CURRICULUM VITAE

1. PERSONAL DETAILS

Last Name: KYRTSOU

First Name: Catherine (Aikaterini)

Father's Name: Kostantinos

Office Address: University of Macedonia, Department of Economics, Office 504, Egnatia str., 156, 54006, Thessaloniki, GREECE.

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2. STUDIES

Sept. 1992-Sept. 1995: Graduate of University of Macedonia, Department of Economics, Thessaloniki, Greece.

Sept. 1996-Sept. 1997: DEA de Microéconomie et de Calcul Economique, University of Montpellier I, Department of Economics, France.

Oct. 1997-Feb. 2002: PhD Thesis: «Hétérogénéité et chaos stochastique dans les marchés boursiers» (Heterogeneity and stochastic chaos in stock markets). University of Montpellier I, Department of Economics, LAMETA (Obtained with Honors and the unanimous Compliments of the Jury),

Languages: French, English, and Greek.

3a. POSITIONS

July 2017-today: Professor at the University of Macedonia, Department of Economics, Thessaloniki, Greece.

July 2013-June 2017: *Associate Professor* at the University of Macedonia, Department of Economics, Thessaloniki, Greece.

Nov. 2008-June 2013: *Assistant Professor* at the University of Macedonia, Department of Economics, Thessaloniki, Greece.

Dec. 2003-Oct.2008: *Lecturer* at the University of Macedonia, Department of Economics, Thessaloniki, Greece.

June 2008: Visiting Professor, LAMETA, Department of Economics, University of Montpellier I.

Oct. 2005-today: *Visiting Professor* at the Hellenic Open University.

Oct. 2013-today: *Visiting Professor* at the International Hellenic University.

Oct. 2010-Dec. 2018: *Associate Researcher* at BETA, University of Strasbourg.

Dec. 2011-today: *Associate Researcher* at EconomiX, University of Paris 10.

Jan. 2007-Dec.2010: *Scientific Expert*, University of Luxembourg.

June 2006-Dec.2015: *Editorial Board* of *Cliometrica* (Spinger Verlag).

Sept. 2007-today: *Associate Editor* of the *Brussels Economic Review* (Editions Dulbea).

Jan. 2010-today: *Associate Member* of the Institut des Systèmes Complexes de Paris, Ile-de-France.

Sept. 2014-today: Deputy Director of CAC (Cliometrics and Complexity) at the IXXI Institut Rhône-Alpin des Systèmes Complexes in Lyon.

Oct. 2010-today: *Member* of the Euro Area Business Cycle Network.

Jan. 2013-today: *Member* of the Complex Systems and Applications group (COSA) of the National Centre of Scientific Sciences “Demokritos” in Athens.

Feb. 2014-today: Member of the Society for Economic Measurement, US.

Jan. 2014-Jan.2015: Member of the Cliometric Society.

Jan. 2010-today: *Associate Editor* of the *International Review of Financial Analysis* (Elsevier).

Aug. 2010-today: *Associate Editor* of the *European Journal of Finance* (Taylor and Francis).

March 2012-today: *Editorial Board* of the *Annals of Financial Economics*, (World Scientific).

Jan. 2013-today: *Associate Editor* of the *Journal of Economic Asymmetries*, (Elsevier).

Jan. 2013-today: *Guest Associate Editor* of the *International Journal of Bifurcation and Chaos*, (World Scientific).

Nov. 2013-today: Editorial Board of the *Journal of Behavioral and Experimental Finance* (Elsevier).

Sept. 2011-today: Economic Consultant for the Gerson Lehrman Group.

3b. DISTINCTIONS/RECOGNITIONS

- Listed in the special 25th Silver Anniversary Edition of Marquis Who's Who in the World, (2008, 2009).
- Listed in the special 10th Anniversary Edition of Marquis Who's Who in Science and Engineering, (2008, 2011-2012).
- Listed in the Who's Who of the Complex Systems Society, (2010-2017).
- Named on the list of 2000 Outstanding Intellectuals of the 21st Century.
- Research grant attributed by the Research Committee of the University of Macedonia acknowledging distinguished publications (2010, 2011, 2012, 2013, 2014).
- H-index:18, G-index:32, 1123 citations (source: Harzing's Publish or Perish).
- High-rated Professor, based on the Under-and Graduate students' evaluations at the University of Macedonia, International Hellenic University and Hellenic Open University.
- Excellence in Teaching Award (1st prize), MBA University of Macedonia, October 2014 & December 2017.
- Granted the "Excellence in Peer Review" award from the journal *Chaos, Solitons and Fractals*, January 2013.
- The test of Hristu-Varsakelis and Kyrtsou (2008) has been included in the new Econometric Package "Model Maker" widely used in the fields of genomic, proteomic and neuroscience research.

