systems with Applications, Atlanta, GA, January 4-7, 2017.
- Co-organizer of the Special Session of AMS Regional Meeting in Hunter College, Asymptotic Properties of Discrete Dynamical Systems, Hunter College, NYC, NY, May 6, 2017.
- Co-organizer of the Special Session of AMS Regional Meeting in Northeastern University, Global Dynamics of Real Discrete Dynamical Systems, Boston, April 21-22, 2018.
- Co-organizer of the Special Session of AMS Annual Meeting in Washington, DC, Recent Trends in Discrete-Time Ecological and Epidemiological Models, Washington, DC, January 6–9, 2021.
- Co-organizer of the Special Session of AMS Regional Meeting in Providence, RI, Special Session on Applications and Asymptotic Properties of Discrete Dynamical Systems: A Session in Honor of the Retirement of Orlando Merino, Providence (virtual meeting), March 20-21, 2021.
- Chair of Scientific Committee, ICDEA 2021, University of Sarajevo, Sarajevo, Bosnia and Herzegovina, July 26-30, 2021 (virtual meeting).
- Co-organizer of the Special Session of AMS Annual Meeting in Boston, MA, Recent Trends in Discrete-Time Ecological and Epidemiological Models, January 4–7, 2023.

Organizing Committees of Conferences

- Member of Programme Committee of International Congress MASSEE 2003 (MAthematical Society of SouthEastern Europe) September 15-21, 2003, Borovets, Bulgaria.
- Member of Scientific Committee of Sarajevo Summer School on Mathematical Techniques in Modeling Physiological Systems, 9/10-9/22/2006, Sarajevo, Bosnia and Herzegovina.
- Member of Scientific Committee of 2-nd International Euroasian Conference on Mathematical Sciences and Applications IECMSA-2013 (MAthematical Society of SouthEastern Europe) August 26-29, 2013, Sarajevo, Bosnia and Herzegovina.
- Member of Scientific Committee of BMS Mathematical Conference 2018, University od Sarajevo, July 12-14, 2018.
- Chair of Scientific Committee of ICDEA (International Conference of Difference Equations and Applications) Mathematical Conference 2021, University od Sarajevo, July , 2021.

Editorial Boards of Journals

- Member of the Board of Directors of BIT - Bosnian Association for Information Technologies, 1992-94.
- Member of the Editorial Board of *Acta Informatica Medica*, Bosnia and Herzegovina, 1993-1994
- Member of the Editorial Board of *Sarajevo Journal of Matematics* formerly *Radovi Matematički*, Academy of Sciences of Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina
- Associate Editor of the *Journal of Concrete and Applicable Mathematics*, Eudoxus Inc. (2002-2015)
- Member of the Editorial Board of *The Scientific World Journal, Mathematical Analysis*, Hindawi Publishing Co.(2013-2016)
- Member of the Editorial Board of *Journal of Difference Equations*, Hindawi Publishing Co.(2014-2016)
- Associate Editor of the *Advances in Dynamical Systems and Applications*, Research India Publications.
- Associate Editor of the *Communications in Differential and Difference Equations*, Research India Publications.
- Associate Editor of the *International Journal of Differential Equations*, Hindawi Publishing Co. (2010-2017)
- Associate Editor of the *Journal of Computational Analysis and Applications*, Eudoxus Inc.
- Associate Editor of the *Journal of Mathematical and Computational Science*, Science and Knowledge Publishing Corporation Limited.

- Associate Editor of the *Discrete Dynamics in Nature and Society*, Hindawi Publishing Co.(2013-present)
- Associate Editor of the *Mathematics*, MDPI Inc. (2018-)

Invited courses and workshops since 1999

- Finite Volume Method for Partial Differential Equations, August 1997, University of Sarajevo, Bosnia and Herzegovina (Graduate Course)
- Difference Equations, August 2004, University of Tuzla, Bosnia and Herzegovina (Graduate Course)
- Difference Equations and Discrete Dynamical Systems, December 2008, University of Tuzla, Bosnia and Herzegovina (Graduate Course)
- Monotone Discrete Dynamical Systems and Applications, Summer Workshop, 7/06-7/09/2009, University of Tuzla, Bosnia and Herzegovina.
- Difference Equations and Discrete Dynamical Systems, September - December 2011, Department of Mathematics, University of Sarajevo, Sarajevo, Bosnia and Herzegovina (Seminar)
- Difference Equations and Discrete Dynamical Systems, July - August 2013, Department of Mathematics, University of Sarajevo, Sarajevo, Bosnia and Herzegovina, Summer Workshop.

University/Professional Service

- Vice President of the Society of Mathematicians and Physicists of Bosnia and Herzegovina, 1983-1985
- Chair for Applied Mathematics, University of Sarajevo, Bosnia and Herzegovina, 1984-1989
- Chairperson of Department of Mathematics University of Sarajevo, Bosnia and Herzegovina, September 1991-August 1994
- Member of the Faculty Senate from 2000 to 2003 and 2014-2016.
- Member of the Graduate Council from 2009 to 2012 and 2016-2018.
- Member of all Search Commitees for Department of Mathematics positions from 2003 to 2013 and 2014-2015, 2016-2023.
- Coordinator for William L. Putnam competition in Department of Mathematics in 2009 and 2010.
- Regular member of Graduate Committee and Technology Committee in Department of Mathematics.
- Referee for more than 40 mathematical journals such as *Proceedings of American Mathematical Society, Transactions of American Mathematical Society, Journal of Difference Equations and Applications, Nonlinear Analysis, Theory, Methods and Applications, Journal of Mathematical Analysis and Applications, Applied Mathematics Letters, Computers and Mathematics with Applications, Discrete Dynamics in Nature and Society, Nonlinear Dynamics, International Journal of Difference Equations* etc.

Awards/Grants

URI Faculty Career Enhancement Grant ($2,000) *2000 – 2001*
Project Title: *Contemporary problems in rational difference equations.*

WUS, Austria and University of Tuzla, Bosnia and Herzegovina Graduate course in Discrete Dynamical Systems, (2,800 Euros) *2004*

University of Sarajevo, Bosnia and Herzegovina Participation and Advising in PhD defense, August 2005(600 Euros) *2005*

WUS, Austria and University of Tuzla, Bosnia and Herzegovina Difference Equations and Discrete Dynamical Systems, December 2008,(2,300 Euros) *2004*

University of Tuzla, Bosnia and Herzegovina Participation and Advising in PhD defense, (3,000 Euros) *December 2008*

University of Tuzla, Bosnia and Herzegovina Monotone Discrete Dynamical Systems and Applications, (500 Euros) *7/06-7/09/2009*

University of Sarajevo, Bosnia and Herzegovina Discrete Dynamical Systems and Applications, Seminar, (600 Euros) *Fall 2011*

University of Rhode Island, USA Maitland P. Simmons Research Award, ($ 5,000), *2015-2016*

University of Sarajevo, Bosnia and Herzegovina Participation and Advising in PhD defense, (1500 Euros) *August 2018*

Professional Affiliations

American Mathematical Society (AMS) *1995 to present*

International Society of Difference Equations (ISDE) *1995 to present*

Computer Skills

Educational Platforms: Brightspace, SAKAI.

Online Homework Systems: WileyPlus, WeBWork.

Scientific: MATLAB, Mathematica, LATEX; Maple.

Languages: FORTRAN, C.