

ISNPS 2022



INTERNATIONAL SYMPOSIUM ON
NONPARAMETRIC STATISTICS

JUNE 20 - 24, 2022 PAPHOS, CYPRUS



ISNPS 2022



INTERNATIONAL SYMPOSIUM ON NONPARAMETRIC STATISTICS

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JUNE 20 - 24, 2022 | PAPHOS, CYPRUS

CONFERENCE HANDBOOK

INTERNATIONAL SYMPOSIUM
ON NONPARAMETRIC STATISTICS

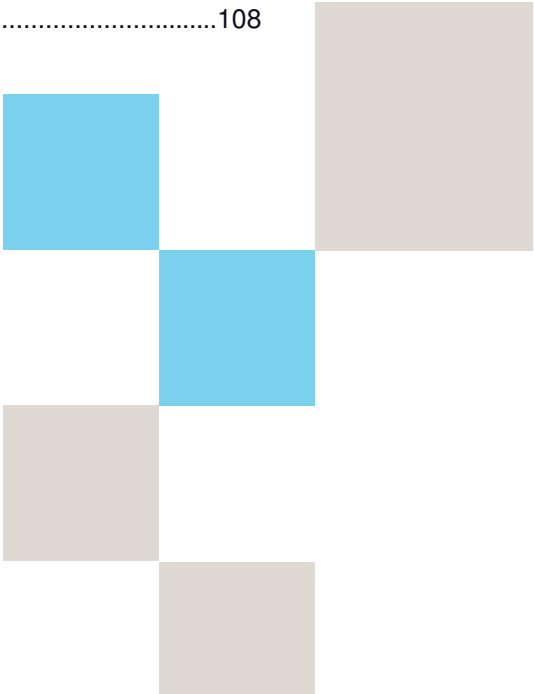


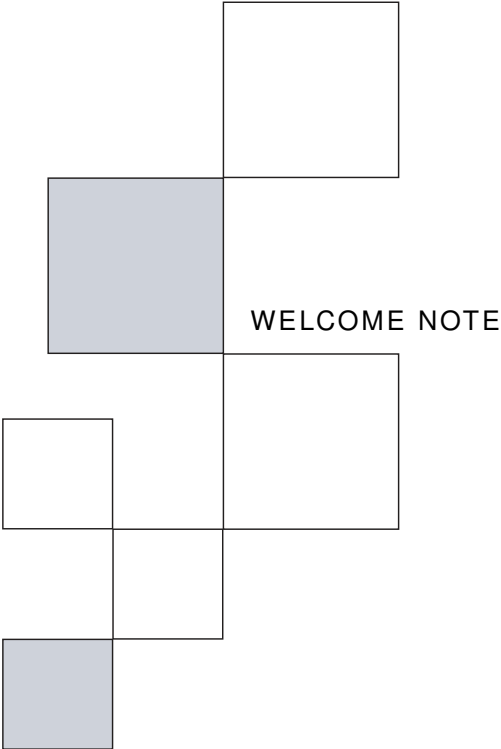
20-24 JUNE 2022,
PAPHOS - CYPRUS

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● Foreword from the Chairs of the Scientific Committee

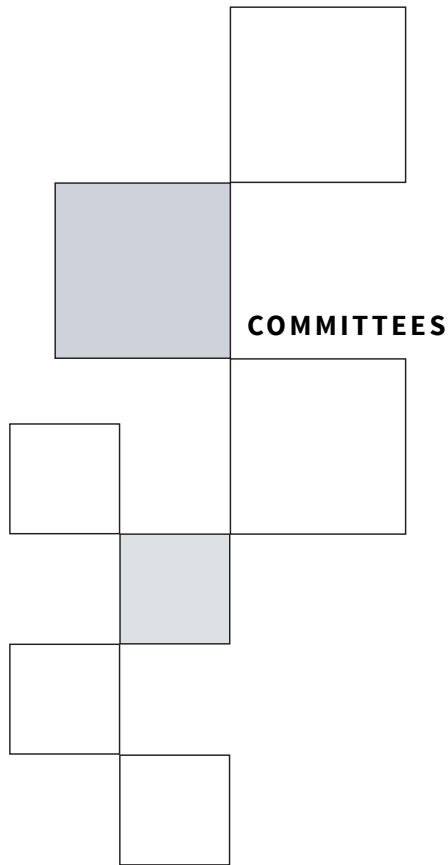
Following the successful ISNPS Conferences in Chalkidiki (Greece), Cadiz (Spain), Avignon (France) and Salerno (Italy) we are pleased to welcome you to the International Symposium on Nonparametric Statistics in Paphos (Cyprus). The meeting is co-sponsored by the Institute of Mathematical Statistics (IMS) and the Bernoulli Society of Mathematical Statistics and Probability (BS).

