



INTERNATIONAL CONFERENCE ON RISK ANALYSIS

Conference Program

September 22 - 24 - Patras, Greece

Welcome to ICRA 10

We are delighted to welcome you to the 10th International Conference on Risk Analysis (ICRA 10), taking place from September 22–24 in Patras, Greece.

This year's program brings together leading researchers, academics, and professionals from around the world to explore a broad spectrum of topics in risk analysis. Over the course of three days, you will find a dynamic and multidisciplinary agenda including keynote addresses, and thematic sessions covering areas such as:

- Statistical advances in risk modeling
- Health and medical risk applications
- Environmental and climate-related risk
- Risk and resilience in complex systems
- Fraud detection and machine learning methods
- Infrastructure, education, and corporate governance challenges

The program also features social events such as the Welcome Cocktail, the Gala Dinner, and an excursion to Naupactus, providing valuable opportunities to connect with colleagues and enjoy the hospitality of Patras.

We invite you to explore the following pages for a detailed breakdown of session titles, speakers, and time slots. Whether you are presenting, attending, or simply engaging in the discussions, we hope you find the experience intellectually rewarding and inspiring.

Welcome to ICRA 10 — let's shape the future of risk analysis together.

The ICRA10 Organizing Commit

Program Overview

Time	Day 1, 22/9		Time	Day 2, 23/9		Time	Day 3, 24/9	
9:30 - 10:30	Registration		8:00 - 9:00	Registration		8:00 - 9:00	Registration	Council Meeting (8:30-9:00) Members of Council are all the ICRA organizers and the editors of ICRA volumes
10:30 11:10	Conference Opening Welcome addresses Honorable Opening Talk: Emeritus Prof. Christos Kitsos		9:00-10:40	Environmental, Climate Risk and Energy Organizer: Laboratory of Economics of Strategy, Innovation and Sustainability – LENS Lab, part of the Department of Economics of the University of Patras, Chair: Kounetas, K.	Observations over time: lifetime data and time series analysis Organizer/Chair: Caroni, C.	9:00 - 10:40	Health and Medical Risk Applications II Chair: Escott-Price, V.	
			10:40- 11:10	Coffee Break		10:40 - 11:30	Keynote Speaker: Prof. Valentina Escott-Price Chair: Alexopoulos, P.	
11:10 - 12:00	Keynote Speaker: Prof. Milan Stehlík Chair: Kitsos, C.		11:10 - 12:30	Risk-Informed Pathways for Valorization and Resilience of Environmental Systems Organizer: Environmental Engineering Laboratory (EEL), Dept. of Civil Engineering, University of Patras Chair: Zacharias, I.	Statistical Methods and Risk Analysis in Educational and Health Studies Organizer/Chair: Oliveira, T.A. and Teodoro, M.F.	11:30 - 12:00	Coffee Break	
12:00-13:20	Mini-symp on risks of cancer Organizer/Chair: Kimmel, M.		12:30 - 13:50	Engineering and Infrastructure Risk Chair: Balomenos, G.	Health and Medical Risk Applications I Chair: Karioti, V.	12:00 - 14:00	Financial Risk and Corporate Governance Chair: Petropoulos, C.	Extreme Value Theory and Applications Chair: Konstantinides, D.
13:20 - 14:30	Lunch Break		13:50 - 15:00	Lunch Break		14:00 - 14:30	Closing Ceremony	
14:30 - 15:50	Statistical Advances in Risk Analysis Organizer/Chair: Gulati, S.	Organized Crime and Risk Analysis Chair: Forgione, A.F.	15:00 - 17:00	Statistical Methods for Risk Analysis Chair: Kitsos, C.	Fraud Detection Chair: Bersimis, S.	14:30- ...	Light Lunch/Excursion	
15:50 - 17:10	From Crisis to Opportunity: Rethinking Risk in Modern and Digital Society Organizer/Chair: Oliveira, T.A.	Risk, Resilience, and Decision-Making in Complex Systems Chair: Batsidis, A.	17:00 - 17:30	Coffee Break				
17:10 - 17:40	Coffee Break		17:30 - 18:20	Keynote Speaker: Prof. Mei-Ling Ting Lee Chair: Malefaki, S.				
17:40-19:00	Machine Learning and Forecasting Chair: Stehlík, M.		18:20 - 20:00	Specialized Risk Models and Applications Chair: Lee, M. T./Caroni, C.				
19:00-20:00	Welcome Cocktail		21:00 - 23:00	Gala Dinner				

