Monday, May 22

ECAS-ICORS Course: Robust estimation of multivariate location and scatter

Auditorium 3

08:30 – 09:00 **Welcome (Cafeteria)**

09:00 – 10:30 **ECAS-ICORS Course**
Rik Lopuhaä (Delft University of Technology)

10:30 – 11:00 **Coffee break (Cafeteria)**

11:00 – 12:30 **ECAS-ICORS Course**
Rik Lopuhaä

12:30 - 13:30 **Lunch (Cafeteria)**

13:30 – 15:00 **ECAS-ICORS Course**
Rik Lopuhaä

15:00 – 15:30 **Coffee break (Cafeteria)**

15:30 – 17:00 **ECAS-ICORS Course**
Valentin Todorov (United Nations Industrial Development Organization, Vienna)

17:00 – 17:30 **Welcome (Cafeteria)**

17:30 – 18:30 **Ice breaker (Cafeteria)**

Tuesday, May 23

Auditorium 3

08:00 – 08:45 Welcome (Cafeteria)

08:45 – 09:00 Opening

09:00 – 09:55 Keynote: **Lan Wang** (Department of Management Science, Miami Herbert Business School, University of Miami)
Statistical Learning for Individualized Decision Rules: A Quantile Approach
Chair: Davy Paindaveine

10:00 – 11:30	**Robust multivariate statistics I** **Chair:** Christophe Croux
10:00 – 10:30	› **Peter Rousseeuw** (Department of Mathematics, KU Leuven) *The cellwise Minimum Covariance Determinant estimator*
10:30 – 11:00	› **Eva Cantoni** (Research Center for Statistics and Geneva School of Economics and Managment, University of Geneva) *Robust Fitting for Generalized Additive Models for Location, Scale and Shape*
11:00 – 11:30	› **Rik Lopuhaä** (Delft University of Technology) *S-estimation in linear models with structured covariance matrices*

11:30 - 13:30 Lunch (Administrative Restaurant) and Coffee (Cafeteria)

13:30 – 15:30	**Functional outlier detection with industrial applications** **Chair:** Aurore Archimbaud
13:30 – 14:00	› **Pavlo Mozharovskyi** (LTCI, Télécom Paris, Institut Polytechnique de Paris) *Anomaly detection using data depth: functional setting*
14:00 – 14:30	› **Clément Lejeune** (Thales Services Numériques) and **Tianyi Li** (Airbus & Institut de Recherche en Informatique de Toulouse) *Functional Shape based Features in Multivariate Functional Data Applied to Atmospheric Turbulence Online Prediction*
14:30 – 15:00	› **Fabio Centofanti** (Dept. of Industrial Engineering, University of Naples Federico II) *Robust Profile Monitoring for Multivariate Functional Data*
15:00 – 15:30	› **Mia Hubert** (Department of Mathematics, KU Leuven) *MacroPCA for analysing high-dimensional and functional data*

15:30 – 15:40 Group photo (Meeting Point: Cafeteria)

15:40 – 16:30 Coffee break and Poster session (Cafeteria)

16:30 – 17:30 In honor of Peter Rousseeuw (Department of Mathematics, KU Leuven)
Chairs: Anne Ruiz-Gazen and Andreas Alfons

17:30 – 17:50 Surprise

18:00 – 19:00 Welcome reception (Cloître)

Tuesday, May 23
Auditorium 5

08:00 – 08:45 Welcome (Cafeteria)

08:45 – 09:00 Opening (Auditorium 3)

09:00 – 09:55 Keynote: **Lan Wang** (Miami Herbert Business School, University of Miami)
Statistical Learning for Individualized Decision Rules: A Quantile Approach
Chair: Davy Paindaveine **(Auditorium 3)**