4. RESEARCH INTERESTS

Capital and money markets, Trading Strategies, Investors' Behaviour, Monetary policy, Economic Growth, Financial instability and crises, Behavioural finance, Interest rate dynamics, Economic complexity and policy, Complex networks, Agent-based approaches, Commodity markets, Applied econometrics.

5. TEACHING

Graduate Level.

1. *Financial Markets*, Master in Economics, Department of Economics, University of Macedonia, 2003-2004, 2004-2005.
2. *Topics in Financial Market Analysis*, Master in Economics, Department of Economics, University of Macedonia, 2003-2004, 2004-2005, 2005-2006.
3. *Corporate Finance,* Master in Economics, Department of Economics, University of Macedonia, 2005-2006.
4. *Money and Capital Market Analysis*, Master in Economics, Department of Economics, University of Macedonia, 2006-today (both lectures and laboratory courses).
5. *Macroeconomics II*, Master in Economics, Department of Economics, University of Macedonia, 2006-2007.
6. *Bank Strategy,* Master in Banking, Hellenic Open University, 2005-today.
7. *Financial Instability and Investors' Behavior*, MBA University of Macedonia, 2010-today (both lectures and laboratory courses).
8. *Financial Trading*, Master in Information Systems, University of Macedonia, 2010-today (both lectures and laboratory courses).
9. *Foundations of Finance,* Master in Banking and Finance, International Hellenic University, 2013-2014 (both lectures and laboratory courses-in English).
10. *Asset Management,* Master in Banking and Finance, International Hellenic University, 2019-today (both lectures and laboratory courses-in English).
11. *Quantitative Topics in Economics*, Master in Econophysics and Financial Forecasting, University of Thessaly, 2017-today.

12. *Credit Markets and Banking,* Master in Applied Economics, University of Macedonia, 2018-today (both lectures and laboratory courses).

Undergraduate Level.

1. *Econometrics II*, Department of Economics, University of Macedonia, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2010-2011 (both lectures and laboratory courses).
2. *Domestic and Foreign Capital Markets,* Department of Economics, University of Macedonia, 2007-2010.
3. *Monetary Theory and Policy,* Department of Economics, Aristotle University of Thessaloniki, 2010-2011.
4. *Macroeconomics II,* Department of Economics, University of Macedonia, 2011-today.
5. *Money and Capital Markets,* in English and French for ERASMUS students (2008-2011), in English for both ERASMUS and Greek students (2011-2018), in Greek (2018-today), Department of Economics, University of Macedonia (both lectures and laboratory courses).
6. *Behavioral Finance,* in English for both ERASMUS and Greek students (2017-today), Department of Economics, University of Macedonia (both lectures and laboratory courses).

6. SCIENTIFIC WORK

I. Monographs.

1. *Hétérogénéité et chaos stochastique dans les marchés boursiers*, University of Montpellier I, Department of Economics, LAMETA, 2002 (PhD Thesis).
2. *Tests de non linéarité et détection du chaos dans les marchés financiers*, University of Montpellier I, Department of Economics, LAMETA, 1997 (DEA).

II. Books

1. *Progress in Financial Market Research*, collective volume, July 2012, New York: Nova Science Publishers (in collaboration with Vorlow C.).

2. *New Trends in Macroeconomics*, September 2005, Springer Verlag - Bestseller- (in collaboration with Professor C. Diebolt, Research Director in CNRS, BETA, Université Louis Pasteur de Strasbourg).
3. *Macroeconomics: Policy and Practice* by F. Mishkin (2nd edition), October 2014, Co-Editing of the Greek version.

III. Guest Editor in Special Issues

1. *Special Issue "Non-linear Macroeconomic Dynamics" Journal of Macroeconomics*, 2006, in collaboration with Prof. T. Palivos.
2. *Special Issue "Energy Sector Pricing and Macroeconomic Dynamics" Energy Economics,* 2009, in collaboration with Prof. A.G. Malliaris.
3. *Special Issue "Non-linear Financial Analysis" Brussels Economic Review*, 2010.
4. *Special Issue "New Facets of Economic Complexity in Modern Financial Markets" European Journal of Finance,* in collaboration with Prof. D. Sornette, 2013.
5. *Special Issue "Comovement and Contagion in Financial Markets" International Review of Financial Analysis,* in collaboration with Profs V., Mignon and S. Tokpavi, 2014.

IV. Peer-Reviewed Publications in Collective Volumes, Scientific Journals and Proceedings.

1. Kyrtsou, C., and Terraza, V., (2000): Volatility behaviour in emerging markets: A case study of the Athens Stock Exchange, using daily and intra-daily data, *European Research Studies Journal,* Vol.3 (3-4), pp. 3-16.
2. Kyrtsou, C., and Diebolt, C., (2001): A survey on cycles and chaos (Part I), *Historical Social Research. An International Journal for the Application of Formal Methods to History*, vol. 26 (4).
3. Kyrtsou, C., and Terraza, M., (2002): L'effet du bruit dans les données à haute fréquence: le cas de la série boursière d'Athènes, *Collection Logiques Economiques*, Editions Harmattan, Paris.
4. Kyrtsou, C., and Terraza, M., (2002): Stochastic chaos or ARCH effects in stock series? A comparative study, *International Review of Financial Analysis*, Vol.11 (4), pp. 407-431.