All keynote sessions will be held in Auditorium I-4.

Parallel sessions will take place in Auditorium I-4 (as indicated in the left column of the program) and in Meeting Room I-12 (as indicated in the right column of the program).

Zoom access links have been distributed via email to all registered participants.

10:30 - 11:10	Conference Opening Welcome addresses • Prof. Christos I. Bouras, Rector of the University of Patras • Mr. Fokion Zaimis, Deputy Governor of Achaia, Region of Western Greece • Prof. George Lampeas, Dean of Engineering School • Prof. Konstantinos Kounetas, Dean of Economics and Business Administration School Honorable Opening Talk: Emeritus Prof. Christos Kitsos	
11:10 - 12:00	Prof. Milan Stehlík Advanced classifications and analyses of bacterial growth and biofilm production of <i>Cobetia</i> sp. MM1IDA2H-1: from fractional to hybrid systems Chair: Kitsos, C	
12:00-13:20	Mini-symp on Risks of Cancer Organizer/Chair: Kimmel, M. • Kurpas, M.: <i>Breast Cancer Sequencing Data Analysis – Overview, FFPE Artifact Filtration Results, and Comparison With TCGA Data</i> • Wilk, A.: <i>Prognostic Value of Longitudinal Complete Blood Count Parameters in Lung Cancer Patients Treated With Immunotherapy</i> • Kimmel, M.: <i>Computational Modeling of Shortening and Reconstruction of Telomeres</i>	
13:20 - 14:30	Lunch Break	
14:30 - 15:50	Statistical Advances in Risk Analysis Organizer/Chair: Gulati, S. • Dupuy, J.-F.: <i>Confidence Intervals for the Proportional Hazard Premium for Heavy-Tailed Claim Amounts</i> • Obeysekera, J.: <i>Nonstationarity and Deep Uncertainty: Tools for 21st-Century Infrastructure Planning and Design</i> • Pinheiro, A. C.: <i>Time Series Analysis and Modeling of Sea Surface Temperature Across Depths and Locations: Insights for Climate Change Research in Atlantic Ocean</i> • Gulati, S.: <i>Fitting Skewed Distributions to Flood Loss Data for Accurate PML and Risk Assessment</i>	Organized Crime and Risk Analysis Chair: Forgione, A.F. • Milasi, M.: <i>A General Equilibrium Model Affected by Organized Crime</i> • Migliardo, C.: <i>Perceived Organized Crime and Credit Rationing: Firm-Level Evidence From Italy</i> • Spadaro, M.: <i>The Silent Stranglehold: Quantifying Organized Crime's Chilling Effect on Firm Efficiency and R&D</i> • Forgione, A. F.: <i>Organized Crime and Resilience in Family Firms: Insights From a Natural Experiment in Judicial Administration</i>

