

CURRICULUM VITAE

Personal information

Name Petros F. Chatzopoulos
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Studies

- *June '85:*
Graduate of the 1st High School of Egaleo
- *Sept'85-Sept'89:*
Degree of Higher Education from the Department of Mathematics of the University of Crete (Very Good)
- *Sept'90-June'91:*
Diploma from the Actuarial and Statistics department of the City University of London, with successful exams in the following 5 courses (with 4 exceptions from the British IFoA exams)

<u>Subjects</u>	<u>Examinations (%)</u>
Maths of Finance & Investments (exception)	80
Life Contingencies (exception)	75
Economics & Accounts	51
Applied Actuarial Statistics (exception)	76
Mortality (exception)	59

- *November'91-November'93:*
Master's thesis (M.Sc) from the Department of Actuarial and Statistics, City University of London on "Smoothing through Generalized Linear Models and the statistical package GLIM", with Distinction
- *Nov'93-Dec'97:*
PhD thesis from the Department of Actuarial and Statistics, City University of London on "Statistical and Mathematical Models for Mortality Trends, and Comparisons of Survival Tables, through Generalized Linear Models and GLIM"

Academic Development

- *Sep'01 - Sep'02*
Lecturer at the University of the Aegean, in the Department of Statistics and Actuarial-Financial Mathematics, as 407 at the rank of Lecturer
- *Sep'02 - Jun'09*
Faculty member at the University of the Aegean, in the Department of Statistics and Actuarial-Financial Mathematics, at the rank of Lecturer

• *Jun'09-Jan'13*

Faculty member at the University of the Aegean, in the Department of Statistics and Actuarial-Financial Mathematics, at the rank of Assistant Professor.

• *Jan'13- March 2020*

Faculty member at the University of the Aegean, in the Department of Statistics and Actuarial-Financial Mathematics, at the rank of permanent Assistant Professor.

• *March 2020 - Today*

Faculty member at the University of the Aegean, in the Department of Statistics and Actuarial-Financial Mathematics, at the rank of Associate Professor.

Teaching project

• *Sep'88-Jan'89*

Teaching assistant in the Statistics course at the Mathematical Department of the University of Crete (Teacher V. Klonias)

• *Sep'92 - Jan'93*

Tutor in the Probability course at the Actuarial and Statistics Department of City University London

• *Mar'98–Dec'99*

Teacher at the National and Kapodistrian University of Athens of the Pedagogical Department, the course "Methodology of scientific research with elements of descriptive and inductive statistics" for the Professional Upgrading of Primary Education Teachers in the educational centers of: Athens, Thebes, Chalkida, Mytilini, Kalamata, Kefalonia, Zakynthos .

• *Oct'99 - Jan'00*

Teacher at the Maraslio Elementary School, the course "Theories of Probability and Elements of Statistics"

• *Winter semester 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 & 2022-2023*

Teacher of the thematic unit "Pension Schemes and Social Security" (code Ba) in the context of the educational activity of the Union of Actuaries of Greece.

• *Spring semester 2015-2016 & 2016-2017 & 2017-2018*

Lecturer at the National and Kapodistrian University of Athens, School of Economics & Political Sciences, Department of Economics, PMS "Applied Economics and Finance" in the course "Actuarial Standards".

• *Sep'01 – Today*

Lecturer at the University of the Aegean, in the Department of Statistics and Actuarial-Financial Mathematics, in the courses: Introduction to Probability and Statistics, Introduction to Financial Mathematics, Regression Analysis, Life and Health Insurance, Multivariate Analysis, Life Insurance Mathematics I, Life Insurance Mathematics II, General Insurance Mathematics, Actuarial Standards of Survival and in PMS in the courses: Life Insurance, General Insurance, Actuarial Mathematics.