The meeting is hosted in the area of Paphos, in Cyprus. Paphos is a city rich in history, the existence of which can be treated back to the Neolithic period. Apart from being considered as the place of birth of the Greek Goddess of love and beauty, Aphrodite, it boasts the remains of villas, palaces, theatres, and tombs that belong to different historic periods, like Classical, Hellenistic and Roman. Paphos is included in UNESCO's list of world heritage as a natural and cultural treasure.

The 2022 International Symposium on Nonparametric Statistics, puts together recent advances and trends in many areas of nonparametric statistics. With 7 plenary and special invited sessions, 62 invited paper sessions, and 20 contributed sessions and with more than 300 participants from all over the world, the symposium is a perfect place to facilitate the exchange of research ideas, promote collaborations and contribute to the further development of the field of nonparametric statistics. The scientific program is very rich and includes topics like Nonparametric Estimation, Hypothesis Testing, Adaptive Inference, High-dimensional Statistical Inference, Nonparametric Analysis of Time Series, Resampling and Bootstrap Methods, Functional Data Analysis, Statistical Inverse Problems, Bayesian Nonparametrics, Nonparametric Survival Analysis, Nonparametric Econometrics, Change Point Analysis, and Network Analysis.

After postponing the meeting twice because of the COVID-19 pandemic, we are very happy to welcome you in Cyprus and wish you an exciting meeting and a memorable stay.

Ingrid Van Keilegom and Stathis Paparoditis



COMMITTEES

LOCAL ORGANISING COMMITTEE

- Sergios Agapiou
- Efstathios Paparoditis
- Theofanis Sapatinas

SCIENTIFIC COMMITTEE

- Ricardo Cao
- Holger Dette
- Alexander Goldenshluger
- Regina Liu
- Efstathios Paparoditis (co-chair)
- Omiros Papaspiliopoulos
- Marianna Pensky
- Dimitris Politis
- Ingrid Van Keilegom (co-chair)

ISNPS 2022



Programme

OVERVIEW

20 - 24 JUNE 2022

PROGRAMME OVERVIEW

	20/06	21/06	22/06	23/06	24/06
08:45 – 09:00	Welcome				
09:00 – 10:00	Peter Hall's Lecture (Steve Marron)	Invited Paper Session 3	Keynote Talk (Aurore Delaigle)	Invited Paper Session 6	Special Invited Talk 3 (Gabor Lugosi)
10:00 – 11:00	Contributed Paper Session 1		Contributed Paper Session 2		Contributed Paper Session 3
11:00 – 11:30			Coffee Break		
11:30 – 12:30	Special Invited Talk 1 (Richard Nickl)	Keynote Talk (Richard A. Davis)	Special Invited Talk 2 (Victor Chernozhukov)	Keynote Talk (Martin Wainwright)	Contributed Paper Session 4
12:30 – 13:30			Lunch		
13:30 – 15:30	Invited Paper Session 1	Invited Paper Session 4		Invited Paper Session 7	Invited Paper Session 9
15:30 – 16:00					
16:00 – 18:00	Invited Paper Session 2	Invited Paper Session 5	Excursion and Conference Dinner 16:00 – 23:00	Invited Paper Session 8	
	Welcome Reception 19:00 – 20:30	General Meeting 18:15		Poster session 18:15 – 19:15	



8:45 - 9:00 Welcome

9:00 - 10:00 Peter Hall's Lecture: Steve Marron

Chair: Regina Liu
Room: Akamas A

Peter Hall and High Dimension Low Sample Size Asymptotics

10:00 - 11:00 Contributed Paper Session 1

Bayesian inference

Chair: Matteo Giordano
Room: Akamas C

10:00 **A Bayesian Nonparametric Approach To Super-Resolution Single-Molecule Localization**
Mariano Gabitto, Michael Jordan, Herve Marie-Nelly, Xavier Darzacq, Ari Pakman

10:20 **Nonparametric Bayesian inference for reversible multi-dimensional diffusions**
Matteo Giordano

Survival analysis I

Chair: Ali Shariati
Room: Aphrodite A

10:00 **Quantile Regression for Interval-Censored Data using Laguerre Polynomials**
Benjamin Deketelaere, Ingrid Van Keilegom, Anouar El Ghouch