5. Kyrtsou, C., and Diebolt, C., (2002): A survey on cycles and chaos (Part II), *Historical Social Research. An International Journal for the Application of Formal Methods to History*, vol. 27 (2/3).
6. Kyrtsou, C., and Terraza, M., (2003): It is possible to study chaotic and ARCH behaviour jointly? Application of a noisy Mackey-Glass equation in the Paris Stock Exchange returns series, *Computational Economics,* vol.21, pp. 257-276.
7. Kyrtsou, C., and Terraza, V., (2003): Evidence for mixed non-linearity in daily stock exchange series, *Political Economy*, vol. 13, pp. 71-99.
8. Kyrtsou, C., Labys, W., and Terraza, M., (2004): Noisy chaotic dynamics in commodity markets, *Empirical Economics,* vol. 29, pp. 489-502.
9. The previous publication (item 8) is also appeared in the book “Modeling and Forecasting Primary Commodity Prices” edited by Walter Labys with foreword by C.W.J. Granger.
10. Kyrtsou, C., (2005): Evidence for neglected linearity in noisy chaotic models, *International Journal of Bifurcation and Chaos*, vol. 15 (10), pp. 3391-3394.
11. Kyrtsou, C., and Vorlow, C., (2005): Complex dynamics in macroeconomics: a novel approach, *New Trends in Macroeconomics,* Diebolt C., and Kyrtsou C., (eds), Springer Verlag, pp.223-238.
12. Kyrtsou, C., and Labys, W., (2006): Evidence for chaotic dependences between US inflation and commodity prices, *Journal of Macroeconomics,* vol. 28, (1), pp. 256-266. High-ranking publication (10/25 TOP HOTTEST ARTICLES, January-March 2006).
13. Kyrtsou, C., and Serletis, A., (2006): Univariate tests for non-linear structure, *Journal of Macroeconomics,* vol. 28 (1), pp. 154-168. High-ranking publication (3/25 TOP HOTTEST ARTICLES, January-March 2006).
14. Kyrtsou, C., Leontitsis A., and Siriopoulos C., (2006): Exploring the impact of calendar effects on the dynamic structure and forecasts of financial time series, *International Journal of Applied and Theoretical Finance*, vol. 9 (1), pp. 1-22 (One of the 5 most popular articles of the journal).

15. Kyrtsou, C., and Labys, W., (2007): Detecting Positive Feedback in Multivariate Time Series: The Case of Metal Prices and US Inflation, *Physica A*, vol.377 (1), pp. 227-229.
16. Karagianni, S., and Kyrtsou, C., (2007): Evidence for nonlinear causality between prices and fundamental value in an artificial market framework, *in Essays in Economic Theory*, E. Drandakis, D. Glycopantis and G. Stamatis (eds), in honor of Professor Theofanis Benos, Kritiki Publisher, pp. 201-208.
17. Hristu-Varsakelis, D., and Kyrtsou, C., (2008): Evidence for nonlinear asymmetric causality in US inflation, metal and stock returns, *Discrete Dynamics in Nature and Society*, doi:10.1155/2008/138547.
18. Kyrtsou, C., (2008): Nonlinear features of commodity prices comovements, in *Commodity Modeling and Pricing,* Schaeffer, P.V. (ed.), Wiley and Sons, New York, pp.52-64.
19. Kyrtsou, C., (2008): Re-examinating the sources of heteroskedasticity: The paradigm of noisy chaotic models, *Physica A*, vol. 387 (27), pp. 6785-6789.
20. Kyrtsou, C., and Malliaris A., (2009): The impact of information signals on market prices, when agents have non-linear trading rules*, Economic Modelling,* vol. 26 (1), pp. 167-176.
21. Kyrtsou, C., and Vorlow, C., (2009): Modelling nonlinear comovements between time series, *Journal of Macroeconomics,* vol. 30 (2), pp. 200-211. High-ranking publication (8/25 TOP HOTTEST ARTICLES, January-March 2009).
22. Kyrtsou, C., Malliaris, A., and Serletis, A., (2009): Energy sector pricing: On the role of neglected nonlinearity, *Energy Economics*, vol. 31 (3), pp. 492-502. High-ranking publication (13/25 TOP HOTTEST ARTICLES, April-June 2009).
23. Hristu-Varsakelis, D., and Kyrtsou, C., (2010): Testing for Granger causality in the presence of chaotic dynamics, *Brussels Economic Review*, 2010, vol. 53(2); pp. 323-327.
24. Kyrtsou, C., and Terraza M., (2010): Seasonal Mackey-Glass-GARCH process and short-term predictability, *Empirical Economics*, vol. 38(2), pp. 325-345.
25. Karagianni, S., and Kyrtsou, C., (2011): Analysing the dynamics between US inflation and Dow Jones index using nonlinear methods, *Studies in Nonlinear Dynamics and Econometrics*, vol.

