

Monday, June 23rd 2025

Mon 11.30 — Room: AZ-101

Minicourse: Rolando De La Cruz, Universidad Adolfo Ibáñez (Chile)

Introduction to Survival Analysis, with Applications

Mon 14.30 — Room: AZ-104

Invited session: Imperfect maintenance modelling and inference

Chair: Olivier Gaudoin

- 1 **Pedro Luiz Ramos** Pontificia Universidad Católica de Chile (Chile)
Statistical Inference for Partial Imperfect Repair Models
- 2 **Paulo Henrique Ferreira** Federal University of Bahia (Brazil)
Reliability analysis of multiple repairable systems under imperfect repair and unobserved heterogeneity
- 3 **Laurent Doyen** Université Grenoble Alpes (France)
General framework for univariate degradation with imperfect maintenance: modelling, inference and application to real data

Tuesday, June 24th 2025

Tue 9.00 — Room: Auditorium

Plenary: Maria Kateri, RWTH Aachen University (Germany)

Step-Stress Accelerated Life Testing Models: Statistical Inference and Optimal Experimental Design

Welcome words from Claudio Seebach, Dean of Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez

Tue 10.00 — Room: A-207

Invited session: Distorted distributions and applications

Chair: Marco Capaldo

- 1 **Francesco Buono** Politecnico di Torino (Italy)
Quantile regression prediction of classical and generalized order statistics
- 2 **Marco Capaldo** RWTH Aachen University (Germany)
On ROC curve distortion functions
- 3 **Jorge Navarro** Universidad de Murcia (Spain)
Preservation of aging classes under the formation of coherent systems

Tue 12.00 — Room: A-207

Invited session: Industrial Applications of MMR

Chair: Guido Lagos

- 1 **Pierre Dersin** Lulea University of Technology (Sweden)
Degradation Kinetics and Predictive maintenance
- 2 **Vasily Krivtsov** Ford Motor Company (USA)
Useful Generalization of Arithmetic and Geometric Age Reduction Models in Recurrent Events Analysis
- 3 **Chraïbi Hassane** EDF R&D Lab Paris-Saclay (France)
Stochastic MRAS-Based Strategy Optimization: Integration into PyCATSHOO, a Platform for Probabilistic Performance Assessment of Complex Systems

Tue 14.30 — Room: Auditorium

Panel: Discussing the future of reliability

Tue 15.30 (A) — Room: A-101

Contributed session

Chair: Guido Lagos

- 1 **Lei Jingzhe** City University of Hong Kong (China)
An Order Statistics Perspective for Systems Reliability
- 2 **Funda Iscioglu** Ege University (Turkey)
Mean Residual Capacity Evaluation of a Multi-state k-out-of-n:G System
- 3 **Anna Dembińska** Warsaw University of Technology (Poland)
Residual lifetimes and inactivity times of components upon system failure

Tue 15.30 (B) — Room: BZ-201

Contributed session

Chair: Javiera Barrera

- 1 **Dora Jiménez** Universidad Mayor (Chile)
When the Power Fails, Communication Suffers: Modeling Earthquake Impacts on REUNA and SEN Infrastructure in Chile
- 2 **Álvaro Lozano** Universidad de Chile (Chile)
Introducing WindOMS: Wind Operation & Maintenance Simulator Python Package
- 3 **Marcelo Lagos** Universidad de Chile (Chile)
Enhancing Fault Detection with Distributionally Robust Machine Learning Models

Wednesday, June 25th 2025

Wed 9.00 — Room: Auditorium

Plenary: Enrique Lopez-Droguett, UCLA (USA)

Quantum Computing for Risk and Reliability: Outlook & Opportunities

Wed 10.00 (A) — Room: A-102

Invited session: Industrial Applications of MMR

Chair: Christian Paroissin

- 1 **Remy Emmanuel** EDF R&D (France)
How to handle a large number of preventive replacements?
- 2 **Mebrek Brahim** EDF R&D (France)
Integrating health status information in reliability analysis
- 3 **Javiera Barrera** Universidad Adolfo Ibáñez (Chile)
Power grid reliability under the effects of forest fires

Wed 10.00 (B) — Room: A-103

Contributed session

Chair: Guido Lagos

- 1 **Magdalena Szymkowiak** Poznan University of Technology (Poland)
Preservation of the star and superadditive orders of homogeneous (id) component lifetimes by system lifetimes
- 2 **Diana Rauwolf** RWTH Aachen University (Germany)
The inspection paradox and renewal theorems with random time
- 3 **Nikolai Kolev** Universidade de São Paulo (Brazil)
Reliability Interpretation of Discrete Line Integral on Uniform Grids and Applications

