Name	CHRYSOULA
Surname	GANATSIOU
Position	Postdoc Researcher, Adjunct Lecturer: University of Thessaly, School of Technology, Department of Digital Systems.
Bachelor	• 1988. Bachelor of Mathematics, Aristotle University of Thessaloniki, Department of Mathematics, Study direction: Applied Mathematics.
PhD degree	• 1995. Doctoral thesis "*Investigation of some ergodic systems appearing in the Metrical Number Theory*", Aristotle University of Thessaloniki, Department of Mathematics, Sector of Statistics and Operational Research. Supervisor: Professor Sophia L. Kalpazidou. • 1/2020-1/2023. Postdoc researcher. Topic: "*Study of discrete, continuous-time cycle, circuit processes associated with random walks in fixed, random environments-Applications to digital systems*", University of Thessaly, School of Technology, Department of Digital Systems. Supervisor: Professor Ilias K. Savvas.
Teaching experience	• 1995-2019. Teaching in Undergraduate Programs-Research Associate-Technological Educational Institute of Thessaly. • 2002-2022. Teaching in Undergraduate Programs-Adjunct Lecturer-University of Thessaly. • 2000-2002, 2020-2021. Teaching in Undergraduate Programs-Collaborating Educational Staff-Greek Open University. • 2014, 2015-2016. Coordination and Teaching in Postgraduate Programs-University of Thessaly.
Scientific / research interests	Metrical Number Theory, Ergodic Theory, Measure-theoretic Probability Theory with emphasis on Mathematical Analysis, Probability Theory, Theory of Stochastic Processes, Stochastic-Markov Models, Cycle-Circuit Chains, Statistical Theory and Methodology.
Publications/ Conferences	*A. Publications* 1. Ch. Ganatsiou (1995). "*A random system with complete connections associated with a generalized Gauss-Kuzmin -type operator*", Revue Roumaine de Mathematiques Pures et Appliqués, vol. 40, n. 2, 85−89. 2. Ch. Ganatsiou (1995). "*On the asymptotic behaviour of the digits of continued fractions with odd partial quotients*", Quaestiones Mathematicae, vol. 18, n. 4, 517−526. 3. Ch. Ganatsiou (1995). "*Some asymptotic results associated with a generalized Gauss-Kuzmin-type operator*", Portugaliae Mathematica, vol. 52, n. 2, 167−173. 4. Ch. Ganatsiou (1997). "*On G-continued fractions with identically distributed rests*", Nonlinear Analysis, Theory Methods and Applications, vol. 30, n. 4, 2051-2059. 5. Ch. Ganatsiou (2000), "*On a Gauss-Kuzmin type problem for piecewise fractional linear maps with explicit invariant measure*", International Journal of Mathematics and Mathematical Sciences, vol. 24, n. 11, 753-763. 6. Ch. Ganatsiou (2000). "*Probability measures associated with the continued fractions with odd partial quotients*", Quaestiones Mathematicae, vol. 23, n. 3, 335-342. 7. S. Kalpazidou & Ch. Ganatsiou (2001). "*Knopfmacher expansions in number theory*", Quaestiones Mathematicae, vol 24, n. 3, 393-401. 8. Ch. Ganatsiou (2001). "*On the Application of Ergodic Theory to Alternating Engel Series*", International Journal of Mathematics and Mathematical Sciences, vol.25, n.12, 811-817. 9. Ch. Ganatsiou (2001). "*On some properties of the alternating Luroth-type series representations for real numbers*", International Journal of Mathematics and Mathematical Sciences, vol.28, n.6, 367-373. 10. Ch. Ganatsiou (2001), "*On the stochastic behaviour of the digits in the modified Engel-type alternating series representations for real numbers*", BSG Proceedings, vol. 5, pp.33-39.

11. S. Kalpazidou & Ch. Ganatsiou (2003). "*On the inversion of multiple Markov chains*", Far East Journal of Mathematical Sciences, vol.10, n.1, 1-13.

12. Ch. Ganatsiou (2004), "*On ergodic properties for a class of alternating number expansions",* BSG Proceedings, vol. 10, pp.66-71.

