Curriculum Vitae

Georges Sarafopoulos

Professor, Department of Economics, Democritus University of Thrace

June 2023

**Georges Sarafopoulos, Professor of Mathematics for Economics,
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1. EDUCATION STUDIES

- Diplôme de Doctorat de Mathématiques Pures (with distinction), Claude Bernard University -Lyon I, France (1993).

    PhD thesis title: *«Application de la théorie des déformations de Kodaira-Spencer à la mesure de Polyakov»*

- Diplôme d'Etudes Approfondies de Mathématiques pures (DEA), Institut Fourier - Université Scientifique et Médicale - Grenoble I, France (1985).

    MSc thesis title: *«Adhérences des classes de conjugaison des matrices»*

- B. Sc. of Mathematics, Department of Mathematics, Aristotle University of Thessaloniki, Greece (1982).

2. UNIVERSITY TEACHING EXPERIENCE

Undergraduate programs

- November 2003- present. Professor, Department of Economics, Democritus University of Thrace.

    Undergraduate program: *Mathematics I, Mathematics II, Dynamical Systems*

- September 1999 - November 2003: Visiting Professor, Department of International Relations and Development, Democritus University of Thrace

  Undergraduate program: *Mathematics I, Mathematics II*

- 2002/03 - present: Visiting Professor, Hellenic Open University.

  Undergraduate program: *Mathematics for Informatics, Quantitative Methods.*

- Febr. 2016- Aug. 2016: Visiting Professor, Department of Mathematics, Aristotle University of Thessaloniki, Greece.

  Undergraduate program: *Analysis II*

- 1996-2010: Visiting Professor TEI Kavalas

  Undergraduate program: *Mathematics I, Mathematics II*

- 1990-1994. Visiting Professor, «Classes Préparatoires aux Grandes Ecoles Scientifiques». Chartreux, Lyon, France

  Undergraduate program: Mathématiques Supérieures, Mathématiques Spéciales.

- 1995-2000. Visiting Professor, Louis-Pasteur University, Department of Economics, Strasbourg, France

  Undergraduate program: *Analyse I ,Analyse II, Algèbre Linéaire*.

- 1986-1998. Professor, Academy of Lyon, France

Postgraduate Programs

- 2006- present: *Game Theory*, MBA, Department of Economics, Democritus University of Thrace.

- September 2015- present: *Statistical Methods* "Local and regional development", Democritus University of Thrace, Aristotle University of Thessaloniki, University of Peloponnese, University of Piraeus.

- March 2018- present: *Game Theory - Catastrophe Theory*: Department of Economics, University of Thessaly.

- October 2019 - present: *Applications of Game Theory in Law, Politics and Economics*. Departments of Law, Economics and Political Science, Democritus University of Thrace.

- October 2019 - present, MBA, *Advanced Quantitative Methods for Managers*, Hellenic Open University.

- 2021 - present, *Quantitative Methods in Finance* (MSc Accounting and Finance), Department of Economics, Democritus University of Thrace.
- 1990-1994: Lectures on complex analysis and string theory. Research Seminars of the Department of Mathematics, Claude Bernard University, Lyon I, France.

3. PROFESSIONAL - ADMINISTRATIVE EXPERIENCE

- Jan.2023 – present: Dean, School of Social, Political and Economic Sciences, Democritus University of Thrace
- From 2011/12 to 2014/15 Associate Head of the Department of Economics, Democritus University of Thrace.
- From 2011-12 to 2014-15 Associate member of the Research Committee, Democritus University of Thrace.
- Member of the Postgraduate Studies Committee (MBA) and the Undergraduate Studies Committee of the Department of Economics, Democritus University of Thrace
- Associate Director of the MSc in Contemporary European Studies: Law, Economics, Politics, Democritus University of Thrace.
- 1986-1994 member of the research group "Analyse et Géometrie" URA 746 French National Center for Scientific Research (CNRS).
- Since 1986 he has been working with the following research centers: (1) Institut Fourier, Université de Grenoble, (2) Laboratoire de Mathématiques, Université de Lyon (4) Ecole Normale Supérieur de Lyon, Laboratoire de Géométrie.
- Reviewer in international scientific journals
- Member of scientific committees of international conferences.
- Sessions chairman of international conferences.
- Member of the Mathematical Societies: of France (S.M.F.), of United States (A.M.S.), of Europe (E.M.S.) and of Greece (H.M.S.),
- Supervisor of doctoral dissertations and postgraduate theses.

