

# Ezgi Nevruz, Ph.D. — Curriculum Vitae

Department of Actuarial Sciences, Faculty of Science, Hacettepe University, 06800 Çankaya/Ankara/Türkiye

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## 1. Professional Profile and Background

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### 1.1 Research Interests

- Prioritization of Actuarial Risks, Stochastic Ordering Relations
- Decision Making under Uncertainty, Risk Perception
- Sustainability and Environmental Risks, Agricultural Insurance, Geographic Information Systems
- Loss Reserving, Simulation
- Compensation for Loss of Income and Earnings

### 1.2 Work Experience

#### Research Assistant

Department of Actuarial Sciences, Faculty of Science, Hacettepe University

January 2011-Present

#### Summer Internship

Yapı Kredi Insurance Company, Department of Research-Development

July-August 2008

### 1.3 Licences

#### Registered Actuary (Registration number: 139)

Successful in 13 actuarial exams consisting of three levels

Ministry of Treasury and Finance of Türkiye

December 2017-Present

### 1.4 Responsibilities

#### Member of the Sustainability and Climate-Related Risks (SCrR) Working Group

Actuarial Association of Europe (AAE)

May 2021-Present

#### Member of the European Actuaries Climate Index (EurACI) Working Group

Actuarial Association of Europe (AAE)

March 2019-April 2021

#### Expert Witness

Compensation for Loss of Income and Earnings

January 2018-Present

#### Member of Criterion Commission

Association for Evaluation and Accreditation of Programs in Faculties of Science, Arts,  
Arts and Science, Letter and History-Geography (FEDEK)

March 2019-Present

#### Associate Coordinator of Minor Program

Department of Actuarial Sciences

2015-Present

#### Academic Advisor of Undergraduate Students

Department of Actuarial Sciences

2011-Present

### Academic Advisor of Motorcycle Student Society

Department of Health, Culture and Sports, Hacettepe University

December 2023-Present

### Member of the Executive Committee

2nd National Insurance and Actuarial Congress

September 2015

### Open Days

Department of Actuarial Sciences

July 2019, August 2018, July 2017, July 2015

## 1.5 Education

### PhD in Actuarial Sciences

Graduate School of Science and Engineering, Hacettepe University, Türkiye

2012–2018

**PhD Thesis:** *Multivariate Stochastic Prioritization of Dependent Actuarial Risks under Uncertainty* [↗](#)

Supervisor: Assoc. Dr. Kasirga Yıldırak, Co-advisor: Prof. Dr. Ashis SenGupta

### MSc in Actuarial Sciences

Graduate School of Science and Engineering, Hacettepe University, Türkiye

2009–2012

**MSc Thesis:** *Comparison of the Performance of Some Loss Reserving Methods with Simulation (in Turkish)* [↗](#)

Supervisor: Assist. Dr. Yasemin Gençtürk

### BSc in Actuarial Sciences

Faculty of Science, Hacettepe University, Türkiye

2004–2009

### Minor Degree in Economics

Faculty of Economics and Administrative Sciences, Hacettepe University, Türkiye

2006–2009

Antalya Hacı Malike Mehmet Bileydi Anatolian High School

1997–2004

## 2. Research Experience, Publications and Submitted Papers

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### 2.1 Research Visits

#### Doctoral Research Fellow

Applied Statistics Unit, Indian Statistical Institute, India

February-May 2016

**PhD Research:** *Impacts of Risk Perception on Multicriteria Ranking and Prioritization of Risks*

Co-advisor: Prof. Dr. Ashis SenGupta

### 2.2 Peer-Reviewed Journal Publications

**8:** Şahin, Ş., Bulut-Karageyik, B., Nevruz, E. and Şimşek, G., 2023, On Stochastic Modelling of Actuarial Compensation for Loss of Future Earnings in Turkey, *LAW, PROBABILITY AND RISK (SCI-Exp, SSCI)*, 22(1), pp. 1-35. [↗](#)

**7:** Nevruz, E., Atıcı, R. Y., Yıldırak, K., 2022, Actuaries Climate Index: An Application for Turkey, *JOURNAL OF STATISTICAL RESEARCH (EBSCO, DergiPark)*, 12(2), pp.14-25. [↗](#)