Books

- «Ασφαλίσεις Ζωής και Υγείας», "Life and Health Insurance", Symmetria Publications, (2007)
<https://www.simmetria.gr/p/1780/asfaliseis-zwis-kai-ygeias.html>
- «Μαθηματικά Ασφαλίσεων Ζωής», "Mathematics of Life Insurance", Symmetria Publications, (2011)
<https://www.simmetria.gr/p/2889/mathimatika-asfalisewn-zwis.html>
- «Αναλογιστικά Σχήματα Επαγγελματικής Ασφάλισης» "Professional Insurance Actuarial Schemes", Symmetria Publications, (2020)
<https://www.simmetria.gr/p/10290/analogistika-sximata-epaggelmatikis-asfalisis.html>

Course notes

- *Handwritten notes for the courses of the SAXM Department: Introduction to Probability and Statistics, Introduction to Financial Mathematics, Introduction to Insurance, Regression Analysis, Multivariate Analysis.*
- *Notes in electronic format for the courses of the SAXM Department: Mathematics of General Insurance, Actuarial Standards of Survival, Actuarial Mathematics (PMS)*

Students supervisor

- *Scientific supervisor of at least 80 bachelor's and master's theses of the SAXM Department (2002-2022).*
- *Scientific supervisor for 4 PhD candidates:*
 - 1) *(scholarship from YPATIA), PhD thesis title "Longevity Risk Management" (due date - presentation November 2022)*
 - 2) *PhD thesis title "Semi-stochastic model of social security income and expenditure projections" (2nd year)*
 - 3) *PhD thesis title "Modelling and forecasting of the joint distribution of increases in pension schemes, using Copula functions." (2nd year)*
 - 4) *PhD thesis title "Longevity Risk Measurement and Management in Actuarial Science" (1st year)*

Experience in Research Programs

• *Nov'91 - Nov'94:*

Full-time Research Assistant, with a 3-year project contract, in the Department: Actuarial Science and Statistics, of the University: The City University of London, funded by the Continuous Mortality Investigation (CMI) and the Association of British Insurers (ABI)

• *Dec'94 – Nov'95:*

Construction of Greek Mortality Tables for the insurance company Metrolife

• *Mar'04-Oct'06*

Scientific manager for the "Pythagoras, EPEAEK II" program with the research title "Study of Insurance Contracts and Pension Schemes".

• *Jan'15-Jan'18*

Scientific officer for the YPATIA program University of the Aegean, Special Research Account, PhD candidate program, PhD thesis title "Longevity Risk Management"

Administrative experience

Current administrative responsibilities:

- *Director of the Postgraduate Studies Program of the SAXM department*
- *Scientific officer of the Commission in the EPEAEK program "Student Internship" of the SAXM Department*
- *Member of the Undergraduate Studies Program Committee of the SAXM Department*
- *Member of the evaluation committee for postgraduate students of the Department of SAXM*
- *Member of the teacher evaluation committee PD 407/80 of the SAXM Department*
- *Member of the Actuarial-Finance laboratory of the SAXM department*

Professional experience in Actuarial

• *Jul'97–Jun'98*

Full-time Assistant Actuary in the Actuarial Department of the Metrolife Insurance Group – Commercial

• *Jun'98–Nov'02*

Member of the Research Department of the Foinika - Metrolife - Emporiki group of insurance companies

Research interests

Longevity Risk Management, Actuarial Statistics, Insurable Risk Management, Pensions, Demographic Modeling and Forecasting, Actuarial Survival Models, Insurance.

Reviewer in scientific journals

- *Insurance: Mathematics and Economics*
- *International Journal of Applied Systemic Studies*
- *Journal of Population*