10:00 – 11:00	**Non and semi parametrics** **Chair:** Abdelaati Daouia
10:00 – 10:20	› **Guillaume Maillard** (University of Luxembourg) *Robust density estimation in total variation distance under a shape constraint*
10:20 – 10:40	› **Aida Toma** (Bucharest University of Economic Studies, "Gh. Mihoc - C. Iacob" Institute for Mathematical Statistics and Applied Mathematical of the Romanian Academy) *Robust Estimators for Semiparametric Moment Condition Models*
10:40 – 11:00	› **Jiwei Zhao** (University of Wisconsin-Madison) *Robust estimation under a semiparametric propensity model for nonignorable missing data*

11:30 – 13:30 Lunch (Administrative Restaurant) and Coffee (Cafeteria)

13:30 – 15:30	**Linear models and regression** **Chair:** Eva Cantoni
13:30 – 13:50	› **Ioannis Kalogridis** (KU Leuven) *Robust and Adaptive Functional Logistic regression*
13:50 – 14:10	› **Yannick Baraud** (University of Luxembourg) *Robust Estimation in Exponential Families*
14:10 – 14:30	› **Fatma Zehra Doğru** (Giresun University) *Heteroscedastic partially linear model with the skew Laplace normal distribution*
14:30 – 14:50	› **Jana Jureckova** (Faculty of Mathematics and Physics, Charles University, Prague, Institute of Information Theory and Automation of the Czech Academy of Sciences) *Estimation of expected shortfall in linear model*
14:50 – 15:10	› **Jens Klooster** (Erasmus University Rotterdam) *Outlier Robust Inference in (Weak) Linear Instrumental Variable Models*
15:10 – 15:30	› **Manuela Souto de Miranda** (Center for Research & Development in Mathematics and Applications, University of Aveiro) *Extremal index robust estimators based on Negative Binomial regression*

15:30 – 15:40 Group photo (Meeting Point: Cafeteria)

15:40 – 16:30 Coffee break and Poster session (Cafeteria)

16:30 – 17:30 In honor of Peter Rousseeuw (Department of Mathematics, KU Leuven)
Chair: Anne Ruiz-Gazen and Andreas Alfons **(Auditorium 3)**

17:30 – 17:50 Surprise (Auditorium 3)

18:00 – 19:00 Welcome reception (Cloître)

Posters (Cafeteria)

› **Fan Zheyi** (Academy of Mathematics and Systems Science, University of Chinese Academy of Sciences)
A consistent robust regression algorithm with the usage of prior information

› **Nisrine Madhar** (Laboratoire de Probabilités, Statistique et Modélisation, Sorbonne University, Paris)
Anomaly Detection in Financial Time Series by Principal Component Analysis and Neural Networks

› **Ludovic Makong** (Orano Recyclage, La Hague)
Benchmark Of Clustering Methods Applied On A Rotating Machine Vibration Modes Identification In A Nuclear Industrial Environment

› **Edoardo Fibbi** (Department of Mathematics, KU Leuven, European Commission - Joint Research Centre, Ispra)
Co-clustering contaminated data: a robust model-based approach

› **Caroline Le Gall** (Airbus)
Comparison of functional outlier detection methods

› **Conceição Amado** (Center for Computational and Stochastic Mathematics, Department of Mathematics, Lisbon)
Minimum Distance Estimators in Poisson hurdle model

› **Otso Hao** (University of Oxford)
Robust Regression with Discrete Covariates

› **Gaetan Louvet** (Namur Center for Complex Systems)
Robustness of scatter depth

Wednesday, May 24

Auditorium 3

08:30 – 09:00 Welcome (Cafeteria)

09:00 – 10:30	**Dimension reduction** **Chair:** Andreas Alfons
09:00 – 09:30	› **Klaus Nordhausen** (Deparment of Mathematics and Statistics, University of Jyväskylä) *Tandem clustering with invariant coordinate selection*
09:30 – 10:00	› **Pia Pfeiffer** (Vienna University of Technology) *Robust and sparse CCA: An algorithm for dimension reduction via sparsity inducing penalties*
10:00 – 10:30	› **Jakob Raymaekers** (Department of Quantitative Economics, Maastricht University) *The Influence Function of Graphical Lasso Estimators*