13. Ch. Ganatsiou & K. Perakis (2006). "*On the approximation theory to the nearest integer continued fraction expansions*", Far East Journal of Mathematical Sciences, vol.22, n. 3, 291-304.

14. Ch. Ganatsiou (2007). "*On the application of dependence with complete connections for a class of series representations for real numbers"*, Far East Journal of Applied Mathematics, vol.28, n. 3, 409-424.

15. Ch. Ganatsiou & K. Perakis (2010). "*On the ergodicity of an alternating product expansion",* International Journal of Pure and Applied Mathematics, vol. 65, n. 3, 381-388.

16. Ch. Ganatsiou (2011). "*On a Gauss-Kuzmin-type problem for a generalized Gauss-Kuzmin operator*", International Journal of Mathematics and Mathematical Sciences, vol. 2011, Article Id 514746, 8 pages.

17. Ch. Ganatsiou (2011). "*On irreducible denumerable Markov chains defined by directed weighted circuits: analysis of a generalized sample path case*", Far East Journal of Theoretical Statistics, vol. 6, n. 3, 77-94.

18. Ch. Ganatsiou (2012). "*On some applications of a strong law of large numbers for a generalized Gauss-Kuzmin operator*", International Journal of Pure and Applied Mathematics, vol. 81, no.2, 391-400.

19. Ch. Ganatsiou (2013). "*On the study of transience and recurrence of the Markov chain defined by directed weighted circuits associated with a random walk in fixed environment*", Journal of Probability and Statistics, vol. 2013, Article ID 424601, 5 pages.

20. Ch. Ganatsiou, R. Kosti, Ath. Migdanis, I. Migdanis (2014). "*On discrete-time birth-death processes defined by directed weighted circuits*", JP Journal of Biostatistics, vol. 11, n. 2, 103-116.

21. Ch. Ganatsiou, R.Kosti, Ath. Migdanis, I. Migdanis (2014). "*On the study of discrete-time birth-death chains in random ergodic environments"*, JP Journal of Biostatistics, vol. 11, n. 2, 157-168.

22. Ch. Ganatsiou (2016). "*On the criteria of transience and recurrence for the discrete-time birth-death chains defined by directed weighted circuits"*, JP Journal of Biostatistics, vol. 13, n. 2, 103-117.

23. Ch. Ganatsiou (2022) "*On irreducible denumerable continuous parameter circuit chains: Analysis of a generalized sample path case*", Quaestiones Mathematicae, https://doi.org/10.2989/16073606.2020.1848935.

24. Ch. Ganatsiou (2019), *On the Study of Circuit Chains Associated with a Random Walk with Jumps in Fixed, Random Environments: Criteria of Recurrence and Transience*. In: Rassias T., Pardalos P. (eds) Mathematical Analysis and Applications. Springer Optimization and Its Applications, vol 154, Springer, 2019, pp. 185-203.

25. Ch. Ganatsiou (2022), *On the Approximation of Extinction Time for the Discrete-Time Birth-Death Circuit Chains in Random Environments,* In: Rassias T., Daras N. J. (eds) *Approximation and Computation in Science and Engineering*, Springer.

26. Ch. Ganatsiou (2022), "*On the Expected Extinction Time for the Adjoint Circuit Chains associated with a Random Walk with Jumps in Random Environments*", In: A. Nikeghbali, P. Pardalos, A. Raigorodskii, M. Th. Rassias (eds.) , *High Dimensional Optimization and Probability: With a view to-wards Data Sciences*, Springer.

B. Conferences (Peer-reviewed International, World Conferences)

1. Ch. Ganatsiou (16-18/12/1993). "*A generalization of Gauss-Kuzmin problem*". "*WORKSHOP ON DIFFERENTIAL GEOMETRY, GLOBAL ANALYSIS AND LIE ALGEBRAS*", which was organized by the Department of Physics and Mathematics of the Technical University of Thessaloniki.

2. Ch. Ganatsiou (23-26/6/1999). "*On probability measures associated with some classes of numbers' expansions*". "*INTERNATIONAL CONFERENCE ON GEOMETRY AND ITS APPLICATIONS IN TECHNOLOGY*" and "*WORKSHOP ON GLOBAL ANALYSIS, DIFFERENTIAL GEOMETRY, LIE ALGEBRAS*", which was organized by the Department of Physics and Mathematics of the Technical University of Thessaloniki.