Published Papers with referee system

- E.1 S. Haberman, A. Renshaw, P. Hatzopoulos, “The modeling of Recent Mortality Trends in U.K. Male Assured Lives”, *British Actuarial Journal*, 2, II, pp. 449 – 477, (1996).
- E.2 A. Renshaw, P. Hatzopoulos, “On the Graduation of ‘Amounts’”, *British Actuarial Journal*, 2, I, pp. 185 – 205, (1996).
- E.3 S. Haberman, A. Renshaw, P. Hatzopoulos, “On the Duality of Assumptions Underpinning the Construction of Life Tables”, *ASTIN Bulletin*, 27, pp. 5 – 22, (1997).
- E.4 C. Lambrinoudakis, S. Gritzalis, P. Hatzopoulos, A. N. Yannacopoulos, S. Katsikas, “A formal model for pricing information systems insurance contracts”, *Computer Standards & Interfaces* 27(5), pp. 521–532, (2005).
- E.5 K. Katsikas, S. Gritzalis, A. N. Yannacopoulos, C. Lambrinoudakis, P. Hatzopoulos, “How much should we pay for security?”, δημοσίευση στα πρακτικά του IFIP 11.1/11.5 Joint Working Conference on Security Management, Integrity and Internal Control in Information Systems, Fairfax, Virginia, USA από τον Springer. December 1-2, (2005).
- E.6 P. T. Artikis, C. T. Artikis, C. E. Fountas, P. Hatzopoulos, “Discrete renewal and selfcomposable distributions in modelling information risk management operations”, *Journal of Statistics & Management Systems* Vol. 9. No. 1, pp. 73-85, (2006).
- E.7 S. Gritzalis, A. N. Yannacopoulos, C. Lambrinoudakis, P. Hatzopoulos, S. K. Katsikas, “A probabilistic model for optimal insurance contracts against security risks and privacy violation in IT outsourcing environments”, *International Journal of Information Security* 6. pp. 197–211, (2007).
- E.8 C. T. Artikis, P. T. Artikis, P. Hatzopoulos, “Certain classes of discrete distributions in modelling risk control operations and establishing a transformation for probability generating functions”, *Journal of Interdisciplinary Mathematics* Vol. 11. No. 1, pp. 141-150, (2008).
- E.9 Hatzopoulos, P. and Haberman, S. “A parameterized approach to modelling and forecasting mortality”. *Insurance: Mathematics and Economics*, 44 (1), pp 103-123, (2009).

- E.10 Hatzopoulos, P. and Haberman, S. “A dynamic parameterization modelling for the age-period-cohort mortality”. *Insurance: Mathematics and Economics*, 49 (2), pp 155-174, (2011).
- E.11 Hatzopoulos, P. and Haberman, S. “Common mortality modeling and coherent forecasts, an empirical analysis of worldwide mortality data”. *Insurance: Mathematics and Economics*, 52 (2), pp 320-337, (2013).
- E.12 Hatzopoulos, P. and Haberman, S. “Modeling trends in cohort survival probabilities”. *Insurance: Mathematics and Economics*, 64, pp 162-179, (2015).
- E.13 Hatzopoulos, P. and Sagianou, A. “Introducing and evaluating a new multiple component stochastic mortality model”, *North American Actuarial Journal*: 393-445. doi:10.1080/10920277.2019.1658606. (2020)
- E.14 Ntotsis, K., Papamichail, M., Hatzopoulos, P. and Karagrigoriou, A. “On the Modelling of Pension Expenditures in Europe”. *Communications in Statistics: Case Studies, Data Analysis and Applications*, 6(1), 50–68. <https://www.tandfonline.com/doi/full/10.1080/23737484.2019.1690598>. (2020)
- E.15 Ntotsis, K., Papamichail, M., Hatzopoulos, P. and Karagrigoriou, A. “On the Multivariate Modeling of Pension Benefits”. *The European Actuary*, Issue No.23, 14–19. <https://actuary.eu/wp-content/uploads/2021/01/TEA-23-Jul2020-DEF2.pdf>. (2020)
- E.16 Mavridoglou G., Hatzopoulos P., Polyzoidis P., Polyzos N. “The efficiency of the healthcare system in Greece before and during the crisis: Data Envelopment Analysis and Malmquist Approach”. *Archives of Economic History*, Vol :XXXII, No: 2, July – December (2020)
- E.17 Anastasiou A., G. Mavridoglou, P. Hatzopoulos and A. Karagrigoriou. “On Clustering Techniques for Multivariate Demographic Health Data”. *Data Analysis and Applications 4: Financial Data Analysis and Methods*, Volume 6. (2020)
- E.18 Anastasiou A, Hatzopoulos P, Karagrigoriou A, Mavridoglou G. “Causality Distance Measures for Multivariate Time Series with Applications”. *Mathematics*. 9 (21): 2708. <https://doi.org/10.3390/math9212708>. (2021)
- E.19 Milionis A., Galanopoulos N., Hatzopoulos P., Sagianou A. “Forecasting actuarial time series: A practical study of the effect of statistical pre-adjustments”. *Bank of Greece*, DOI: <https://doi.org/10.52903/wp2022297>. (2022)
- E.20 Sagianou, A. and Hatzopoulos, P. “Extensions on the Hatzopoulos–Sagianou Multiple-Components Stochastic Mortality Model”, *Risks* 10, no. 7: 131. DOI: <https://doi.org/10.3390/risks10070131>. (2022)