**6:** Nevruz, E., Yıldırak, K., 2019, Spatiotemporal Interpolation Through an Extension of Differential Evolution Algorithm for Agricultural Insurance Claims, *JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS (SCI)*, 352, pp. 278-292. [↗](#)

**5:** Nevruz, E., Şahin, Ş., 2018, A Comparison of the Extreme Value Theory and GARCH Models in terms of Risk Measures, *ANALES DEL INSTITUTO DE ACTUARIOS ESPAÑOLES (ESCI, DIALNET)*, 24, pp. 149-170. [↗](#)

**4:** Nevruz, E., Gençtürk, Y., 2017, Comparing the Performance of Stochastic Loss Reserving Methods for Different Loss

Severity Distributions, *JOURNAL OF STATISTICIANS: STATISTICS AND ACTUARIAL SCIENCES (TUBITAK-ULAKBIM)*, 10(2), pp. 86-95.↗

**3:** Şahin, Ş., Karabey, U., Bulut Karageyik, B., Nevruz, E., Yıldırak, K., 2016, Actuarial Premium Calculation for Wheat Crop Insurance in Turkey (in Turkish), *TURKISH JOURNAL AGRICULTURAL ECONOMICS (EBSCO, TUBITAK-ULAKBIM)*, 22(2), pp. 37-47.↗

**2:** Nevruz, E., Gençtürk, Y., 2014, Comparison of the Performance of Some Loss Reserving Methods with Simulation (in Turkish), *ANADOLU UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY-A APPLIED SCIENCES AND ENGINEERING (EBSCO, DOAJ, TUBITAK-ULAKBIM)*, 15(1), pp. 15-31.↗

**1:** Arık Soyalp, A., Nevruz, E., Karabey, U., 2013, Measurement of Financial Risks of Some Emerging Markets by Using Extreme Value Theory (in Turkish), *JOURNAL OF STATISTICIANS: STATISTICS AND ACTUARIAL SCIENCES (CIS, TUBITAK-ULAKBIM)*, 6(2), pp. 86-95.↗

### 2.3 Forthcoming Papers

**2:** Nevruz, E., Yıldırak, K., SenGupta, A., 2024, Revisiting Majorization Ordering for Actuarial Risks with Model-Based Clustering of Multivariate Dependent Aggregate Claims in Agricultural Insurance, to be submitted.

**1:** Nevruz, E., Yıldırak, K., SenGupta, A., 2024, Reframing Actuarial Risk Prioritization: Stop-loss Dominance under Cumulative Prospect Theory, to be submitted.

### 2.4 Books

**2:** Şahin, Ş., Bulut Karageyik, B., Nevruz, E., Şimşek, G., 2022, Actuarial Expert Witnessing: Compensation Calculations for Loss of Income Claims, Actuarial Theory - Financial Theory - Trial Practice (in Turkish), SEÇKİN PUBLISHING, 2nd Edition (Updated and Extended) (1st Edition, 2021), Ankara.

**1:** Şahin, Ş., Nevruz, E., Bulut Karageyik, B., Şimşek, G., 2022, Actuarial Expert Witnessing: Compensation Calculations for Wrongful Death Claims, Actuarial Theory - Financial Theory - Trial Practice (in Turkish), SEÇKİN PUBLISHING, 2nd Edition (Updated and Extended) (1st Edition, 2020), Ankara.

### 2.5 Book Chapters

Şahin, Ş., Nevruz, E., Şimşek, G., 2021, Compensation for Wrongful Death Claims: Neither a Recovery for the Economic Loss nor the "Value of a Life" in *Danse Macabre: Death and Dying Practices (in Turkish)*, EGE PUBLISHING, Eds. Ali Metin Büyükkarakaya and Elif Başak Aksoy, İstanbul.

### 2.6 Conference Papers

Nevruz, E., Yıldırak, K., SenGupta, A., 2017, Multivariate Stochastic Prioritization of Dependent Actuarial Risks in Agricultural Insurance, *Presented to ASTIN AND AFIR/ERM COLLOQUIA*, Panama City, Panama, 20-24 August 2017.↗

### 2.7 Conferences

**14:** Nevruz, E., 2024, Actuarial Insights into Climate-Resilient Parametric Insurance for Sustainability, *EUROPEAN CONGRESS OF ACTUARIES (ECA 2024)*, Rome, Italy, 6-7 June 2024.