- 1.1.1998 - 31.12.1999 participated in the research project of the Democritus University of Thrace "Discrete Dynamical Systems. Deformations of complex structures", under the scientific supervision of Professor I. Schinas.
- 1.6.2004 - 31.8.2005 participated in the project "Reform of Undergraduate Curricula" of the Democritus University of Thrace.
- From 1.3.2020 - 16.10.2021 Scientific Coordinator of the Research Project "Support for researchers with emphasis on young researchers - cycle B'", with the topic: "Nonlinear dynamics in an oligopolistic market: Emergence of chaotic behavior, complexity control and application to an oligopoly in the Greek market".

4. RESEARCH

His research activity concerns:

- Applications of dynamical systems and game theory in oligopolistic markets. (Existence and stability of equilibria in discrete time and control of the resulting complexity).
- Topics pertaining to mathematics education.
- Topics in geometric analysis (string theory problems and application of complex analysis techniques to their solution)

Publications

Theses

1. G. Sarafopoulos, « Applications de la théorie des déformations de Kodaira-Spencer à la mesure de Polyakov » PhD Thesis, Université Claude Bernard-Lyon I (1993)
2. G. Sarafopoulos, « Adhérences des classes de conjugaison des matrices » Msc Thesis, Institut Fourier, Université Scientifique et Médicale-Grenoble I (1985)

Publications in peer-reviewed journals

3. Sarafopoulos, G., & Papadopoulos, K. (2019). Chaos in Oligopoly Models. International Journal of Productivity Management and Assessment Technologies (IJPMAT), 7(1), 50-76.

4. G. Sarafopoulos, E. Drimpetas, K. Papadopoulos, D. Vezeris, Dynamics of a Bertrand duopoly game of the Greek oil market and application of the d-Backtest method, Applied Mathematics, 12(11), 1097-1117,2021,

5. Sarafopoulos, G., Papadopoulos, K., Complexity of a Bertand duopoly Game with homogeneous expectations, quadratic cost functions and chaos control, IFAC PapersOnLine, 54 (17), 41-46, 2021

6. G. Sarafopoulos, K. Papadopoulos (2021). "On a Bertrand duopoly game with heterogeneous expectations and emission costs", KnE Social Sciences, vol. 5 (9), 62-75

7. G. Sarafopoulos, K. Papadopoulos. On the Dynamics of a Bertrand Game with Differentiated Goods, Homogeneous Expectations and Generalized Relative Profit Maximization. Chaotic Modeling and Simulation (forthcoming).

8. G. Sarafopoulos, E. Drimpetas, K. Papadopoulos, D. Vezeris. "Chaotic Behavior in a Duopoly Market and application of the d-Backtest method", Chaotic Modeling and Simulation (forthcoming).

9. G. Sarafopoulos, K. Papadopoulos (2023). "Complexity and chaos control of a Cournot duopoly game with relative profit maximization and heterogeneous expectations", KnE Social Sciences, 8(1), 172–193

10. G. Sarafopoulos, K. Papadopoulos (2020). Complexity in a Cournot duopoly game with differentiated goods between semi-public and private firms, Scientific Bulletin – Economic Sciences, 20 (2),53-69.

11. G. Sarafopoulos, K. Papadopoulos (2019). "Dynamics of a Cournot game with differentiated goods and asymmetric cost functions based on relative profit maximization", European Journal of Interdisciplinary Studies (EJIS), 11(2), 41-56.

12. Georges Sarafopoulos, Kosmas Papadopoulos (2020). "On a Cournot dynamic game with bounded rational players, convex, log-linear demand and consumer surplus" KnE Social Sciences, 4(1), 246–261.

13. Georges Sarafopoulos, Kosmas Papadopoulos (2018). On the stability of a Cournot dynamic game under the influence of information, KnE Social Sciences, 131-144.

14. G. Sarafopoulos, Kosmas Papadopoulos (2018). On a Cournot dynamic game with differentiated goods and asymmetric cost functions, Chaotic Modeling and Simulation, 1: 15-32.

