SHORT SCIENTIFIC CV OF KATRIEN ANTONIO

Short CV

Personal information

Family name, First name: Antonio, Katrien
KU Leuven profile: https://www.kuleuven.be/wieiswie/nl/person/00043788 and personal website: https://katrienantonio.github.io

Education

2009	Teacher degree for higher education, University of Amsterdam, The Netherlands
2007	PhD in Mathematics, KU Leuven, Belgium

Current and previous positions

Katrien is professor in actuarial science and insurance data science with the Insurance research group, Department of Accountancy, Finance and Insurance at the Faculty of Economics and Business (FEB), KU Leuven. She also holds a part-time position as professor in actuarial data science with the Amsterdam School of Economics, University of Amsterdam (UvA). Katrien is co-founder and director of LRisk, the Leuven research center for financial and insurance risk analysis. She currently serves as vice dean of education and students of the Faculty of Economics and Business at KU Leuven, a school with approx. 9000 students.

Teaching activities

2007-present	Teaching of various actuarial science, statistics and data science courses at all levels of higher education (BSc, MSc, PhD and executive master) at KU Leuven, University of Amsterdam, as visiting professor with University of Ljubljana, Collegio Carlo Alberto in Torino, Amsterdam Business School, Aarhus University.
2007-present	Developer and teacher of various short courses in the framework of continuous professional development of actuaries.

Research interests

Katrien works on insurance data science problems with particular focus on developing statistical and machine learning tools for analytic tasks in the modelling pipelines of insurance companies (e.g., reserving, insurance pricing and stochastic mortality modelling). She is also interested in educational technology and innovations.

Career breaks

None

Ten selected publications [all peer-reviewed]

* Robben, J., Antonio, K., & Kleinow, T. (2026). The short-term association between environmental variables and mortality: Evidence from Europe. *Journal of the Royal Statistical Society: Series A (Statistics in Society),* 189(2), 1131-1153, doi: https://doi.org/10.1093/jrsssa/qnaf052
* Holvoet, F., Antonio, K. & Henckaerts, R. (2025). Neural networks for insurance pricing with frequency and severity data: a benchmark study from data preprocessing to technical tariff. *North American Actuarial Journal*, 29, 519-662.
* Loeys, S., Boute, R., Antonio, K. (2025). The Use of IoT Sensor Data to Dynamically Assess Maintenance Risk in Service Contracts. *European Journal Of Operational Research*, 324(2), 454-465.
* Wilsens, P., Antonio, K., Claeskens, G. (2024). Reducing the dimensionality and granularity in hierarchical categorical variables. *Advances In Data Analysis And Classification*, 19, 1087-1118.
* Robben, J., Antonio, K. (2024). Catastrophe Risk in a Stochastic Multi-Population Mortality Model. *Journal Of Risk And Insurance,* 91(3), 599-651.
* Verbelen, R., Antonio, K., Claeskens, G. & Crevecoeur, J. (2022). Modeling the occurrence of events subject to a reporting delay via an EM algorithm. *Statistical Science,* 37(2), 394-410.
* Van Berkum, F., Antonio, K., Vellekoop, M. (2021). Quantifying longevity gaps using micro-level lifetime data. *Journal Of The Royal Statistical Society Series A (Statistics In Society)*, 184 (2), 548-570.

* Devriendt, S., Antonio, K., Reynkens, T., Verbelen, R. (2021). Sparse regression with Multi-type Regularized Feature modeling. *Insurance Mathematics & Economics*, *96*, 248-261.
* Verbelen, R., Antonio, K. & Claeskens, G. (2018). Unravelling the predictive power of telematics data in car insurance pricing. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 67(5), 1275-1304.
* Reynkens, T., Verbelen, R., Beirlant, J. & Antonio, K. (2017). Modelling censored losses using splicing: a global fit strategy with mixed Erlang and extreme value distributions. *Insurance: Mathematics and Economics*, 77, 65-77.

Experience with national and international research grants

* Principal investigator of a C3 research project (awarded by the Industrial Research Fund at KU Leuven) on a climate risk engine for insurance risk assessment (2026-2028). Amount approx.. 2.7kEur.
* Principal investigator of the ASTeRISK project, an EOS (Excellence of Science) project funded by FWO and FNRS (2021 – 2025), in collaboration with actuaries, statisticians and biostatisticians at KU Leuven and UCLouvain. Amount: approx. 2MEUR.
* Chairholder of the Argenta research chair on loss modelling and reserving (2017 – 2020), the Ageas and AG Insurance research chairs on insurance analytics (since 2015) and co–chairholder of the Atlas Copco research chair on service contracts (since 2017) and the AG Insurance research chair on health insurance (2011-2015).
* Principal investigator of a Global PhD Partnership between University of Melbourne and KU Leuven (2021 – 2025).
* Principal investigator of the C2 research project (awarded by the Industrial Research Fund at KU Leuven) on compliant predictive actuarial models (2015 – 2020, with Baesens and Van Schoubroeck) (amount approx. 600kEUR), and a FWO research project (01.01.2012 – 31.12.2015) (amount approx. 2.5kEUR).
* VENI grant for young and promising researchers by the Dutch NWO (01.06.2010– 01.06.2013).

Publications

* 48 publications in international, peer reviewed journals and 6 papers currently under revision
* Publications in the main international actuarial journals, plus papers in operations research and statistics journals, including European Journal of Operational Research, Statistical Science, JRSS A and C, Lifetime Data Analysis and Risk Analysis.
* 6 external reports, 5 contributions in academic books (internationally recognized scientific publisher), 12 publications in professional journals
* Complete list of publications: https://lirias.kuleuven.be/cv?Username=U0043788

Awards

* Hachemeister prize awarded by the Casualty Actuarial Society in 2024.
* Annual prize for the best paper published in 2021 in the North American Actuarial Journal, awarded in August 2022 by the editorial board of the journal. Same paper was also awarded the Brockett & Shapiro actuarial award by the American Risk and Insurance Association (ARIA).
* Actuary of the year 2021, a professional prize in the Netherlands.

Supervision of graduate students and research fellows

2012-present (Co-)Supervision of 13 completed and 5 ongoing PhD theses
2018-present Supervision of 3 postdocs

Scientific impact and other scientific output
Keynotes, invited seminars and research mobility

* For a detailed list of keynotes and invited seminars, see my personal homepage.
* Research stays in USA and Canada: Madison (6 months), Montreal (6 weeks); Europe: Amsterdam (>10 years, previously 1 fte and now 0.2 fte employment at UvA).

Bibliometric indicators (Google Scholar, on July 17, 2026)

	All	Since 2021
Citations	2979	1912

h-index	27	22
i10-index	46	39