10:30 – 11:30	**Robustness for categorical data** **Chair:** Marco Riani
10:30 – 11:00	› **Anna Clara Monti** (University of Sannio) *Robust Inference for Categorical Response Models*
11:00 – 11:30	› **Francesca Torti** (European Commission - Joint Research Centre, Ispra) *Robust Correspondence Analysis and its applications*

11:30 – 12:15 Lunch (Cafeteria)

12:15 – 20:30 Excursion (Meeting Point: main entrance)

Wednesday, May 24

Auditorium 5

08:30 – 09:00 Welcome (Cafeteria)

09:00 – 10:20	**Outlier detection** **Chair:** Andrea Cerioli
09:00 – 09:20	› **Luca Insolia** (University of Geneva) *Simultaneous feature selection and outlier detection with optimality guarantees*
09:20 – 09:40	› **Marcus Mayrhofer** (Vienna University of Technology) *Outlier detection and explanation for matrix-valued data*
09:40 – 10:00	› **Bent Nielsen** (University of Oxford) *Least Trimmed Squares Regression: Consistent estimation of the number of outliers*
10:00 – 10:20	› **Patricia Puchhammer** (Institute for Statistics and Mathematical Methods in Economics, Vienna University of Technology) *A spatially smoothed MRCD estimator for local outlier detection*

10:30 – 11:30	**Tests** **Chair:** Sara Taskinen
10:30 – 10:50	› **Marco Marozzi** (Ca' Foscari University of Venice) *A robust multivariate combined test for comparison studies*
10:50 – 11:10	› **Kelly Ramsay** (York University, Toronto) *FKWC tests for differences in the covariance structure of functional data*
11:10 – 11:30	› **Thomas Verdebout** (Université Libre de Bruxelles) *Power enhancement for dimension detection of Gaussian signals*

11:30 – 12:15 Lunch (Cafeteria)

12:15 – 20:30 Excursion (Meeting Point: main entrance)

Thursday, May 25

Auditorium 3

08:30 – 09:00 Welcome (Cafeteria)

09:00 – 09:55 Keynote: John H.J. Einmahl (Tilburg University)
Extreme value inference for heterogeneous power law data
Chair: Rik Lopuhaä

10:00 – 11:30	**In honor of David Tyler** (Department of Statistics, Rutgers University) **Chair:** Klaus Nordhausen and Mengxi Yi
10:00 – 10:30	› **David Tyler** *High breakdown regularized covariance matrices*
11:00 – 11:30	› **John Kent** (University of Leeds) *Directional distributions and the half-angle principle*

11:30 – 13:30 Lunch (Administrative Restaurant) and Coffee (Cafeteria)

13:30 – 15:00	**Robustness in survey sampling** **Chair:** David Haziza
13:30 – 14:00	› **David Haziza** (University of Ottawa) *Robust imputation procedures in the presence of influential units in surveys*
14:00 – 14:30	› **Francesco Schirripa Spagnolo** (University of Pisa) *Bias control for M-quantile-based small area estimators*
14:30 – 15:00	› **Cyril Favre-Martinoz** (Insee, Direction Générale, Division Organisation et Relations Extérieures) *Revivals: An R Package for Robust Estimation in Survey Sampling*

15:00 – 15:30 Coffee break (Cafeteria)

15:30 – 17:30	**Robust clustering I** **Chair:** Luis Angel Garcia-Escudero
15:30 – 16:00	› **Andrea Cerioli** (University of Parma) *Robust estimation and clustering under heavy tails*
16:00 – 16:30	› **Perrotta Domenico** (European Commission, Joint Research Centre) *On simulating skewed and cluster-weighted data for studying performance of clustering algorithms*
16:30 – 17:00	› **Alfonso Garcia-Perez** (Department of Statistics, Universidad Nacional de Educación a Distancia, Madrid) *Mendelian randomization: A new robust causal effect estimator using summary data*
17:00 – 17:30	› **Hristo Inouzhe (**Basque Center for Applied Mathematics, Bilbao) *Hunting bias through trimming*