Conferences

- 21^o Statistical National conference under the title: Statistics and Actuarial-Financial Mathematics, Karlovassi, Samos, 30 April - 4 May 2008, “A parametric approach in the interpretation of mortality trends”
http://www.actuar.aegean.gr/esi2008/ESI2008_PROGRAM.pdf
- Epilogue of Insurance Mathematics & Economics, Piraeus University, department of Statistics and Insurance studies, Piraeus 11 October 2008, “A new parameterized approach for mortality modeling”
- 6th Conference in Actuarial Science & Finance on Samos June 3 - 6, 2010, “A Dynamic Parameterization Modeling of the Age-period-cohort Mortality”
<http://www.actuar.aegean.gr/samos2010/Conf%20Program.html>
- 2nd Stochastic Modelling Techniques and Data Analysis, and Demographic Analysis and Research, International Conference, Chania, Greece 5-8 June 2012, “Coherent mortality modelling and forecasts”
http://www.demographicanalysis.net/images/Draft_Program_SMTDA2012_Demographics2012.xls
- 7th Conference in Actuarial Science & Finance on Samos June 3 - 6, 2012, “Common mortality modeling and coherent forecasts”
<http://www.actuar.aegean.gr/samos2012/confprogram.html>
- 21st International Congress on Insurance: Mathematics and Economics - IME 2017, Vienna, July 3–5, 2017, “Multiple component stochastic mortality modeling and assessment” (talk delivered by A. Sagianou)
<https://fam.tuwien.ac.at/events/ime2017/program.php>
- Pension expenditure modelling and classification analysis, IFCS2019, Thessaloniki, Greece, 26-29 August 2018 (talk delivered by K. Ntotsis)
- Introducing and evaluating a new multiple component stochastic mortality model, ASMDA2019, Florence 11-14 June, 2019 (talk delivered by P. Hatzopoulos)
- On Dimensionality Reduction and Modelling of Pension Expenditures in Europe, ASMDA2019, Florence 11-14 June, 2019 (talk delivered by K. Ntotsis)
- Clustering Techniques for multivariate time series with applications in health systems, ESI2019, Univ. of Ioannina, Greece, May 30-June 1, 2019 (talk delivered by A. Anastasiou)
- Classification Methods for Healthcare System Costs in EU, ASMDA2019, Florence 11-14 June, 2019 (talk delivered by A. Karagrigoriou)
- On Time Series Clustering Techniques with Applications in Healthcare Systems, SPSR2019, Bucharest, Romania, May 10-11, 2019 (talk delivered by A. Anastasiou)
- On Multivariate Time Series Clustering Metrics with Applications in Healthcare Systems, 32nd Panhellenic Statistics Conference, University of Ioannina, Ioannina, May/June 2019. (talk delivered by Anastasiou)

- On Time Series Clustering Metrics with Applications in Healthcare Systems, processing of the 32nd Panhellenic Statistics Conference, Greek Statistical Institute. (2019) (talk delivered by Anastasiou).
- Multifactor Analysis and Modelling of Pension Expenditures within Europe. 22th Conference of the Romanian Society of Probability and Statistics, Bucharest, Romania, May 2019 (talk delivered by Ntotsis)
- Proceedings of the 33th Panhellenic Statistics conference, Λάρισσα, Ελλάδα (2020) (talk delivered by Galanopoulos)
- Multivariate Dimensionality Reduction for Public Pension Benefits Forecasting. Bernoulli-IMS One World Symposium 2020, Virtual, August 2020. (poster)
- Forecasting actuarial time series: A study of the effect of 'linearization' and data transformation. Milionis A., Galanopoulos N., Hatzopoulos P., Sagianou A. (2021). (talk delivered by Galanopoulos)