15. G. Sarafopoulos, (2017) "On a duopoly game with homogeneous players and a quadratic demand function, East-West Journal of Economics and Business, Vol. XX (2), 39-48

16. G. Sarafopoulos, Kosmas Papadopoulos. (2017). On a Cournot duopoly game with differentiated goods, heterogeneous expectations and a cost function including emission costs, Scientific Bulletin - Economic Sciences , vol.16 (1), 11-22

17. G. Sarafopoulos, (2015) "Complexity in a duopoly game with homogeneous players, convex, log linear demand and quadratic cost functions", Procedia Economics and Finance, V.33, 358-366

18. G. Sarafopoulos, P. Ioannidis, (2015) "Interregional Cooperation, local welfare and social capital", Procedia Economics and Finance, V.33, 219-225

19. G. Sarafopoulos,(2016) «Interaction of local governments: A dynamic approach with homogeneous players», HOBA Journal, Vol.2, No 1, 89-99

20. G. Sarafopoulos, (2016) «On complex dynamics of regional interaction», HOBA Journal, Vol.2, No 2, 33-42

21. G. Sarafopoulos, (2016) « On the evolution of institutional reforms in a region: A bounded rational approach», HOBA Journal, Vol.2, No 2, 101-109

22. G. Sarafopoulos, P. Ioannidis (2015) «Institutional Reforms and Interaction of Local Governments: A Dynamic Approach», International Journal of Productivity Management and Assessment Technologies, 3 (2), 25-33,

23. G. Sarafopoulos, (2015) «Chaotic effect of linear marginal cost in nonlinear duopoly game with heterogeneous players», Journal of Engineering Science and Technology Review 8 (1), 19-24

24. G. Sarafopoulos, (2015) «Chaotic effect of constant marginal cost in nonlinear duopoly game with heterogeneous players», Journal of Engineering Science and Technology Review 8 (1), 25-29

25. G. Sarafopoulos, (2015) «Complexity in a monopoly market with general demand and quadratic cost function», Procedia Economics and Finance, 19, 122-128

26. G. Sarafopoulos, (2015) «On the dynamics of a duopoly game with differentiated goods», Procedia Economics and Finance, 19, 146 – 153

27. G. Sarafopoulos, P. Ioannidis, «Institutional reforms in a region: On the complexity of their evolution», HOBA Journal, Vol.1, No 2, 13-21, (2015)

28. G. Sarafopoulos, (2015) «Complexity in a monopoly market with non linear demand and cost functions», HOBA Journal, Vol.1, No 1,13-21

29. G. Sarafopoulos, (2015) «On the complex dynamics of a bounded rational monopolist model», International Journal of Business and Economic Sciences Applied Research 8(1): 113-120

30. G. Sarafopoulos, (2015) «On the Cantor intersection theorem», International Journal of Innovative Science, Engineering & Technology, Vol. 2 Issue 2, 352-353

31. G. Sarafopoulos, (2015) «On the fundamental theorems of calculus: A teaching approach », International Journal of Innovative Science, Engineering & Technology, Vol. 2 Issue 2, 352-353

32. G. Sarafopoulos, P. Ioannidis (2014) «Local Agents' Cooperation as a Signal Game: Firms, Local Governments and Investment Strategies», Procedia Economics and Finance 9, 133- 141

33. G. Sarafopoulos, K. Hazakis, P. Ioannidis, (2014) «Modeling economic growth policy interaction with local government reform: Evidence from Eastern Macedonia and Thrace», East West Journal of Economics and Business, Vol. XVII, No 2, 39-67

34. G. Sarafopoulos, (2012) "Applications of Dynamic Systems in an Oligopolistic Market"(in Greek),Mathematical Review, 77-78, pp. 26 – 41.

35. G. Sarafopoulos, G. Mittas, (2008) "Basic Concepts of Game Theory" (in Greek), Mathematical Review vol. 69, pp. 64-92

36. Sarafopoulos, Georges. Application de la théorie des déformations de Kodaira et Spencer à la mesure de Polyakov. Publications du Département de mathématiques (Lyon), no. 4 (1993), pp. 1-66.