15(2), article 4. High-ranking publication (1st most popular paper by the end of July 2011).

26. Karanasos, M., and Kyrtsou, C., (2011): Analyzing the link between stock volatility and volume by a Mackey-Glass GARCH-type model: the case of Korea, *Quantitative and Qualitative Analysis in Social Sciences,* vol. 5 (1), pp. 49-69.
27. Papana, A., Kyrtsou, C., Kugiumtzis, D., and Diks, C.,(2013): Simulation study of direct causality measures in multivariate time series, *Entropy*, 15(7), pp. 2635-2661, doi:10.3390/e15072635.
28. Kollias, C., Kyrtsou, C., and Papadamou, S., (2013): Security shocks and oil prices–stock indices relationship, *Energy Economics,* vol. 40, pp. 743–752.
29. Papana, A., Kyrtsou, C., Kugiumtzis, D., and Diks, C., (2014): Comparison of resampling techniques for the non-causality hypothesis, *Topics in Statistical Simulation–7th International Workshop on Statistical Simulation, Springer Proceedings in Mathematics & Statistics*, vol. 114, pp 419-429.
30. Papana, C., Kugiumtzis, D., and C., Kyrtsou, (2014): A nonparametric causality test: Detection of direct causal effects in multivariate systems using corrected partial transfer entropy, *Proceedings of the 1st ISNPS Conference, Topics in Nonparametric Statistics, Springer Proceedings in Mathematics & Statistics*, vol. 74, pp 197-206.
31. Papana, A., Kyrtsou, C., Kugiumtzis, D., and Diks, C., (2015): Detecting causality in non-stationary time series using partial symbolic transfer entropy: Evidence in financial data, *Computational Economics,* vol. 47(3), pp 341-365.
32. Kyrtsou, C., Mikropoulou, C., and Papana, A., (2016): Does the SP500 index mirror the crude oil dynamics? A complexity-based approach, *Energy Economics*, vol. 56, pp. 239–246.
33. Papana, A., Kyrtsou, C., Kugiumtzis, D., and Diks, C., (2017): Financial networks based on Granger causality: A case study, *Physica A*, vol. 482, pp. 65-73.
34. Papana, A., Kyrtsou, C., Kugiumtzis, D., and Diks, C., (2017): Assessment of resampling methods for causality testing: A note on the US inflation behavior, *PLoS ONE* 12(7): e0180852.

35. Kyrtsou, C., Kugiumtzis, D., and Papana, A., (2019): Further insights on the relationship between SP500, VIX and Volume: A new asymmetric causality test, *European Journal of Finance*, doi.org/10.1080/1351847X.2019.1599406.
36. Kyrtsou, C., and Mikropoulou, C., (2019): Quantifying interactions in nonlinear feedback dynamics: A time-series analysis, *International Journal of Bifurcation and Chaos*, vol. 29(01), 1950012, doi/10.1142/S0218127419500123.

V. Editorial Introductions, published Working Papers and Discussions.

1. Kyrtsou, C., and Palivos, T., (2006): Nonlinear Macroeconomic Dynamics, *Journal of Macroeconomics*, vol. 28 (1), pp.1-4.
2. Kyrtsou, C., and Malliaris A., (2009): Energy Sector Pricing and Nonlinear Macroeconomics, *Energy Economics*, vol. 31 (6), pp.825-826.
3. Kyrtsou, C., (2010): Nonlinear Financial Analysis, *Brussels Economic Review*, vol. 53(2), pp.165-167.
4. Kollias, C., Kyrtsou, C., and Papadamou, S., (2011): The effects of terrorism and war on the oil prices-stock indices relationship, *Economics of Security Working Paper 57,* Berlin: Economics of Security.
5. Kyrtsou, C., and Sornette, D., (2013): New Facets of the Economic Complexity in Modern Financial Markets, *European Journal of Finance*, vol.19 (5), pp.337-449 (available as well at the *ACE Research Area: Agent-Based Financial Economics* site http://www.econ.iastate.edu/tesfatsi/afinance.htm).
6. Diks, C., Kugiumtzis, D., Kyrtsou, C., Papana, A., (2013): Partial Symbolic Transfer Entropy, *CeNDEF Working paper 13-16*, University of Amsterdam.
7. Kyrtsou, C., (2013): Discussion on “Specific Markov-Switching Behaviour for ARMA Parameters”, *12th Annual Financial Econometrics Conference*, 11 December, 2013, Paris.
8. Kyrtsou, C., Mignon, V., Tokpavi, S., (2014): Comovement and Contagion in Financial Markets, *International Review of Financial Analysis*, vol.33, pp.iii–iv.