10:20 **Challenges with model and tuning parameter selection when using cross-validation with censored data**
Anders Munch

10:40 **Asymptotic Behaviour of the MRL Function Estimator with Length-biased and Right Censored Data**
Ali Shariati, Hassan Doosti, Vahid Fakoor

Robust statistics I

Chair: Alexandre Lecestre
Room: Aphrodite B

10:00 **A Data-Driven Strategy for Specifying Cutoffs in Trimming and Winsorizing**
Derek Young, Kedai Cheng

10:20 **Robust estimation under a shape constraint**
Hélène Halconruy, Yannick Baraud, Guillaume Maillard

10:40 **Robust estimation in finite state space hidden Markov models**
Alexandre Lecestre

Clustered data

Chair: Erin Sprünken
Room: Christian Barnard

10:00 **Leave-cluster-out technique and variance estimation when regressors are many**
Stanislav Anatolyev

10:20 **A generalized framework for rank-based analysis of cluster data in the several sample case**
Erin Sprünken



Model selection

Chair: Ulrike Schneider

Room: Leda

10:00 **Model selection for robust learning of mutational signatures under overdispersion**
Marta Pelizzola, Ragnhild Laursen, Asger Hobolth

10:20 **The Probability of Improved Prediction: a new concept in statistical inference**
Stijn Jaspers, Olivier Thas

10:40 **On the geometry of uniqueness and model selection of LASSO, SLOPE and related estimators**
Ulrike Schneider, Patrick Tardivel

11:00 - 11:30 Coffee Break

11:30 - 12:30 Special Invited Talk: Richard Nickl

Chair: Ricardo Cao

Room: Akamas A

Bayesian non-linear inverse problems: progress and challenges

12:30 - 13:30 Lunch Break

13:30 - 15:30 Invited Paper Session 1

Structural inference in high dimensional models

Organiser: Eduard Belitser

Chair: Eduard Belitser

Room: Akamas A

13:30 **Dimension Estimation using Random Connection Models**
Paulo Serra, Michel Mandjes

14:00 **Characterizing the Type 1-Type 2 Error Trade-off for SLOPE**
Cynthia Rush

14:30 **Optimal Bayesian classification for high dimensional data**
Subhashis Ghoshal

15:00 **General framework for projection structures**
Eduard Belitser

Topics in curve estimation

Organiser: Anton Schick

Chair: Uschi Müller

Room: Akamas C

13:30 **Multivariate, Heteroscedastic Empirical Bayes via Nonparametric Maximum Likelihood**
Bodhisattva Sen, Jake Soloff, Adityanand Guntuboyina

14:00 **Learning high-dimensional functions by conditional least squares**
Stefano Vivogna

14:30 **Nonparametric inference for general categorical time series with time-varying parameters**
Lionel Truquet

15:00 **Location estimation, empirical Bayes, score matching, and their connection**
Min Xu



New directions in Bayesian nonparametric modeling

Organiser: Antonio Lijoi

Chair: Antonio Lijoi

Room: Aphrodite A

13:30 **Bayesian nonparametric methods for conditional independence testing**

Sarah Filippi

14:00 **Exact inference for a class of non-linear hidden Markov models on general state spaces**

Guillaume Kon Kam King, Matteo Ruggiero, Omiros Papaspiliopoulos

14:30 **Compound vectors of subordinators and their associated positive Lévy copulas**

Fabrizio Leisen, Alan Riva Palacio

15:00 **Nonparametric priors for partially exchangeable data: dependence structure and borrowing of information**

Beatrice Franzolini, Antonio Lijoi, Igor Pruenster, Giovanni Rebaudo

Recent advances in functional and complex data analysis

Organiser: Paromita Dubey & Hanlin Shang

Chair: Philip Reiss

Room: Aphrodite B

13:30 **Functional depth: Recent progress and perspectives**

Stanislav Nagy

14:00 **Random cohort effects and age groups dependency structure for mortality modelling and forecasting: Mixed-effects time-series model approach**

Bo Wang, Ka Kin Lam

14:30 **Limiting laws for optimal transport plans on finite spaces**

Yoav Zemel

15:00 **Continuous-time multivariate analysis**

Philip Reiss, Biplab Paul

Inference for Complex Problem Settings

Organiser: Regina Liu

Chair: Regina Liu

Room: Christian Barnard

13:30 **Query-augmented Active Metric Learning**

Annie Qu

14:00 **Additive regression with parametric help**

Hyerim Hong, Young Kyung Lee, Byeong Uk Park

14:30 **Repro Samples Method for Finite- and Large-Sample Inferences**

Minge Xie

15:00 **Sufficient Variable Selection via Expected Conditional Hilbert-Schmidt Independence Criterion**