Book Chapters

37. G. Sarafopoulos, K. Papadopoulos (2021). Dynamics of a Bertrand Game with Differentiated Goods, Heterogeneous Expectations and Relative Profit Maximization. In: Skiadas, C.H., Dimotikalis, Y. (eds) 13th Chaotic Modeling and Simulation International Conference. CHAOS 2020. Springer Proceedings in Complexity. Springer, Cham. https://doi.org/10.1007/978-3-030-70795-8_53

38. G. Sarafopoulos, K. Papadopoulos (2022) On a Cournot Duopoly Game with Relative Profit Maximization" In: Skiadas, C.H., Dimotikalis, Y. (eds) 14th Chaotic Modeling and Simulation International Conference. CHAOS 2021. Springer Proceedings in Complexity. Springer, Cham. https://doi.org/10.1007/978-3-030-96964-6_27

39. G. Sarafopoulos, K. Papadopoulos (2023). Complexity and chaos control of a Bertrand duopoly game with bounded rational and imitative expectations, Springer Proceedings in Complexity, (forthcoming).

40. G. Sarafopoulos, D. Terzopoulou (2023). On the Dynamics of a Heterogeneous Duopoly Game Participating in Nitrogen Emission Reduction. Springer Proceedings in Complexity, (forthcoming).

41. G. Sarafopoulos, D. Terzopoulou (2023). On the dynamics of a heterogenous duopoly game in R&D efforts. Springer Proceedings in Business and Economics. (forthcoming).

42. Sarafopoulos, G., Papadopoulos, K., On a Bertrand Dynamic Game with Differentiated Goods, Heterogeneous Expectations and Asymmetric Cost Functions. Springer Proceedings in Business and Economics. 223-241, 2020

43. G. Sarafopoulos, K. Papadopoulos (2021). On a Cournot Dynamic Game with Cost Uncertainty and Relative Profit Maximization. 13th Chaotic Modeling and Simulation International Conference. CHAOS 2020. Springer Proceedings in Complexity. Springer, Cham. https://doi.org/10.1007/978-3-030-70795-8_54

44. Georges Sarafopoulos, Kosmas Papadopoulos (2020). "Dynamics of a Cournot duopoly game with differentiated goods between public and private firms",

12th Chaotic Modeling and Simulation International Conference, 193-209 (Part of the Springer Proceedings in Complexity, book series (SPCOM)).

45. G. Sarafopoulos, Kosmas Papadopoulos. (2019). Complexity on a Bertrand duopoly game with heterogeneous players and differentiated goods, Springer Proceedings in Business and Economics, 15-26.

46. G. Sarafopoulos, K. Papadopoulos. "Complexity and chaos control of a Bertrand duopoly game with bounded rational and imitative expectations", Springer Proceedings in Complexity (forthcoming)

47. G. Sarafopoulos, D. Terzopoulou. On the Dynamics of a Heterogeneous Duopoly Game in R&D Efforts, Springer Proceedings in Business and Economics (forthcoming)

48. G. Sarafopoulos, D. Terzopoulou. On the Dynamics of a Heterogeneous Duopoly Game Participating in Nitrogen Emission Reduction, Springer Proceedings in Complexity (forthcoming)

Publications, presentations in international conferences

49. G. Sarafopoulos, K. Papadopoulos. "On the stability of a Cournot dynamic game under the influence of information", 10th International Conference EBEEC, May 11-13, Warsaw, Poland, 2018

50. G. Sarafopoulos, K. Papadopoulos. "On a Bertrand dynamic game with differentiated goods, heterogeneous expectations and asymmetric cost functions", 10th International Conference EBEEC, May 11-13, Warsaw, Poland, 2018

51. G. Sarafopoulos, K. Papadopoulos. "On a Cournot dynamic game with differentiated goods and asymmetric cost functions", Oligo Workshop 2018.

52. G. Sarafopoulos, K. Papadopoulos. "On a Cournot dynamic game with differentiated goods and asymmetric cost functions", Ρώμη, 6 Ιουνίου 2018, 11th Chaotic Modeling and Simulation International Conference – CHAOS 2018.

53. G. Sarafopoulos, K. Papadopoulos (2018). "Chaotic Dynamics in Oligopoly Models", Proceedings of the 35th Conference of the Hellenic Mathematical Society, p. 969-982.