19:30 – 23:00 Gala dinner (Médiathèque José Cabanis)

Thursday, May 25

Auditorium 4

08:30 – 09:00 Welcome (Cafeteria)

09:00 – 09:55 Keynote: John H.J. Einmahl (Tilburg University)
Extreme value inference for heterogeneous power law data
Chair: Rik Lopuhaä **(Auditorium 3)**

11:30 – 13:30 Lunch (Administrative Restaurant) and Coffee (Cafeteria)

13:30 – 14:50	**Robust inference** **Chair:** Yannick Baraud
13:30 – 13:50	› **Anand Vidyashankar** (George Mason University, Fairfax**)** *Robust and Efficient Post-selection Inference*
13:50 – 14:10	› **Tsung-Shan Tsou** (Institute of Statistics, National Central University, Taiwan) *Universal closed-form confidence intervals for the ratio of two general population means in the paired design*
14:10 – 14:30	› **Carole Baum** (Department of Mathematics, University of Liège) *Robustness under missing data: a comparison with special attention to inference*
14:30 – 14:50	› **Yuming Zhang** (University of Geneva) *A Computationally Efficient Framework for Robust Estimation*

15:00 – 15:30 Coffee break (Cafeteria)

19:30 – 23:00 Gala dinner (Médiathèque José Cabanis)

Thursday, May 25

Auditorium 5

08:30 – 09:00 Welcome (Cafeteria)

09:00 – 09:55 Keynote: John H.J. Einmahl (Tilburg University)
Extreme value inference for heterogeneous power law data
Chair: Rik Lopuhaä **(Auditorium 3)**

10:00 – 11:20	**Processes and likelihood methods** **Chair:** Claudio Agostinelli
10:00 – 10:20	› **Jean-Marc Bardet** (Université Paris 1 Panthéon-Sorbonne) *Asymptotic behavior of the Laplacian quasi-maximum likelihood estimator of affine causal processes*
10:20 – 10:40	› **Luca Greco** (University Giustino Fortunato) *Weighted likelihood methods for torus data*
10:40 – 11:00	› **Pierre Clavier** (Centre de Mathématiques Appliquées, Ecole Polytechnique, Inria, Paris) *New perspectives in sample complexity of Robust Markov Decicion Processes*
11:00 – 11:20	› **Alexandre Lecestre** (University of Luxembourg) *Robust estimation for Markovian mixing processes*

11:30 – 13:30 Lunch (Administrative Restaurant) and Coffee (Cafeteria)

13:30 – 14:50	**High dimension and regularization** **Chair:** Peter Filzmoser
13:30 – 13:50	› **Claudio Agostinelli** (University of Trento) *Robust estimation for high dimensional generalized linear models*
13:50 – 14:10	› **Charles-Elie Rabier** (IMAG, Montpellier) *The SgenoLasso, a new Lasso method dedicated to extreme observations in genomics*
14:10 – 14:30	› **Lise Tubex** (Department of Mathematics and Imec, University of Antwerp) *Robust flexible GLM for high-dimensional data containing mixed variable types penalized with a combination of various penalty terms*
14:30 – 14:50	› **Mengxi Yi** (Beijing Normal University) *Elasso in estimating the signal dimension of ICA*

15:00 – 15:30 Coffee break (Cafeteria)

15:30 – 17:30	**Robust multivariate data analysis** **Chair:** Mia Hubert
15:30 – 15:50	› **Ana Bianco** (University of Buenos Aires and CONICET) *Robust Estimation of Conditional ROC Curves*
15:50 – 16:10	› **Valentin Todorov** (United Nations Industrial Development Organization, Vienna) *Robust classification tool for three-way data based on the SIMCA methodology*
16:10 – 16:30	› **M. Rosário Oliveira** (CEMAT and Department of Mathematics, Instituto Superior Técnico, University of Lisbon) *Multigroup classification by a robust trace ratio method*
16:30 – 16:50	› **Max Welz** (Erasmus University Rotterdam) *Robustness Properties of Correlation Measures in Ordinal Discrete Data*
16:50 – 17:10	› **Christophe Croux** (EDHEC Business School, Lille) *Robust Maximum Association Estimators of a General Regression Model*
17:10 – 17:30	› **Sarah Leyder** (University of Antwerp) *Generalized Spherical Principal Component Analysis*