**13:** Nevruz, E., 2022, Sustainability of Agricultural Income Insurance under Climate Change and Market Uncertainty, *25TH INTERNATIONAL CONGRESS ON INSURANCE: MATHEMATICS AND ECONOMICS*, Online, 12-15 July 2022.

**12:** Nevruz, E., Yıldırak, K., SenGupta, A., 2019, A Comparison of Expected Utility Theory and Cumulative Prospect Theory under Stop-loss Dominance (in Turkish), *USA2019: 4TH NATIONAL INSURANCE AND ACTUARIAL SCIENCE CONGRESS*, Ankara, Türkiye, 24-25 June 2019.

**11:** Şahin, Ş., Nevruz, E., Menoukeu-Pamen, O., 2019, Stochastic Ordering of the Risks Affecting the Social Security

Coverage in Africa, AFIR-ERM COLLOQUIUM 2019: INNOVATING ACTUARIAL RESEARCH ON FINANCIAL RISK AND ERM, Florence, Italy, 21-24 May 2019.

**10:** *Nevruz, E., Yıldırak, K., SenGupta, A.*, 2018, Cluster-based Multivariate Stochastic Prioritization of Dependent Actuarial Risks in Crop-hail Insurance, EAJ 2018: 4TH EUROPEAN ACTUARIAL JOURNAL CONFERENCE, Leuven, Belgium, 10-11 September 2018.

**9:** *Nevruz, E., Yıldırak, K., SenGupta, A.*, 2017, Multivariate Stochastic Prioritization of Dependent Actuarial Risks in Agricultural Insurance, ASTIN AND AFIR/ERM COLLOQUIA 2017, Panama City, Panama, 20-24 August 2017.

**8:** *Nevruz, E., Yıldırak, K.*, 2017, Risk Classification in Agricultural Insurance under Dependency Assumption, IRSYSC 2017: 3RD INTERNATIONAL RESEARCHERS, STATISTICIANS AND YOUNG STATISTICIANS CONGRESS, Konya, Türkiye, 24-26 May 2017.

**7:** *Nevruz, E., Yıldırak, K.*, 2017, Prioritization of Dependent Actuarial Risks: Stochastic Majorization, INNOVATIONS IN INSURANCE, RISK- AND ASSET MANAGEMENT CONFERENCE, Munich, Germany, 5-7 April 2017.

**6:** *Nevruz, E., Yıldırak, K., SenGupta, A.*, 2016, Stochastic Prioritization of Dependent Actuarial Risks: Preferences among Prospects, ICASQF 2016: 18TH INTERNATIONAL CONFERENCE ON ACTUARIAL SCIENCE AND QUANTITATIVE FINANCE, Amsterdam, The Netherlands, 1-2 December 2016.

**5:** *Nevruz, E., Şahin, Ş.*, 2014, A Comparison of the GARCH Models and Extreme Value Theory in terms of Risk Measures for Emerging Markets, IME 2014: 18TH INTERNATIONAL CONGRESS ON INSURANCE: MATHEMATICS AND ECONOMICS, Shanghai, China, 10-12 July 2014.

**4:** *Nevruz, E., Gençtürk, Y.*, 2014, A Comparison of Stochastic Loss Reserving Methods, ICA 2014: 30TH INTERNATIONAL CONGRESS OF ACTUARIES, Washington, D.C., USA, 30 March-4 April 2014.

**3:** *Nevruz, E., Tüzel, S., Dodd (Özkök), E.*, 2013, Smoothing and Forecasting Turkish Mortality Rates, ISC 2013: 8TH INTERNATIONAL STATISTICS CONGRESS, Antalya, Türkiye, 27-30 October 2013.

**2:** *Arik, A., Nevruz, E., Karabey, U.*, 2013, Extreme Value Theory and Risk Analysis: An Application for Emerging Financial Markets, IME 2013: 17TH INTERNATIONAL CONGRESS ON INSURANCE: MATHEMATICS AND ECONOMICS, Copenhagen, Denmark, 1-3 July 2013.