9. Diks, C., Kugiumtzis, D., Kyrtsou, C., and Papana, A., (2014): Assessment of Resampling Methods for Causality Testing, *CeNDEF Working paper* 14-08, University of Amsterdam.
10. Diks, C., Kugiumtzis, D., Kyrtsou, C., and Papana, A., (2014): Identifying causal relationships in case of non-stationary time series, *CeNDEF Working paper* 14-09, University of Amsterdam.

VI. International Conferences and Workshops.

1. Testing for nonlinearity in commodity prices: determinism or stochasticity?, GAMMAP International Conference *Dynamique des Prix et des Marchés de Matières Premières*, Grenoble, France, November 1998 (in collaboration with Labys W., and Terraza M.).
2. Determinism versus stochasticity in emerging capital markets: a note, International Conference *Forecasting Financial Markets*, London, May 1998 (in collaboration with Terraza M.).
3. Evidence for nonlinearity in small european capital markets, AEA International Conference *Forecasting Emerging Financial Markets*, Paris, June 1998 (in collaboration with Terraza M.).
4. L'effet du bruit dans les données à haute fréquence: le cas de la série boursière d'Athènes, International Conference *Théorisation du Long Terme et Dépassement des Phases Dépressives*, Montpellier, France, September 1999 (in collaboration with Terraza M.).
5. Stochastic chaos or ARCH effects in stock series? A comparative study, SEFI International Conference *Complex Behaviour in Economics*, Aix-en-Provence, France, May 2000 (in collaboration with Terraza M.).
6. It is possible to study chaotic and ARCH behaviour jointly? Application of a noisy Mackey-Glass equation in the Paris Stock Exchange returns series, SCE International Conference, *Computing in Economics and Finance*, Barcelona, July 2000 (in collaboration with Terraza M.).
7. Value at Risk, Outliers and Chaotic Dynamics, International Conference *Forecasting Financial Markets*, Paris, June, 2004 (in collaboration with Terraza V.).
8. Surrogates data analysis and stochastic chaotic modelling: application to stock exchange returns series, SCE International

Conference *Computing in Economics and Finance*, Amsterdam, July 2004 (in collaboration with Antoniou A. and Vorlow C.).

9. VaR Non-linéaire Chaotique: Application à la Série des Rentabilités de l'Indice NIKKEI, AEA International Conference *Econometrics of Stock Markets: Analysis and Prediction*, Paris, April, 2004 and AFFI International Conference, Cergy-Pontoise, France, June, 2004 (in collaboration with Terraza V.).
10. Analyzing the link between stock volatility and volume by a Mackey-Glass GARCH-type model: the case of Korea, *Global Finance Conference*, June 2005, Trinity College Dublin, Ireland (in collaboration with Karanasos M.).
11. Value-at-Risk, outliers and chaotic dynamics, *3rd International Conference on Computational Finance and its Applications,* May 2008, Cadiz, Spain (in collaboration with Terraza V.).
12. Effects of tax policy announcements in the Athens stock exchange, *International Conference on Economic Modelling*, 7-10 July, 2010, Istanbul (in collaboration with Karagianni S. and A. Saraidaris).
13. Security Shocks and Oil Prices – Stock Indices Relationship, *Terrorism and Policy Conference*, University of Texas at Dallas, Sponsored by the Center for Global Collective Action, May 2011 (in collaboration with Kollias C., and Papadamou S.).
14. A nonparametric causality test: Detection of direct causal effects in multivariate systems using Corrected Partial Transfer Entropy, *1st International Conference of Society of Non-Parametric Statistics (ISNPS)*, 15-19 June 2012, Chalkidiki, Greece (in collaboration with Papana, A., and Kugiumtzis, D.,).
15. Partial Symbolic Transfer Entropy, *6th CSDA International Conference on Computational and Financial Econometrics* (CFE'12), 1-3 December 2012, Oviedo, Spain (in collaboration with Papana, A., Kugiumtzis, D., and Diks, C.,).
16. Neglected Nonlinearity and Risk Premium Dynamics in the U.S. market, *11th Biennial Conference of Athenian Policy Forum*, July 2012, Chalkidiki, Greece (in collaboration with Mikropoulou C. and Mikropoulou V.).
17. On the Causes of the Stock Index–Crude Oil Returns Interdependences: A Copula-based Approach, *11th Biennial*

Conference of Athenian Policy Forum, July 2012, Chalkidiki (in collaboration with Mikropoulou C. and Vogiatzoglou M.).