Chenlu (Tracy) Ke

Non-parametric statistical methods for extremes

Organiser: Claudia Kluppelberg

Chair: Claudia Kluppelberg

Room: Leda

13:30 **Neural Networks for Extreme Quantile Regression and Risk Assessment** *Olivier Pasche, Sebastian Engelke*

14:00 **High-dimensional extreme quantile regression using partially-interpretable neural networks** *Jordan Richards, Raphael Huser*

14:30 **Changes in the distribution of observed annual maximum temperatures in Europe**

Ioannis Papastathopoulos, Graeme Auld, Gabriele Hegerl

15:00 **Max-linear Bayesian networks**

Claudia Klueppelberg



Recent advances in time series

Organiser: Giovanni Motta

Chair: Giovanni Motta

Room: Athena

13:30 **High-dimensional dynamic factor models: A selective survey and lines of future research.**
Manfred Deistler, Marco Lippi, Brian D.O. Anderson

14:00 **Semiparametric modeling of multiple quantiles**
Alessandra Luati, Leopoldo Catania

14:30 **Asymptotics for Spherical Functional Autoregressions**
Alessia Caponera, Domenico Marinucci

15:00 **Sequential on-line detection and classification in 3D Computer Vision**
Olympia Hadjiliadis

15:30 - 16:00 Coffee Break

16:00 - 18:00 Invited Paper Session 2

Recent Advances in Time Series Analysis

Organiser: Jens-Peter Kreiss

Chair: Jens-Peter Kreiss

Room: Akamas A

16:00 **Testing equality of spectral density operators for functional linear processes**
Anne Leucht, Efsthios Paparoditis, Theofanis Sapatinas, Daniel Rademacher

16:30 **Statistical methods for the restoration of historical music recordings**
Rainer Dahlhaus

17:00 **A Bootstrap-Assisted Self-Normalization Approach to Inference in Cointegrating Regressions**
Carsten Jentsch, Karsten Reichold

17:30 **Simultaneous Inference for Autocovariances based on Bootstrap Methods**
Alexander Braumann, Jens-Peter Kreiss, Marco Meyer

Nonparametrics in health related problems

Organiser: Yanyuan Ma

Chair: Yanyuan Ma

Room: Akamas C

16:00 **Multi-institutional Data for Real World Evidence**
Tianxi Cai

16:30 **Marginalized frailty-based illness-death model: application to the UK-biobank survival data**
Malka Gorfine

17:00 **Estimating Disease Onset from Change Points of Markers Measured with Error**
Tanya Garcia, Unkyung Lee, Raymond Carroll, Yuanjia Wang, Karen Marder

17:30 **Testing for Heterogeneity in the Utility of a Surrogate Marker**
Layla Parast, Tianxi Cai, Lu Tian

New insights in bandwidth selection

Organiser: Ricardo Cao

Chair: Ricardo Cao

Room: Aphrodite A

16:00 **Bandwidth selection for modal clustering**
Alessandro Casa, José E. Chacón, Giovanna Menardi



- 16:30 **Bandwidth selection for statistical matching and prediction**
Stefan Sperlich, Inés Barbeito, Ricardo Cao
- 17:00 **Bootstrap bandwidth selection for nonparametric default probability estimation: application to credit risk**
Rebeca Pelaez, Ricardo Cao, Juan Vilar
- 17:30 **Bagging cross-validated bandwidth selection in nonparametric regression estimation with application to Big Data**
Daniel Barreiro Ures, Ricardo Cao, Mario Francisco Fernández

Multivariate and Functional Time series

Organiser: Marco Meyer

Chair: Marco Meyer

Room: Aphrodite B

- 16:00 **Pivotal tests for relevant differences in the second order dynamics of functional time series**
Anne van Delft, Holger Dette
- 16:30 **Testing Linearity for Network Autoregressive Models**
Mirko Armillotta, Konstantinos Fokianos
- 17:00 **Spectral Inference for Functional Time Series in Hilbert Space**
Daniel Rademacher, Jens-Peter Kreiß, Efstathios Paparoditis
- 17:30 **A frequency domain bootstrap for general multivariate stationary processes**
Marco Meyer, Efstathios Paparoditis