54. G. Sarafopoulos, K. Papadopoulos. "Dynamics of a Cournot game with differentiated goods and asymmetric cost functions based on relative profit maximization", 11th International Conference EBEEC, May 10-12, Bucharest, Romania, 2019

55. G. Sarafopoulos, K. Papadopoulos. "On a Cournot dynamic game with bounded rational players, convex, log-linear demand and consumer surplus", 11th International Conference EBEEC, May 10-12, Bucharest, Romania, 2019

56. G. Sarafopoulos, K. Papadopoulos. "Dynamics of a Cournot duopoly game with differentiated goods between public and private firms", 12th Chaotic Modeling and Simulation International Conference – CHAOS 2019.

57. G. Sarafopoulos, K. Papadopoulos (2020). Dynamics of a Bertrand Duopoly Game with Differentiated Goods, Heterogeneous Expectations and Relative Profit Maximization, Georges Sarafopoulos, Kosmas Papadopoulos, 13th CHAOS 2020 Virtual Conference, 9-12 June 2020.

58. G. Sarafopoulos, K. Papadopoulos (2020). On a Cournot Dynamic Game with Cost Uncertainty and Relative Profit Maximization, Georges Sarafopoulos, Kosmas Papadopoulos, 13th CHAOS 2020 Virtual Conference, 9-12 June 2020.

59. G. Sarafopoulos, K. Papadopoulos (2020). Complexity in a Cournot duopoly game with differentiated goods between semi-public and private firms, 12th International Conference "Economies of the Balkan and Eastern European Countries", EBEEC 2020, Opatija, Croatia 29-31 May 2020.

60. G. Sarafopoulos, K. Papadopoulos (2020). Dynamics of a Cournot duopoly game with heterogeneous expectations based on relative profit maximization, 12th International Conference "Economies of the Balkan and Eastern European Countries", EBEEC 2020, Opatija, Croatia 29-31 May 2020.

61. G. Sarafopoulos, K. Papadopoulos .15th Chaotic Modeling and Simulation International Conference – CHAOS 2022, Complexity and chaos control of a Bertrand duopoly game with bounded rational and imitative expectations, 14 - 17 June 2022, Athens, Greece.

62. G. Sarafopoulos, K. Papadopoulos .15th Chaotic Modeling and Simulation International Conference – CHAOS 2022, On the Dynamics of a Heterogenous

Duopoly Game Participating in Nitrogen Emission Reduction, 14 - 17 June 2022, Athens, Greece.

63. G. Sarafopoulos, K. Papadopoulos .14th International conference – the economies of balkan and eastern europe countries in the changed world (ebeec). Complexity and Chaos Control of a Cournot Duopoly Game with Relative Profit Maximization and Heterogeneous Expectations, May 20-22, 2022, Florence, Italy.

64. G. Sarafopoulos, K. Papadopoulos .14th International Conference – The Economies of Balkan and Eastern Europe Countries in the changed World (EBEEC).). "On the dynamics of a heterogeneous duopoly game in R&D efforts, May 20-22, 2022, Florence, Italy.

65. G. Sarafopoulos, K. Papadopoulos .6th IFAC Hybrid Conference on Analysis and control of Chaotic Systems ,"Complexity of a Bertand duopoly Game with homogeneous expectations, quadratic cost functions and chaos control", 27-29 September 2021, Catania, Italy.

66. G. Sarafopoulos, K. Papadopoulos 14th Chaotic Modeling and Simulation International Conference – CHAOS 2021, "Chaotic Behavior in a Duopoly Market and application of the d-Backtest method", 8-11 June 2021, Athens, Greece

67. G. Sarafopoulos, K. Papadopoulos 14th Chaotic Modeling and Simulation International Conference – CHAOS 2021, "On a Cournot Duopoly Game with Relative Profit Maximization", 8-11 June 2021, Athens, Greece

68. G. Sarafopoulos, K. Papadopoulos 14th Chaotic Modeling and Simulation International Conference – CHAOS 2021 ,"On the Dynamics of a Bertrand Game with Homogeneous Expectations and Generalized Relative Profit Maximization", 8-11 June 2021, Athens, Greece

69. G. Sarafopoulos, K. Papadopoulos 13th International Conference – The Economies of Balkan and Eastern Europe Countries in the changed World (EBEEC). "On a Bertrand duopoly game with heterogeneous expectations and emission costs", May 14-16, 2021, Pafos, Cyprus.