18. Does the SP500 index mirror the crude oil dynamics? A complexity-based approach, *Finance and energy issues*, 1st March 2013, Paris, France and *8th BMRC-QASS Conference on Macro and Financial Economics*, 24 May, 2013, Brunel University, London (in collaboration with Mikropoulou C. and Papana A.).
19. Comparison of resampling significance tests for Granger causality, *7th International Workshop on Simulation*, 21-25 May, 2013 - Alma Mater Studiorum University of Bologna, Rimini, Italy (in collaboration with Papana, A., Kugiumtzis, D., and Diks, C.,).
20. Investigating causal relationships–application to financial time series, *Dynamics Days*, 3-7 June 2013, Madrid, Spain (in collaboration with Papana, A., Kugiumtzis, D., and Diks, C.,).
21. Further insights on the connectivity between money supply and interest rates, *5th International Symposium on Recurrence Plots*, Loyola University Chicago, 14-16 August 2013, US (in collaboration with Papana, A., and Vorlow, C.,).
22. Informational content of Monday returns and the role of dynamic invariants, *5th International Symposium on Recurrence Plots*, Loyola University Chicago, 14-16 August 2013, US (in collaboration with Malliaris, A., and Mikropoulou, C.,).
23. Diversity, Uncertainty and Stock Market Dynamics, *2nd International Conference on Econophysics*, 13-14 September, 2013, Kavala, Greece (in collaboration with Mikropoulou, C.,).
24. Dynamic Analysis of the US Short- and Long-Term Interest Rates Relationships: On the Role of Monetary Policy, *European Conference on Complex Systems*, 16-21 September, 2013, Barcelona, Spain (in collaboration with Malliaris, A., and Mikropoulou, C.,).
25. Diversity, Uncertainty and Stock Market Dynamics, *12th Annual Financial Econometrics Conference*, 11 December, 2013, Paris (in collaboration with Mikropoulou, C.,).
26. Identifying causal relationships in the case of non-stationary time series, *7th CSDA International Conference on Computational and Financial Econometrics (CFE 2013)* 14-16 December 2013,

Senate House, University of London, UK (in collaboration with Papana, A., Kugiumtzis, D., and Diks, C.,).

27. Time Series Resampling for Causality Testing, *11th International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing*, KU Leuven, Belgium, April 6-11, 2014 (in collaboration with Papana, A., Kugiumtzis, D., and Diks, C.,).
28. Financial Indicators and the Business Cycle: the Contribution of Recurrence Plot Analysis, *10th BETA-Workshop in Historical Economics "Where are we now in Cliometrics?"*, May 9-10, 2014, Strasbourg (in collaboration with Crowley, P., and Mikropoulou, C.,).
29. Gathering the Pieces of the US Real Output Dynamics: New Challenges for Economic Policy, *The 12th Biennial Athenian Policy Forum Conference, on Economic and Financial Asymmetries*, National Debts and Government Policies, Toronto, Canada, June 13-14, 2014 (in collaboration with Karagianni S., and Mikropoulou, C.,).
30. Further insights on the asymmetric causality between the SP500 and VIX indexes, *The 12th Biennial Athenian Policy Forum Conference, on Economic and Financial Asymmetries*, National Debts and Government Policies, Toronto, Canada, June 13-14, 2014 (in collaboration with Papana, A., and Kugiumtzis, D.,).
31. Diversity, Uncertainty and Stock Market Dynamics, *Conference on Macro and Financial Economics/Econometrics*, London, May 28-30, 2014 (in collaboration with Mikropoulou, C.,).
32. Dynamic Analysis of the US Short- and Long-Term Interest Rates Relationships: On the Role of Monetary Policy, *1st Conference of the Society for Economic Measurement*, University of Chicago's Booth School of Business, August 18-20, 2014 (in collaboration with Malliaris, A., and Mikropoulou, C.,) invited contribution.
33. Financial networks based on short-term Granger causality, *2nd Vienna Workshop on High Dimensional Time Series in Macroeconomic and Finance*, Institute for Advanced Studies, Vienna, May 21-22, 2015 (in collaboration with Papana, A., Kugiumtzis, D., and Diks, C.,).
34. Financial Indicators and the Business Cycle: the Contribution of Recurrence Plot Analysis, 6th International Symposium on

Recurrence Plot Analysis, 17-19 June 2015, Grenoble, (in collaboration with Crowley, P., and Mikropoulou, C.,).