Recent advance in covariance estimation and functional data analysis

Organiser: Jane-Ling Wang

Chair: Derek Young

Room: Christian Barnard

- 16:00 **Functional Data Analysis of Stochastic Differential Equations**
Victor Panaretos, Neda Mohammadi, Leonardo Santoro
- 16:30 **Joint non-parametric estimation of mean and auto-covariances for Gaussian processes**
Tatyana Krivobokova, Paulo Serra
- 17:00 **CoPE sets and Relevant Tubes**
Fabian Telschow, Junting Ren, Armin Schwartzman
- 17:30 **Interpoint-Ranking Sign Covariance for Test of Independence**
Kehui Chen

Statistical analysis of non-Euclidean and high-dimensional data

Organiser: Byeong Park

Chair: Byeong Park

Room:Leda

- 16:00 **Total Variation Regularized Frechet Regression for Metric-Space Valued Data**
Zhenhua Lin, Hans-Georg Mueller
- 16:30 **Antipodal Refection Depth (ARD) for Multivariate and Functional Data & Nonparametric Outlier Detection**
Regina Liu
- 17:00 **Nonparametric regression on Lie groups with measurement errors**
Jeong Min Jeon, Byeong Uk Park, Ingrid Van Keilegom
- 17:30 **Bounds for the asymptotic distribution of the likelihood ratio**
Andreas Anastasiou

19:00 - 20:30 Welcome Reception



9:00 - 11:00 Invited Paper Session 3

Semiparametric models

Organiser: Ursula Müller & Valentin Patilea

Chair: Ursula Müller

Room: Akamas A

9:00 **Compositions of discrete random structures in Bayesian nonparametrics**, Filippo Ascolani, Antonio Lijoi, Igor Pruenster, Giovanni Rebaudo

9:30 **Some recent results on semiparametric transformation models**
Natalie Neumeyer

10:00 **Wilks' Theorem for Models Defined by Conditional Moment Equations with Weakly Dependent Data**
Valentin Patilea

10:30 **Data integration in high dimension with multiple quantiles**
Ursula U. Müller

New trends in high dimensional robust statistics

Organiser: Mohamed Ndaoud

Chair: Mohamed Ndaoud

Room: Akamas C

9:00 **Coding convex bodies under Gaussian noise, and the Wills functional**
Jaouad Mourtada

9:30 **Robust leave-one-out cross-validation for high-dimensional Bayesian models**
Giacomo Zanella

10:00 **All-In-One Robust Estimator of the Gaussian Mean**
Arshak Minasyan

10:30 **Outlier detection in networks**
Olga Klopp, Geneviève Robin, Solenne Gaucher

Recent advances in change point and time series problems in high dimensions

Organiser: Hira Koul & Zhou Zhou

Chair: Liudas Giraitis

Room: Aphrodite A

9:00 **High-dimensional changepoint estimation with heterogeneous missingness**
Tengyao Wang, Bertille Follain, Richard Samworth

9:30 **Multiple change-points detection in generalized linear models**
Yuehua Wu

10:00 **Empirical process theory for stochastic processes using the functional dependence measure**
Stefan Richter

10:30 **Time-Varying Instrumental Variable Estimation**
Liudas Giraitis, George Kapetanios, Massimiliano Marcellino

Recent contributions in statistical analysis of nonstationary processes

Organiser: Anna Dudek

Chair: Anna Dudek

Room: Aphrodite B

9:00 **Some contributions to harmonizable time series analysis**
Jean-Marc Freyermuth



09:30 **Spectral Non-linear Granger Causality**

Hernando Ombao

10:00 **Spectral density estimation for nonstationary data with nonzero mean function**

Anna Dudek, Lukasz Lenart

Some recent advances in estimation and inference for complex data models

Organiser: Moulinath Banerjee

Chair: Moulinath Banerjee

Room: Christian Barnard

9:00 **Unlinked monotone regression**

Charles Doss, Fadoua Balabdaoui, Cécile Durot

9:30 **A General Modeling Framework for Network Autoregressive Processes**

George Michailidis

10:00 **Fast Network Community Detection with Profile-Pseudo Likelihood Methods**

Ji Zhu

Computer-intensive methods and dependent data

Organiser: Dimitris Politis

Chair: Dimitris Politis

Room: Leda

9:00 **Estimation and inference via the integrated copula spectrum**

Holger Dette, Stanislav Volgushev, Tobias Kley, Marc Hallin, Yuichi Goto, Ria Van Hecke