70. G. Sarafopoulos, K. Papadopoulos 13th International Conference – The Economies of Balkan and Eastern Europe Countries in the changed World

(EBEEC). Complexity and chaos control of a Cournot duopoly game with relative profit maximization and heterogeneous expectations, May 14-16, 2021, Pafos, Cyprus

71. G. Sarafopoulos, D. Terzopoulou. On the Dynamics of a Heterogeneous Duopoly Game in R&D Efforts, 14th International conference – the economies of balkan and eastern europe countries in the changed world (ebeec). May 20-22, 2022, Florence, Italy.

72. G. Sarafopoulos, D. Terzopoulou. On the Dynamics of a Heterogeneous Duopoly Game Participating in Nitrogen Emission Reduction, 15th Chaotic Modeling and Simulation International Conference – CHAOS 2022. 14 - 17 June 2022, Athens, Greece.

73. G. Sarafopoulos, K. Papadopoulos 13th Chaotic Modeling and Simulation International Conference – CHAOS 2020. Dynamics of a Bertrand duopoly game with differentiated goods, heterogeneous expectations and relative profit maximization", June 9-12, 2020, Florence, Italy.

74. G. Sarafopoulos, P. Ioannidis «Local Agents' Cooperation as a Signal Game: Firms, Local Governments and Investment Strategies», 5th International Conference "The Economies of Balkan and Eastern Europe Countries in the changed World" (EBEEC), Istanbul, Turkey May 9-12, 2013

75. G. Sarafopoulos, « Complexity in a monopoly market with general demand and quadratic cost function », 6th International Conference EBEEC, Nis, Serbia, May 9-10, 2014

76. G. Sarafopoulos, « On the dynamics of a duopoly game with differentiated goods », 6th International Conference EBEEC, Nis, Serbia, May 9-10, 2014

77. G. Sarafopoulos, P. Ioannidis, "Interregional Cooperation, local welfare and social capital", 7th International Conference EBEEC, Kavala, Greece May 8-10, 2015

78. G. Sarafopoulos, K. Papadopoulos. "Complexity in a duopoly game with homogeneous players, convex, log-linear demand and quadratic cost functions", 7th International Conference EBEEC, Kavala, Greece May 8-10, 2015

79. G. Sarafopoulos, K. Papadopoulos. "On a bounded rational monopolist with a general form of demand and cost functions", Θεσσαλονίκη, 10 Ιουνίου 2016, 2nd International Conference of Development and Economy (I.CO.D.ECON).

80. G. Sarafopoulos, K. Papadopoulos. "On a Cournot duopoly game with differentiated goods, heterogeneous expectations and a cost function including emission costs", 9th International Conference EBEEC, Kavala, Greece April 28-30, Piraeus- Athens, Greece, 2017

81. G. Sarafopoulos, K. Papadopoulos. "Complexity on a Bertrand duopoly game with heterogeneous players and differentiated goods", 9th International Conference EBEEC, April 28-30, Piraeus- Athens, Greece, 2017

82. G. Sarafopoulos, K. Papadopoulos. "On the dynamics of a Cournot duopoly game with relative performance and homogeneous expectations", Volos, 29 Sept.2017, 3rd International Conference on Econophysics.

83. G. Sarafopoulos, K. Papadopoulos. "Complexity analysis of a Cournot – Bertrand duopoly game with differentiated products and quadratic cost function", Volos, 29 Sept. 2017, 3rd International Conference on Econophysics.