15:50 - 17:10	From Crisis to Opportunity: Rethinking Risk in Modern and Digital Society Organizer/Chair: Oliveira, T.A. • Kimmel, B.: <i>Telerehabilitation Methods and Applications of AI to Stroke Recovery for Improvement of the Post-Stroke Outcomes: The Lone Star Stroke Research Consortium Experience</i> • Stanisławska, J. & Kozera, A.: <i>Risk of Housing Poverty in EU Countries</i> • Teodoro, M.F.: <i>Statistical Analysis of a Larzac Engine Operational Efficiency: An Approach to Risk Analysis and Risk Management</i> • Oliveira, T.A.: <i>Exploring Features and Risks of Using Artificial Intelligence tools in Online Education</i>	Risk, Resilience, and Decision-Making in Complex Systems Chair: Batsidis, A. • Konidari, V.: <i>Risk Assessment, Social Trust and Societal Challenges in an Era of Uncertainty: Societal Decision Making and Schools as Critical Infrastructures</i> • Palaiologou, A.: <i>Quantitative Microbial Risk Assessment of Pseudomonas aeruginosa in Municipal Swimming Pools: A Case Study from Patras, Greece</i> • Gulati, S.: <i>Estimating Savings of Skilled Tropical Cyclone Forecasts at U.S. Military Bases</i> • Dereka, X. S.: <i>The Importance for Policy Makers of the Inter-Links, to Minimize the Risk Assessment, in the DPSIR Framework of EEA, Case Study Air Pollution by EC vs Hammarby Sjöstad Stockholm</i>
17:10 - 17:40	Coffee Break	
17:40-19:00	Machine Learning and Forecasting Chair: Stehlík, M. • Biris, P.: <i>A Hybrid Statistical–Machine Learning Approach Using Split-Based Forward Selection</i> • Skamnia, E.: <i>Stochastic Optimization for Data-Driven Dynamic Pricing in Reservation-Based Systems</i> • Kallari, C.: <i>Forecasting Spare Parts Purchase Orders Using Statistical, Machine Learning, and Deep Learning Models</i> • Rachaniotis, N. P.: <i>Risk-Centric Siamese Learning: A Comparative Assessment of Multiple Risk Functions for Order-Acceptance and Scheduling Decisions in Hybrid Production Systems</i>	
19:00-20:00	Welcome Cocktail	

9:00-10:40	Environmental, Climate Risk and Energy Organizer: Laboratory of Economics of Strategy, Innovation and Sustainability – LENS Lab, part of the Department of Economics of the University of Patras, Chair: Kounetas, K. • Chatzistamoulou, N.: <i>Balancing Trade-Offs in EU's Green Transition: Green Technology Independence vs. EU ETS Adversities in Driving Green Growth Progress</i> • Genstwa-Namysł, N., Standar, A. and Kozera, A.: <i>CO₂ Emission Risk Mitigation and Local Governments' Investment Activity in Poland</i> • Kosmopoulos, G.: <i>Urban PM2.5 Exceedance Forecasting Using Neural Networks</i> • Palaiologou, A.: <i>Probabilistic Risk Assessment of Indoor Air Quality in a Greek Hospital Facility</i> • Stergiou, E.: <i>Stairways to Heaven for European Industries: Multi-Driving Paths for CO₂ Emissions Generation</i>	Observations Over Time: Lifetime Data and Time Series Analysis Organizer/Chair: Caroni, C. • Pierri, F.: <i>Graduation and Dropping Out in an Economics Degree Programme</i> • Dimopoulos, A.: <i>Visualising Crisis Dynamics: Sentiment Analysis and Temporal Patterns in Social Media Data for Tourism Resilience</i> • Kosma, G.: <i>A Review of Outlier Detection Methods in ARMA Models: Classical Approaches and Future Directions</i> • Markou, M.: <i>Backtracking Quasi-Newton Optimisation for Accurate Prediction of Local Optima in Time-Series</i> • Karioti, V.: <i>Evaluating the Effectiveness of Savitzky-Golay Smoothing for Outlier Detection in Time Series Data</i>
10:40-11:10	Coffee Break	
11:10 - 12:30	Risk-Informed Pathways for Valorization and Resilience of Environmental Systems Organizer: Environmental Engineering Laboratory (EEL), Dept. of Civil Engineering, University of Patras Chair: Zacharias, I. • Chrisanthos N.: <i>Risk-Informed Valorization of Two-Phase Olive Mill Waste: Integrating Methane Production and Vehicle Fuel Substitution in a Regional Agro-Industrial Context</i> • Biliani, S.: <i>Potential Risks of Algal-Based Systems for Wastewater Treatment and Nutrient Recovery</i> • Biliani, I.: <i>Environmental Risk Analysis of Eutrophication and Anoxia in the Aitoliko Lagoon</i> • Bloutsos, A.A.: <i>Impact assessment of missing hourly observations on daily mean estimation of primary and secondary air pollutants</i>	Statistical Methods and Risk Analysis in Educational and Health Studies Organizer/Chair: Oliveira, T.A. and Teodoro, M.F. • Oliveira, T.A.: <i>Statistical Methods for Analysing Risks in Online Education: An Overview</i> • Pereira, J.: <i>Bridging Gaps in Periodontal Epidemiology: A Neuro-Fuzzy Approach for Imputing Planned Missing Data</i> • Leal, C.: <i>Time Series Disaggregation: Exploring Methods with COVID-19 Data from Municipalities in the Porto District</i> • Silva A.: <i>Integrating Risk Analysis and Response Surface Modeling for Process Optimization</i> • Teodoro M.F.: <i>Assessment of risk factors associated with hypertension in Portuguese adults using GLM and GAM</i>