35. Informational content of Monday returns and the role of dynamic invariants, 22nd Annual Conference of the Multinational Finance Society, Halkidiki, Greece, June 28 - July 1, 2015 (in collaboration with Malliaris, A., and Mikropoulou, C.,).
36. Gathering the Pieces of the US Real Output Dynamics: New Challenges for Economic Policy, *2nd Conference of the Society for Economic Measurement*, OECD Paris, July 22-24, 2015 (in collaboration with Karagianni S., and Mikropoulou, C.,) invited contribution.
37. Understanding Financial Risk Through Complexity: Application to Real Time Series, *2nd Conference of the Society for Economic Measurement*, OECD Paris, July 22-24, 2015 (invited contribution) & 13th Biennial Athenian Policy Forum Conference, Athens, July 7-9, 2016 (in collaboration with Malliaris, A., and Mikropoulou, C.,).
38. Financial Indicators and the Business Cycle: the Contribution of Recurrence Plot Analysis, 1st International Conference on “Cliometrics and Complexity”, CAC2016, June 9-10, 2016, Lyon, (in collaboration with Crowley, P., and Mikropoulou, C.,).
39. Does threshold cointegration matter for short-term interactions between US commodity prices and inflation? A historical perspective, 1st International Conference on “Cliometrics and Complexity”, CAC2016, June 9-10, 2016, Lyon, & 7th Italian Congress of Econometrics and Empirical Economics (ICEEE 2017), January 25-27, 2017, Messina, Italy, (in collaboration with Cavicchioli, M., and Papana, A.,).
40. New evidence on the synchronization between the US business and financial cycles, 2nd International Conference on “Cliometrics and Complexity”, CAC2018, June 4-5, 2018, Lyon & 5th RCEA Time Series Econometrics Workshop, June 14-15, 2018, Rimini & 24th International Conference on Computing in Economics and Finance CEF2018, June 19-21, 2018, Milan & 8th Italian Congress of Econometrics and Empirical Economics, Lecce, Italy, January 24-26, 2019 (in collaboration with Cavicchioli, M., and Mikropoulou, C.,).

41. Addressing the «curse of dimensionality» when testing for Granger causality. Application to a set of financial assets, International Conference on Complex Systems (CCS2018), September 23-28, 2018, Thessaloniki, Greece (in collaboration with Mikropoulou, C., and Papana, A.,).
42. Further insights on the relationship between SP500, VIX and Volume: A new asymmetric causality test, 17e Journee d'Econometrie: Developpements recents de l'econometrie appliquee a la finance, Universite Paris Nanterre, November 7, 2018 (in collaboration with Kugiumtzis, D., and Papana, A.,).

VII. Invited Presentations/Lectures, Guest Speaker

- SDAKOS Workshop, Aristotle University, Thessaloniki, May, 2007.
- Athens University of Economics and Business, Department of Statistics, Athens, October 2007.
- University of Montpellier I, Department of Economics, October 2007.
- Festschrift Symposium for Walter C. Labys, Agricultural and Resource Economics, West Virginia University, May 2007.
- University of Thessaly, Department of Economics, Volos, December 2007 and October 2008.
- University of Crete, Department of Economics, Rethymno, February 2008.
- Workshop on Nonlinear Dynamics, University of Thessaly, Department of Economics, Volos, April 2008.
- University of Montpellier, June 2008.
- University of Macedonia, general and executive MBA, Thessaloniki, 2009-2012.
- Summer School in Stochastic Finance, Athens University of Economics and Business and University of Aegean, Athens, July 2010.
- Summer School in Stochastic Finance, Athens University of Economics and Business and University of Aegean, Nafplio, July 2011.
- University of Strasbourg, BETA Laboratory, April 2012.
- International Hellenic University, February 2014.

- Seminar course on the Information Transmission Process and Multivariate Tools, International Hellenic University, April 2014.
- 1st Conference of the Society for Economic Measurment, University of Chicago's Booth School of Business, August 2014.
- Seminar course on the Downward Trends in Money and Capital Markets during October 2014, MBA University of Macedonia, December 2014.
- 2nd Conference of the Society for Economic Measurement, OECD Paris, July, 2015
- Athens University of Economics and Business, Summer School in Computational Finance, July 2015.
- Athens University of Economics and Business, Summer School in Stochastic Finance, July 2016.
- Aristotle University, Summer School in Dynamical Systems and Complexity, August 2016.
- University of Thessaly, Summer School in Dynamical Systems and Complexity, July 2017.
- IPAG Business School Paris, November 2019.

7. OTHER SCIENTIFIC ACTIVITIES

I. Project Evaluator

- European Commission.
- General Secretariat for Research and Technology.
- Italian Ministry of University and Research.
- US National Science Foundation.

II. Referee in International Journals and Conferences

- Journal of Business and Economic Statistics, Journal of Economic Dynamics and Control, Journal of Banking and Finance, Quantitative Finance, Empirical Economics, Economic Inquiry, Macroeconomic Dynamics, Mathematics and Computers in Simulation, Review of Futures Markets, Economic Modelling, Finance, Journal of Economic Behaviour and Organization, Studies in Nonlinear Dynamics and Econometrics, Journal of Macroeconomics, Energy Policy, Energy Economics, International Review of Financial Analysis, Physica A, Chaos Solitons and Fractals, Chaos, International Journal of Bifurcation and Chaos, Discrete

Dynamics in Nature and Society, Discrete and Continuous Dynamical System-B, Economics, International Review of Economics and Finance, Applied Economics, Computational Statistics and Data Analysis, Brussels Economic Review, Journal of Systemics, Cybernetics and Informatics.