84. G. Sarafopoulos, K. Papadopoulos, "Nonlinear dynamics in a monopolistic market", Proceedings of the 33rd conference of the Hellenic Mathematical Society 935-944, (2016)

85. G. Sarafopoulos, "Complexity in an oligopolistic market", Proceedings of the 32nd Conference of the Hellenic Mathematical Society 993-1001, (2015)

86. G. Sarafopoulos, "Dynamic models of competition", Proceedings of the 28th conference of the Hellenic Mathematical Society 669-678, (2011)

87. G. Sarafopoulos, "Nonlinear dynamics in an oligopoly model", Proceedings of the 29th Conference of the Hellenic Mathematical Society, 669-678, (2012)

88. G. Sarafopoulos, "An example of the application of the construction principle of knowledge in the teaching of Mathematics". Proceedings of the 18th Conference on Mathematical Education of the Hellenic Mathematical Society (H.M.S.), p. 416-423, (2001)

89. G. Sarafopoulos, "Geometric interpretation of mean , standard deviation and linear regression". Proceedings of the 18th Conference on Mathematical Education of the H.M.S., p. 658- 659, (2001)

90. G. Sarafopoulos, "An approach to the irrational number through a construction of Pappus from Alexandria". Proceedings of the 19th Conference on Mathematical Education of the H.M.S.., p. 237-243, (2002).

91. G. Sarafopoulos, "Teaching the proof according to the construction principle of knowledge". Modern Education, vol. 126, pp. 71-76 (2002)

92. G. Sarafopoulos, "A didactic approach to the fundamental theorem of integral calculus", Proceedings of the 21st Conference on Mathematical Education of the H.M.S., pp.65- 71, (2004).

93. G. Sarafopoulos, "Fundamental Theorems of Differential Calculus: A teaching proposal", Proceedings of the 21st Conference on Mathematical Education of the H.M.S.., pp.202 - 205, (2004).

94. G. Sarafopoulos, "Approach of a Mondrian's table through a geometric construction", Proceedings of the 23rd Conference of the H.M.S., pp.731-732, (2006)

95. G. Sarafopoulos, "Convexity and function extrema", Proceedings of the 24th Conference on Mathematical Education of the H.M.S., pp.381-385, (2007)

96. G. Sarafopoulos, "The sum of squares of integers as a source for the creation of new mathematical concepts". Proceedings of the 26th Conference on Mathematical Education of the H.M.S., pp.271-274, (2009).

97. G. Sarafopoulos, "A proposal for teaching Rolle's theorem". Proceedings of the 29th Conference on Mathematical Education of the H.M.S., 669-678, (2012).

98. G. Sarafopoulos, "Chaotic Dynamics in a Two-Pole". Proceedings of the 30th Conference on Mathematical Education of the H.M.S.,810-819, (2013).

99. G. Sarafopoulos, "Mathematical models of economic, biological and chemical phenomena", Proceedings of the 22nd Conference on Mathematical Education of the H.M.S., pp. 808-811, (2005)

100.   G. Sarafopoulos, "Mathematics as a tool for progress: Two examples from biology and physics", Proceedings of the 23rd Conference of the H.M.S., pp. 575- 582, (2006)

101.   G. Sarafopoulos, "Seeking the Geometry of the Universe", Proceedings of the 25th Conference on Mathematical Education of the H.M.S., pp. 753-760, (2008).

102.   G. Sarafopoulos, "Student - Teacher Interaction: A game-theoretical approach". Proceedings of the 26th Conference on Mathematical Education of the H.M.S., pp.563-569, (2009).

Announcements in international research institutions

103.   G. Sarafopoulos, «L'espace de Teichmüller», Laboratoire de géométrie et analyse, URA 746 du C.N.R.S. (LGA, URA 746 du CNRS), Lyon, France, 1989

104.   G. Sarafopoulos, «Sur les déformations de Kodaira et Spencer», LGA- URA 746 du CNRS, Lyon, France, 1989

105.   G. Sarafopoulos, «La mesure de Polyakov de la théorie des cordes», LGA- URA 746 du CNRS, Lyon, France, 1990

106.   G. Sarafopoulos, «Sur l`espace de modules des su(n)-connexions», LGA- URA 746 du CNRS, Lyon, France, 1990

107.   G. Sarafopoulos, « Structures de l'espace de Teichmüller», LGA- URA 746 du CNRS, Lyon, France,1990.

108.   G. Sarafopoulos, « Déformations des structures complexes », LGA- URA 746 du CNRS, Lyon, France,1991.

109.   G. Sarafopoulos, « La mesure de Polyakov et l'espace de Teichmüller», LGA- URA 746 du CNRS, Lyon, France,1992.

110.   Peter Scheinost, G. Sarafopoulos, « The moduli space of flat SU(n)-connections on a manifold », LGA- URA 746 du CNRS, Lyon, France,, 1992.