12:30 - 13:50	Engineering and Infrastructure Risk Chair: Balomenos, G. • Loukopoulos, K.: <i>Fragility Assessment of Reinforced Concrete Frames Subjected to Mainshock-Aftershock Sequences</i> • Symeonidou, A.: <i>A Markov Regenerative Process for Modeling the Dependability and Performance of a Wind Turbine Under the Effects of Wind Intensity</i> • Misiri, Z.: <i>Landslide Risk Assessment for Road Infrastructure in the Epirus Region, Greece</i> • Ksoulos, I.: <i>Hidden Markov Model-Based Remaining Useful Life Estimation of Rolling Bearings Using Vibration Signals: A Feasibility Study</i>	Health and Medical Risk Applications I Chair: Karioti, V. • Economou, P.: <i>Public Health Monitoring Using Control Charts Based on Convex Hull</i> • Stamou, N.: <i>An Explainable Deep Learning Approach for 10-Year Cardiometabolic Risk Prediction Using TabTransformer and SHAP</i> • Nika, E.: <i>Data Analytic Techniques and Statistical Process Monitoring for Efficient Health Budgeting – The Case in Major Neurological Conditions</i> • Papageorgiou, G.: <i>Transforming Text Into Insights: A Deep Learning Approach for Mining Unstructured Data</i>
13:20 - 14:30	Lunch Break	
15:00 - 17:00	Statistical Methods for Risk Analysis Chair: Kitsos, C. • Rokakis N.: <i>Performing Dynamic Pricing by Exploiting Process Monitoring Procedures</i> • Stamatiou, I.: <i>Hazard Functions for the Gamma Order Generalized Distributions</i> • Jurečková, J.: <i>Estimation of Expected Shortfall in an Autoregressive Model</i> • Mavridis, P.: <i>Goodness-of-Fit Testing for the Hazard Rate Function</i> • Batsidis, A.: <i>Weight-Biased Sampling Mechanism: Consequences of Its Ignorance and an Adjustment Methodology</i>	Fraud Detection Chair: Bersimis, S. • Katsanakis, I.: <i>From Detection to Prevention: A Machine Learning-Based Framework for Proactive Fraud Risk Assessment</i> • Smani, G. I.: <i>Identifying Critical Assets for Cyber Risk Propagation</i> • Konsta, L.: <i>Cyber Fraud Detection in Banking Sector: A Machine Learning Approach</i> • Katsanakis, I.: <i>Detecting and Assessing Fraud Risk in Tourism: A Machine Learning Framework Using Synthetic Booking Data</i> • Kampouris, C.: <i>Predicting Indication of Fraud Based on Macroeconomic Data: An AI Model Approach</i> • Bersimis, S.: <i>Network-Based Approaches for Identifying Fraud Risk in Health Insurance</i>
17:00 - 17:30	Coffee Break	
17:30 - 18:20	Prof. Mei-Ling Ting Lee Stochastic First-hitting-time Models with Extension to Neural Networks Chair: Malefaki, S.	
18:20 - 20:00	Specialized Risk Models and Applications Chair: Lee, M. T./Caroni C. • Malefaki, S.: <i>Modeling Time-to-Event Data With Random Effects Threshold Regression: A Bayesian ABC Approach</i> • Santos, C.: <i>Combining Mixed Models With Shared Algebraic Structure</i> • Abreu, F.: <i>The Influence of Fatigue on Decision Making in a Military Environment</i> • D'Amico, G.: <i>An Information-Theoretic Approach to Risk Analysis</i> • Santos, C.: <i>Injury Risk Factors in Soccer: A Multiple Linear Regression Approach</i>	
21:00 - 23:00	Gala Dinner	