**1:** *Yıldırım, F., Nevruz, E., Dodd (Özkök), E.*, 2013, Modeling Old-age Mortality Risk: Threshold Life Tables (in Turkish), USAK 2013: 1ST NATIONAL INSURANCE AND ACTUARY CONGRESS, Ankara, Türkiye, 5-6 June 2013 (poster presentation).

## 3. Teaching Experience and Other Relevant Activities

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### 3.1 Teaching Experience

- AKT416 Actuarial Mathematics of Social Security (BSc), Spring, 2018-2024
- AKT201 Mathematical Statistics I (BSc), Fall, 2020-2025
- AKT202 Mathematical Statistics II (BSc), Spring, 2020-2024
- AKT109 Principles of Insurance (BSc), Fall, 2018-2022

### 3.2 Teaching Assistant Experience

- AKT704 Actuarial Data Graduation (MSc-PhD), Summer, 2014-2015
- AKT303 Insurance Statistics (BSc), Fall, 2013-2014
- AKT312 Actuarial Mathematics II (BSc), Spring, 2011-2012
- AKT321 Product and Finance (BSc), Fall, 2013-2015
- AKT201 Mathematical Statistics I (BSc), Fall, 2013-2019

- AKT202 Mathematical Statistics II (BSc), Spring, 2013-2015, 2016-2019
- AKT204 Actuarial Numerical Analysis (BSc), Spring, 2010-2011, 2012-2013
- AKT208 Life Insurance Mathematics (BSc), Spring, 2010-2013
- AKT105 Computer Programming (BSc), Fall, 2011-2013
- BEB650 Usage of Basic Information and Communication Technologies (BSc), Spring, 2010-2011

### 3.3 Trainings, Workshops, Seminars

#### **Sustainable Development for Climate Change**

*Training and Certificate, Hacettepe University Lifelong Learning Center*

*7 November 2023-29 December 2023*

#### **Actuarial Perspective on Sustainability and Climate-Related Risks**

*Seminar, Actuarial Society of Türkiye (as a member)*

*21 June 2023*

#### **Developing Options for Risk Management of Smallholder Farmers in Agri-food Value Chain**

*Workshop, The Union of Chambers and Commodity Exchanges of Türkiye (TOBB), Food and Agriculture Organization (FAO) in Türkiye*

*15, 27-28 September 2022*

#### **Actuary Renewal Training**

*Training and Certificate, Actuarial Society of Türkiye (as a member)*

*December 2019, December 2023*

#### **Building a Canal from Data to Improved Results**

*Workshop, Willis Towers Watson, Panama City, Panama*

*25 August 2017*

#### **Application of Statistical Methods in Medicine**

*Winter School, Indian Statistical Institute, Kolkata, India*

*7-18 March 2016*

#### **SAS Enterprise Guide**

*Training and Certificate, Department of Statistics, Hacettepe University*

*11-12 September 2013*

### 3.4 Other Trainings

#### **Basic (Theoretical) Coach Training-1st Level**

*Training and Exam, Ministry of Youth and Sports*

*30 January 2024*

#### **Paragliding Training (P2 and P3 level)**

*Training and Licence, Bulut Aviation Sports Club, Ministry of Interior, Ministry of Youth and Sports, Turkish Aeronautical Association*

*December 2021-Present*

#### **Occupational Health and Safety of Employees**

*Training and Certificate, Hacettepe University Lifelong Learning Center*

*October 2022*

#### **Training of Trainers**

*Training and Certificate, Hacettepe University Lifelong Learning Center*

*December 2018*

## 4. Impact Activities

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### 4.1 Projects

#### **Developing Alternatives for Agricultural Risk Management for Small Farmers in Agri-Food Value Chains**

*Consultant, The Union of Chambers and Commodity Exchanges of Türkiye (TOBB), Food and Agriculture Organization (FAO) in Türkiye*