3. "*The 2nd International Biometric Society Conference of the Eastern Mediterranean Region/IBS*", Antalya, Turkey, (12-15/1/2003).

   - "*An inquiry concerning the use of Statistical Analysis Method in Agricultural Research*", N. Gitsakis, S. Tzortzios, Ch. Ganatsiou.

   - "*On an optimum selection of herd populations: A simple, newly proposed empirical/semi-empirical index vs sophisticate statistical approaches*", S. Tzortzios, N. Gitsakis, Ch. Ganatsiou, S. Bhattacharya.

4. "*The 3rd International Biometric Society Conference of the Eastern Mediterranean Region/IBS*", Corfu, Greece, (10-12/5/2005).

   - "*Some new biometrical approaches on an optimum groups selection in biological applications*", S. Tzortzios, Ch. Ganatsiou.

   - "*A comparative study of the biometric applications used in agricultural research in Greece and Slovenia by the use of data analysis methods*", S. Tzortzios, Ch. Ganatsiou.

5. "*3rd International Symposium on intelligent information technology in agriculture-ISIITA2005 *", Beijing, (14-16/10/2005)

   - "*A study of the computer application in agricultural education and research-a Greek case study*", S. Tzortzios, Ch. Ganatsiou.

6. "*Prague Stochastics 2006*", Prague, (21/8-25/8/2006), a contribution to the 50th anniversary of Stochastic Conferences in Prague under the auspices of the Bernoulli Society for Mathematical Statistics and Probability and the Czech Statistical Society

   - "*On the existence of a class of finite discrete parameter Markov processes generated by directed weighted circuits*", Ch. Ganatsiou, K. Perakis.

7. "*Skorokhod Space-50 years on*", Kyiv, (17-23/6/2007), an international conference under the auspices of the International Institute of Mathematical Statistics.

   - "*On the existence of irreducible denumerable Markov chains defined by directed weighted circuits: analysis of a sample path space*", Ch. Ganatsiou.

8. "*International Conference of Stochastic Analysis and Random Dynamical Systems*", Lviv, Ukraine, (14-20/6/2009).

    - "*On α generalization of the existence of irreducible denumerable circuit chains*", Ch. Ganatsiou

9. "*33th International Conference on Stochastic Processes and Their Applications*", Berlin, Germany (27-31/7/2009). (The conference is organized under the auspices of the <u>Bernoulli Society for Mathematical Statistics and Probability</u> and co-sponsored by the <u>Institute of Mathematical Statistics</u>. It is the major annual meeting for researchers working in the field of Stochastic Processes and their Applications) .

    -"*On the application of Markov chains' cycle representation to a random walk with jumps in a fixed, random environments*", Ch. Ganatsiou .

10. "*International Conference of Prague Stochastics 2010*", Prague, (30/8-3/9/2010).

    - "*On random walks with absorbing barriers (representations by cycles and weights)*".

11. "*International Congress of the Institute of Mathematical Statistics (73th Annual Meeting)*", Gothenburg, (19-24/6/2011).

    - "*A Gauss-Kuzmin problem associated with a generalized Gauss-Kuzmin operator*", Ch. Ganatsiou.

12. "*58th World Statistics Congress of the International Statistical Institute*", Dublin, Ireland (21-26/8/2011). (The conference includes meetings of the <u>Bernouli Society</u>, the <u>International Association for Statistical Computing</u>, the <u>International Association of Official Statistics</u> etc. It is the major annual meeting for researchers working in the field of Statistics and its sections).

    -"*On cycle representations of random walks in fixed, random environments*", Ch. Ganatsiou

13. "*8th World Congress in Probability and Statistics & 2012 Annual Meeting of the Institute of Mathematical Statistics*", Istanbul (9-14/7/2012). (It is jointly organized by the Bernoulli Society and the Institute of Mathematical Statistics. Scheduled every four years, this meeting is a major worldwide event for statistics and probability, covering all its branches, including theoretical, methodological, applied and computational statistics and probability, and stochastic processes. It features the latest scientific developments in these fields.).