19:30 – 23:00 Gala dinner (Médiathèque José Cabanis)

Friday, May 26

Auditorium 3

08:00 – 09:00 Welcome (Cafeteria)

09:00 – 09:55 Keynote: Emmanuel J. Candès (Standford University)
Conformal Prediction in 2023
Chair: Peter Rousseeuw **(Amphi Despax)**

10:00 – 10:30 Coffee break (Cafeteria)

10:30 – 11:30	**Robust regression** **Chair:** Matias Salibian-Barerra
10:30 – 11:00	› **Graciela Boente** (University of Buenos Aires and CONICET) *Robust estimation for functional logistic regression models based on B-splines*
11:00 – 11:30	› **Olcay Arslan** (Ankara University) *Robust parameter estimation and variable selection in joint regression modelling for location, scale and skewness of the skew normal distribution*

11:30 - 13:00 Lunch (Administrative Restaurant) and Coffee (Cafeteria)

13:00 – 14:30	**Robust multivariate statistics II** **Chair:** Graciela Boente
13:00 – 13:30	› **Sara Taskinen** (Deparment of Mathematics and Statistics, University of Jyväskylä) *Robust second-order stationary spatial blind source separation*
13:30 – 14:00	› **Davy Paindaveine** (Université Libre de Bruxelles) *Lp inference for multivariate location based on data-based simplices*
14:00 – 14:30	› **Matias Salibian-Barrera** (University of British Columbia, Vancouver) *Robust Elastic Net estimators*

14:30 – 14:45 Closing

Friday, May 26

Auditorium 5

08:00 – 09:00 Welcome (Cafeteria)

09:00 – 09:55 Keynote: **Emmanuel J. Candès** (Standford University)
Conformal Prediction in 2023
Chair: Peter Rousseeuw **(Amphi Despax)**

10:00 – 10:30 Coffee break (Cafeteria)

10:30 – 11:30	**Robust clustering II** **Chair:** Agustín Mayo-Iscar
10:30 – 10:50	› **Luis Angel Garcia-Escudero** (Department of Statistics and Operational Research and IMUVA, University of Valladolid) *Choice of input parameters in robust clustering based on trimming*
10:50 – 11:10	› **Antoine Godichon-Baggioni** (Laboratoire de Probabilités, Statistique et Modélisation, Sorbonne University, Paris) *A robust model-based clustering based on the geometric median and the Median Covariation Matrix*
11:10 – 11:30	› **Michal Pesta,** (Charles University, Prague) *Semi-continuous time series for sparse data with volatility clustering*

11:30 - 13:00 Lunch (Administrative Restaurant) and Coffee (Cafeteria)

13:00 – 14:20	**Cellwise and rowwise outliers** **Chair:** Ricardo Maronna
13:00 – 13:20	› **Mehdi Hirari** (Section of Statistics and Data Science, Department of Mathematics, KU Leuven) *Robust PARAFAC for cellwise and rowwise outliers*
13:20 – 13:40	› **Peng Su** (University of Sydney) *Robust variable selection under cellwise contamination*
13:40 – 14:00	› **Una Radojicic** (Vienna University of Technology) *Minimum Regularized Covariance Trace Estimator and Outlier Detection for Functional Data*
14:00 – 14:20	› **Matus Maciak (**Faculty of Mathematics and Physics, Charles University, Prague) *Changepoint detection in structured time-dependent functional profiles*

14:30 – 14:45 Closing (Auditorium 3)