Wed 12.00 — Room: A-203	
Invited session: Statistical Innovations in Monitoring and Predicting Reliability	
Chair: Chien-Yu Peng	
1 Sheng-Tsaing Tseng	National Tsing Hua University (Taiwan)
Lifetime Inference of Highly-Reliable with Recurrent-Event Products and It's Applications to the Lifetime Prediction of Rechargeable Batteries	
2 Su-Fen Yang	National Chengchi University (Taiwan)
The Exact and asymptotic Ratio of Proportions Control Charts	
3 Yufen Huang	National Cheng Kung University (Taiwan)
Local Influence on Wiener Process in Degradation Analysis	

Thursday, June 26th 2025

Thu 9.00 — Room: Auditorium
Plenary: Luis Nieto-Barajas, ITAM (Mexico)
Markov Processes in Survival Analysis

Thu 10.00 (A) — Room: A-207		Thu 10.00 (B) — Room: AZ-101	
Invited session: Stochastic binary systems		Contributed session	
Chair: Javiera Barrera		Chair: Su Zhe	
1 Guido Lagos	Universidad Adolfo Ibáñez (Chile)	1 Francisca Molina	Universidad Adolfo Ibáñez (Chile)
Simple repair policies for general coherent systems with simultaneous failures		Building Survival Trees Combining Weighted Log-Rank Statistics	
2 Federico Méndez	Universidad de la Republica (Uruguay)	2 Andres Catalán	Universidad Adolfo Ibáñez (Chile)
Model Construction in Stochastic Binary Systems		Advancing individual log anomaly detection in distributed systems: A bidirectional encoder representation from transformers approach integrating sentiment analysis and explainability	
3 Felipe Miranda	Universidad de la Republica (Uruguay)	3 Su Zhe	RWTH Aachen University (Germany)
Uniformly most reliable stochastic binary systems in separable systems		A geometric-exponential mixture model for lifetime data	

Thu 12.00 — Room: A-207	
Invited session: Advanced Strategies for Designing and Modeling Accelerated Degradation Tests	
Chair: Chien-Yu Peng	
1 I-Chen Lee	National Cheng Kung University (Taiwan)
Optimal Sample Size Allocation for Accelerated Degradation Tests With Different Measurement Time Based on Gamma Process	
2 Hung-Ping Tung	National Yang Ming Chiao Tung University (Taiwan)
Optimal designs for gamma degradation tests	
3 Yi-Shian Dong	National Chengchi University (Taiwan)
Acceleration Invariance Principle for Hougaard Processes in Degradation Analysis	

Thu 14.30 (A) — Room: A-200		Thu 14.30 (B) — Room: A-210	
Contributed session		Contributed session	
Chair: Olivier Gaudoin		Chair: Rodrigo Carrasco	
1 Olivier Gaudoin	Université Grenoble Alpes (France)	1 Alejandro Mac Cawley	Pontificia Universidad Católica de Chile (Chile)
Parametric estimation in an imperfect maintenance model with delayed corrective actions for left-censored data		Predicting equipment degradation using sensor information in wine bottling lines.	
2 Jaroslav Warmbier	Poznan University of Technology (Poland)	2 Ignacio Riego	Pontificia Universidad Católica de Chile (Chile)
Reliability functions measuring different aspects of aging process in memory subsystems		An Automated Maintenance Planning Solution with Personalized Check Creation	
3 Nicolas Bousquet	EDF R&D, SINCLAIR Lab (France)		
Conservative estimation in structural reliability using surrogates			

Friday, June 27th 2025

Fri 10.00 — Room: Auditorium
Plenary: Bruno Tuffin, INRIA Rennes (France)
Importance Sampling for the Rare Event Simulation of Reliability Models

Fri 12.00 (A) — Room: AZ-103		Fri 12.00 (B) — Room: A-207	
Contributed session		Contributed session	
Chair: Kai Hencken		Chair: Lu Yao	
1 Kai Hencken	ABB Switzerland (Switzerland)	1 Lu Yao	RWTH Aachen University (Germany)
Bayesian Analysis of Different Models of the Breakdown Probability of Vacuum Interrupters		Assessing Heterogeneity in Step-Stress Accelerated Life Testing: A Homogeneity Test for Mixture Models with Censoring	
2 Franck Corset	Université Grenoble Alpes (France)	2 Sebastián Cáceres	Universidad de Chile (Chile)
Bayesian inference for Imperfect condition-based maintenance for a gamma degradation process		Optimizing Operation and Maintenance in Wind Farms	
		3 Funda Iscioglu	Ege University (Turkey)
		Reliability Analysis of Weighted Three-State System Structures Comprising an Application of Solar Panels	