*May 2022-March 2023*

<b>Actuarial Consultancy for Export Credit Insurance</b>	
<i>Researcher, Türk Eximbank (Export Credit Bank of Türkiye)</i>	<i>May 2022-January 2023</i>
<b>Prioritisation and Ordering Of Risks (POOR) in Ghana's Social Security</b>	
<i>Researcher, ODA Research Seed Fund, University of Liverpool</i>	<i>August 2019- August 2021</i>
<b>A Study of Risk Prioritization and Evaluation in Agricultural Insurance Portfolio</b>	
<i>Researcher, Hacettepe University, Scientific Research Projects Coordination Unit</i>	<i>February 2018-September 2018</i>
<b>Evaluation of the Efficiency of Agricultural Insurance and Management of Natural Disasters in Agriculture</b>	
<i>Researcher, Ministry of Agriculture and Forestry, General Directorate of Agricultural Research and Policies (TAGEM)</i>	<i>April 2015-March 2016</i>
<b>Actuarial Valuation</b>	
<i>Pension Fund of TRNC Development Bank Ltd.</i>	<i>November 2016</i>
<b>Actuarial Valuation</b>	
<i>Staff Health Protection and Solidarity Foundation of Türk Eximbank (Export Credit Bank of Türkiye)</i>	<i>May 2016</i>
<b>Actuarial Valuation</b>	
<i>Pension Fund of National Intelligence Agency Personnel Social Security and Solidarity Foundation (MİPVAK)</i>	<i>June 2011</i>
<b>4.2 Awards and Honors</b>	
<b>Awarded with a Bursary</b>	
<i>International Actuarial Association (IAA) for the registration fee (virtual participation)</i>	
<i>International Congress of Actuaries (ICA2023)</i>	<i>28 May-1 June 2023</i>
<b>Awarded with an Incentive Grant</b>	
<i>Scientific and Technological Research Council of Türkiye (TÜBİTAK),</i>	
<i>International Scientific Publications Incentive Program (UBYT)</i>	
<i>publication in Journal of Computational and Applied Mathematics (SCI-Q1) in 2019</i>	<i>2019</i>
<b>Awarded with a Bursary</b>	
<i>International Actuarial Association (IAA) for the accommodation costs and the registration fee</i>	
<i>International Congress of Actuaries (ICA2018)</i>	<i>4-8 June 2018</i>
<b>Awarded with a Bursary</b>	
<i>Section for Actuarial Studies in Non-life Insurance of International Actuarial Association</i>	
<i>(ASTIN/IAA) for the accommodation costs, travel and the registration fee</i>	
<i>2017 ASTIN AFIR/ERM Colloquium</i>	<i>20-24 August 2017</i>
<b>PhD Scholarship</b>	
<i>Scientific and Technological Research Council of Türkiye (TÜBİTAK)</i>	<i>October 2012-March 2017</i>
<b>PhD Research Scholarship</b>	
<i>Scientific Research Projects Coordination Unit, Hacettepe University</i>	
<i>as a visiting PhD fellow, Applied Statistics Unit, Indian Statistical Institute, Kolkata</i>	<i>February-May 2016</i>
<b>Awarded with a Bursary</b>	
<i>International Actuarial Association (IAA) for the accommodation costs and the registration fee</i>	
<i>International Congress of Actuaries (ICA2014)</i>	<i>30 March-4 April 2014</i>
<b>MSc Scholarship</b>	
<i>Scientific and Technological Research Council of Türkiye (TÜBİTAK)</i>	<i>October 2010-August 2011</i>

## **Second Degree in Graduation**

*Department of Actuarial Sciences, Hacettepe University*

*June 2009*

## **Certificate of High Accomplishment**

*Faculty of Science, Hacettepe University*

*September 2008*

## **Bronze Medal**

*Inter-university Billiards Tournament, Başkent University*

*December 2005*

## **4.3 Memberships**

- Actuarial Society of Türkiye (AST)  
(Full member of International Actuarial Association-IAA and Actuarial Association of Europe-AAE)
- Actuary Society (Türkiye)

## **4.4 Additional Skills**

- **Languages**  
Turkish (native), English, German
- **Computer Skills**  
MS Office Applications, Latex  
Programming Language of Java, Turbo Pascal  
R, Matlab, SAS, SPSS Minitab, ArcGIS, WinQsb
- **Interests**  
Paragliding, Billiards, Turkish Folk Dance

## **References**

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Available on request