8:30-9:00	Council Meeting Members of Council are all the ICRA organizers and the editors of ICRA volumes	
9:00-10:40	Health and Medical Risk Applications II Chair: Escott-Price, V. • Nakamura, T.: <i>Cause-Distinct Incidence to Resolve the Confusion Over Cause-Specific Incidence</i> • Leonenko, G.: <i>Improving Risk Stratification in Alzheimer's Disease Through Harmonised PRS Methodologies</i> • Bersimis, F.: <i>Utilization of Polygenic Risk Scores in Neurological Diseases</i> • Kougioumtzoglou, T.: <i>Clustering Analysis of Cognitive Assessment and Demographic Data Using Machine Learning Methods</i> • Alexopoulos, P.: <i>Assessing Service Differentiation and Risk Coverage for Older Adults With Cognitive and Mental Health Needs</i>	
10:40 - 11:30	Keynote Speaker: Prof. Valentina Escott-Price Genetic Risk Prediction for Brain Disorders: Current Insights and Future Directions Chair: Alexopoulos, P.	
11:30 - 12:00	Coffee Break	
12:00 - 14:00	Financial Risk and Corporate Governance Chair: Petropoulos, C. • Tsagkanos, A.: <i>Volatility Risk, Climate Risk and Green Corporate Bonds</i> • Dias, C.: <i>Analysing Financial Variability in SMEs in the Wine Sector Using the Coefficient of Variation</i> • Koutsouradis, G.: <i>Eco-Process Innovation: "Win-Win" or "You Have Lemons Make Lemonade"? The Moderating Role of Marketing Innovation</i> • Kostara, O.: <i>Enhancing Credit Risk Prediction for SMEs: A Comparative Analysis of Traditional and Machine Learning Approaches</i> • Lazarou, E.: <i>Modeling Early-Stage Startup Dynamics and Risk Using Innovation Readiness Levels (IRL)</i> • Thomopoulou, A.: <i>ESG and Risk Management</i>	Extreme Value Theory and Applications Chair: Konstantinides, D. • Brito, I.: <i>Extreme Risk Measures for the Risk Assessment of Air Pollution With Fine Particulate Matter Using the Generalized Pareto Distribution</i> • Dias, S.: <i>Probability Weighted Moments in Tail Independence</i> • Gomes, M. I.: <i>PORT Generalised Means and Non-Regular Frameworks for an Extreme Risk Assessment</i> • Passalidis, C.: <i>Uniform Asymptotic Estimates for Ruin Probabilities of a Multidimensional Risk Model With Cadlag Returns and Multivariate Heavy Tailed Claims</i> • Katsouda, M.: <i>Extreme Value Detection in HR Environment</i> • Konstantinides, D.: <i>Tail Behavior of Randomly Weighted Sums With Interdependent Summands</i>
14:00 - 14:30	Closing Ceremony	
14:30-	Light Lunch/Excursion	