111.   Peter Scheinost, G. Sarafopoulos, « A flat connection in the bundle of generalized theta functions», LGA- URA 746 du CNRS, Lyon, France,1993.

112.   Peter Scheinost, G. Sarafopoulos, «Elliptic surfaces, parabolic bundles and the Kodaira-Spencer map», LGA- URA 746 du CNRS, Lyon, France,1993

113.   G. Sarafopoulos, «Les Lagrangiens libres sur une surface de Riemann»,

LGA- URA 746 du CNRS, Lyon, France,1993.

114.   G. Sarafopoulos, « Sur la corde bosonique libre quantifiée», LGA- URA 746 du CNRS, Lyon, France, 1993.

115.   G. Sarafopoulos, «Les outils Mathématiques fondamentaux de la théorie des cordes et l'isomorphisme de Mumford» , LGA- URA 746 du CNRS, Lyon, France,1994.

116.   G. Sarafopoulos, «Sur les lagrangiens libres», LGA- URA 746 du CNRS, Lyon, France, 1991.

117.   G. Sarafopoulos, «La corde bosonique quantifiée», LGA- URA 746 du CNRS, Lyon, France, 1991.

118.   G. Sarafopoulos, «Sur le fibre des fonctions thêta», LGA- URA 746 du CNRS, Lyon, France, 1992.

119.   G. Sarafopoulos, «Fibre parabolique et l`application de Kodaira-Spencer», LGA- URA 746 du CNRS, Lyon, France, 1992

120.   G. Sarafopoulos, «La mesure de Polyakov et l' isomorphisme de Mumford», LGA- URA 746 du CNRS, Lyon, France, 1993

121.   G. Sarafopoulos, «Sur la mesure de surfaces», LGA- URA 746 du CNRS, Lyon, France, 1995.

122.   G. Sarafopoulos, «Les opérateurs de la géométrie conforme», LGA- URA 746 du CNRS, Lyon, France, 1995.

123.   G. Sarafopoulos, «Sur le problème de Levi», LGA- URA 746 du CNRS, Lyon, France, 1996.

124.   G. Sarafopoulos, «Le principe local-global», LGA- URA 746 du CNRS, Lyon, France, 1997.

125.   G. Sarafopoulos, «L`hypothèse de Riemann», LGA- URA 746 du CNRS, Lyon, France, 1998.

126.   G. Sarafopoulos, «Sur les fibrations chaotiques», LGA- URA 746 du CNRS, Lyon, France, 1999.

Books- University Textbooks - Teaching material

127.   G. Sarafopoulos, N. Mylonas, "Mathematics for Economic Sciences"(in Greek) Tziola Publications, Thessaloniki 2019

128.	N. Mylonas, G. Sarafopoulos, "Mathematics of Economics",(in Greek), Tziola Publications, Thessaloniki 2019

129.	G. Sarafopoulos, N. Mylonas, "Linear Algebra, Optimization and Dynamic Analysis for Economic Sciences",(in Greek), Tziola Publications, Thessaloniki 2019

130.	G. Sarafopoulos, "Introduction to Ordinary Differential Equations" (in Greek), DUTH Publications., (2006).

131.	G. Sarafopoulos, "Calculus- Exercises"(in Greek), DUTH Publications, (2007).

132.	G. Sarafopoulos, "Linear Algebra- Exercises"(in Greek), DUTH Publications, (2009).

133.	G. Sarafopoulos, Educational material in electronic form for the course "Mathematics I", (2005).

134.	G. Sarafopoulos, Educational material in electronic form for the course 'Mathematics II', (2005)

135.	G. Sarafopoulos, "Linear Applications" Chapter 8 of the "Accompanying Educational Material" for the course "Mathematics for Computer Science I" (PLH12) (in Greek), Hellenic Open University, (2004).

136.	G. Sarafopoulos, "Differential Equations" Chapter 13 of the "Accompanying Educational Material" for the course "Mathematics for Computer Science I" (PLH12) (in Greek), Hellenic Open University, (2004).