    -"*On the study of Markov chains defined by directed weighted circuits associated with a random walk in fixed environment*", Ch. Ganatsiou.

14. "*Modern Stochastics: Theory and Applications III*", Kiev, Ukraine, (10-14/9/2012).

    -"*On the applications of the strong law of large numbers for a piecewise fractional linear map with explicit invariant measure*", Ch. Ganatsiou.

15. "*29th European Meeting of Statisticians, Budapest, Hungary,* (20-25/7/2013).

    -"*On cycle representations of discrete time birth and death processes*", Ch. Ganatsiou.

16. "*Massee, International Congress on Mathematics, Micom 2015*", Athens, (22-26/9/2015).

    -"*On birth-death circuit chains*", Ch. Ganatsiou.

17. "*7ECM-7th European Congress of Mathematics*", Berlin, (18-22/10/2016).

    -"*On the study of circuit chains associated with a random walk with jumps in fixed, random environments*", Ch. Ganatsiou.

18. "*31th European Meeting of Statisticians, Helsinki, Finland,* (24-28/7/2017).

    -"*On discrete-time birth-death circuit chains in random environments*", Ch. Ganatsiou.

	19. *"First Congress of Greek Mathematicians", Special Session in Probability and Statistics, June 25-30, 2018, Athens, Greece.*
	
	  - *"On the study of transience and recurrence of circuit chains associated with a random walk with jumps in random environments",* Ch. Ganatsiou .
	
	20. *"32th European Meeting of Statisticians", Palermo, Italy, (22-26/7/2019).*
	
	  -*"On the expected extinction time for the adjoint birth-death circuit chains in random environments",* Ch. Ganatsiou.
	
	21. *"63rd World Congress of the International Statistical Institute (Virtual)",* Hague, Holland, (10-16/7/2021). (CPS Oral-"Probability and Statistical Models", CPS 108).
	  - *"On the study of extinction of circuit chains describing random walks in random environments",* Ch. Ganatsiou.

Reviewer/Book reviews	1. *Reviewer-Mathematical Reviews* (from *22/8/2001 till today*) 2. *Reviewer-Zentralblatt fur Mathematik* (from *15/5/2003 till today*) 3. *Book Reviews:* -*"Semiparametrics statistics"*, Aad van der Vaart, In: Boltthausen, Erwin et al. Lectures on probability theory and statistics. Ecole d' ete de probabilities de Saint-Flour XXIX-1999, Saint-Flour, France, July 8-24, 1999. Berlin: Springer (ISBN 3-540-43736-3). Lect. Notes Math. 1781, 331-457 (2002). -*"Metrical theory of continued fractions"*, M. Iosifescu, Mathematics and its Applications (Dordecht), 547, Kluwer Academic Publishers, (ISBN 1-4020-0892-9/hbk). xx, p. 383 (2002). -*"Modern medical statistics. A practical guide"*, Brian S. Everitt, London: Arnold (ISBN 0-340-80869-1/hbk).xii, 235p. (2003). -*"Fitting Models to Biological Data using Linear and Nonlinear Regression"*, Harvey Motulsky, Arhtur Christopoulos, Oxford University Press (2004). -*"Applied Bayesian Statistical Studies in Biology and Medicine"*, M. Di Bacco, G. D' Amore, F. Scalfari, Kluwer Academic Publishers (2004). -*"Invariant probabilities of Markov-Feller Operators and Their Supports"*, Radu Zaharopol, Frontiers in Mathematics, Birhauser, ISBN 3-7643-7134-X (2005). -*"Statistical Monitoring of Clinical Trials"*, Lemuel A. Moye, Springer (2006). -*"Medical Statistics-A Textbook for the Health Sciences"*, M. J. Campbell, G. Machin, S. J. Walters, Wiley (2007). -*"Statistical Test Theory for the Behavioral Sciences"*, D. n. M. de Gruijter, L. J. Th. Van der Kamp, Chapman & Hall/CRC (2008). -*"DNA Methylation Microarrays-Experimental Design and Statistical Analysis"*, Sun-Chong Wang, Arturaw Petronis, Chapman & Hall/CRC (2008). -*"Introductory Econometrics-with contributions by John Guerard"*, Phoebus Dhrymes, Springer International Publishing AG (2017).