- Journals of the World Scientific and Engineering Academy and Society.
- Referee in the World Multiconference on Systemics, Cybernetics and Informatics, 2003-today, Orlando, Florida, US.

III. Book Reviewer

Routledge

IV. Contributions in Newspapers

1. The theory of endogenous instability, *Nautemporiki*, 11th February 2009 (in Greek).
2. Endogenous procyclicality, *Nautemporiki*, 17th December 2009 (in Greek).
3. The puzzle of short-selling, *Invertor's World*, 19th-20th December 2009 (in Greek).
4. The real dimensions of complexity, *Invertor's World*, 21st-22nd August 2010 (in Greek).
5. The crisis of public debt and its particularities, *Invertor's World*, 15th-16th January, 2011 (in Greek).
6. The Greek debt: Between Scylla and Charybdis, *New Europe*, 3rd-9th July 2011. http://69.65.104.130/~neurope/943/943.pdf
7. Don't blame the markets, New Europe, 14th-20th November 2011 (in collaboration with Professor A.G. Malliaris). http://www.neurope.eu/article/dont-blame-markets
8. Austerity Policy in Greece: Attempting Incorrect Resuscitation Techniques on a Tachycardic Economy, New Europe, June, 2012 (in collaboration with Mikropoulou, C.,) http://www.neurope.eu/blog/austerity-policy-greece-attempting-incorrect-resuscitation-techniques-tachycardic-economy
9. European Sovereign Crisis and Economic Policy, VIMA, July, 2012 (in Greek). http://www.tovima.gr/opinions/useropinions/article/?aid=466207

10. The "hard" solution: is it an alternative scenario? VIMA, July, 2012 (in Greek).
    http://www.tovima.gr/opinions/article/?aid=468350

V. Member of Scientific Committees in International Conferences

1. Chairperson of the 2nd WSEAS International Conference on Nonlinear Analysis, Nonlinear Systems, and Chaos, Dec. 2003, Athens.
2. All *WSEAS* conferences on Applied Mathematics Chaos Theory and Financial Applications.
3. All *IASTED* International Conferences on Financial Engineering & Applications.
4. 82nd *AEA* International Conference "Econometrics of Emerging Countries", Nov., 2003, Toledo, Spain.
5. All *IASTED* International Conferences on Modelling, Identification, and Control.
6. All *IASTED* International Conferences on Modelling and Simulation.
7. *AEA* International Conference "Econometrics of Stock Markets: Analysis and Prediction", April 2004, Paris.
8. All *IASTED* International Conferences on Alliances, Mergers and Acquisitions.
9. All *IASTED* International Conference on Applied Simulation and Modelling.
10. All *IASTED* International Conference on Nonlinear Systems and Chaos.
11. *AEA* International Conference on Exchange Rate Econometrics, Luxembourg, April 2005.
12. *AEA* International Conference on Risk Econometrics, Athens Sept. 2006.
13. *IASTED* International Conference on Modern Nonlinear Theory (Bifurcation and Chaos), Montreal, Canada, May 2007.
14. *AEA* International Conference on Exchange Rate Econometrics, Paris, March, 2009.
15. 5th International Research Meeting in Business and Management (IRMBAM-2014), Nice, July, 2014.

16. 12th Biennial ATHENIAN POLICY FORUM CONFERENCE, Toronto, Canada, June, 2014 (member of the scientific committee and chairperson of the session “Heterogeneity and Productivity”).
17. Organization and Chairperson of the Workshop on Multivariate Causality Measures and Applications to Macroeconomic and Financial Time Series (MCM’15), University of Macedonia, Thessaloniki, May 2015.
18. Organization of the 1st International Conference on Cliometrics and Complexity, University of Lyon, June 2016.
19. Organization of the 2nd International Conference on Cliometrics and Complexity, University of Lyon, June 2018.
20. Organization of the international conference on complex systems (CSS – Complex Systems Society) and Chairperson of the session on Economics and Finance, Thessaloniki, September 2018.

VI. Scientific Responsible (SR) / External Collaborator (EC) in Greek and International Projects.

- SR in “Interregional Cooperation at Scientific Computing in Interdisciplinary Science” 2012-2014.
- SR in “Multivariate Causality Measures: Development of multivariate causality measures for the detection of direct causal effects POST-DOC SHI {2935-Multivariate Causality Measures” 2012-2015.
- EC in “EUSECON-A New Agenda for European Security Economics (FP7-SEC-2007-1) FP7-COOPERATION 218105”.
- EC in “Analyzing economic dynamics through recurrence plots”, Complex Systems Institute, IXXI, Lyon, 2014-2016.
- EC in “Merging Complex Financial Interactions with Portfolio Construction Techniques”, 2018-2021, project funded by the Hellenic Foundation for Research And Innovation.