9:30 **Bootstrap for Dynamical Systems** Kasun Fernando, *Nan Zou*

10:00 **High-dimensional Change-point Detection Using Generalized Homogeneity Metrics**

Xianyang Zhang, Shubhadeep Chakraborty

10:30 **Rate of convergence in regenerative bootstrap**

Patrice Bertail, François Portier

Recent advances in semiparametric inference

Organiser: Christophe Ley

Chair: Olivier Thas

Room: Athena

9:00 **Experiences with the super learner**

Thomas Alexander Gerds

09:30 **Using Laguerre Polynomials in Semiparametric Estimation with an Application to Quantile Regression and Epidemics**

Alexander Kreiss, Ingrid Van Keilegom

10:00 **Semi-parametric quantile regression**

Anneleen Verhasselt, Ewnetu Worku, Irène Gijbels

10:30 **Semiparametric Methods for Covariate Adjustment for GPC Effect Sizes**

Olivier Thas

11:00 - 11:30 Coffee Break

11:30 - 12:30 Keynote Talk: Richard A. Davis

Chair: Dimitris Politis

Room: Akamas A

Statistical Learning of Multivariate Extremes



12:30 - 13:30 Lunch Break

13:30 - 15:30 Invited Paper Session 4

Recent advances in change point analysis and high-dimensional time series

Organiser: George Michailidis

Chair: George Michailidis

Room: Akamas A

13:30 **Estimation of High-Dimensional Markov-Switching VAR Models with an Approximate EM Algorithm**

Ali Shojaie, Xiudi Li, Abolfazl Safikhani

14:00 **Two-sample tests for relevant differences in the eigenfunctions of covariance operators**

Alexander Aue, Holger Dette, Gregory Rice

14:30 **Frequency-domain graphical models for multivariate time series**

Sumanta Basu

15:00 **Robust change point and change plane estimation in fixed and growing dimensions under heavy tailed errors**

Moulinath Banerjee

Recent innovations in Bayesian Nonparametrics

Organiser: Subhashis Ghoshal

Chair: Subhashis Ghoshal

Room: Akamas C

13:30 **Bayesian mode estimation and rate acceleration through a two-stage procedure**

William Weimin Yoo

14:00 **Characterization and Bayesian estimation of sparse regression parameters under linear inequality constraints**

Anindya Roy

14:30 **Bayesian sensitivity analysis for a missing outcomes model**

Stephanie van der Pas, Bart Eggen, Aad van der Vaart

Nonparametric approaches in Econometrics

Organiser: Enno Mammen

Chair: Enno Mammen

Room: Aphrodite A

13:30 **Flexible Covariate Adjustments in Regression Discontinuity Designs**

Claudia Noack, Christoph Rothe, Tomasz Olma

14:00 **Multiplicative Deconvolution In a Bivariate Stochastic Volatility Model**

Sergio Brenner Miguel

14:30 **Square-root-2 estimation for smooth eigenvectors of matrix-valued functions**

Giovanni Motta, Wei Biao Wu, Mohsen Pourahmadi

15:00 **Estimation of Group Structures in Individual Fixed Effects Models**

Enno Mammen, Ralf Wilke, Kristina Zapp

Resampling methods in non-standard situations

Organiser: Patrice Bertail

Chair: Patrice Bertail

Room: Aphrodite B

13:30 **Parameters on the boundary in predictive regression**

Iliyan Georgiev, Giuseppe Cavaliere

14:00 **General M-Estimator Processes and their m out of n Bootstrap with Functional Nuisance Parameters.**

Anouar Abdeldjaoued Ferfache



14:30 **Bootstrap on Null-recurrent Markov Chains**

Carlos Fernández

15:00 **Model-free Bootstrap and Conformal Prediction in Regression**

Dimitris Politis, Yiren Wang

Advances in functional data analysis

Organiser: Siegfried Hörmann

Chair: Siegfried Hörmann

Room: Christian Barnard

13:30 **Relative perturbation bounds with applications to empirical covariance operators**

Johannes Moritz Jirak

14:00 **Fast and Fair Simultaneous Confidence Bands for Functional Parameters**

Dominik Liebl

14:30 **Estimation of Functional ARMA Models**

Thomas Kuenzer

15:00 **On optimal prediction of missing functional data with memory**

Germain Van Bever, Lauri Viitasaari, Pauliina Ilmonen, Tommi Sottinen, Nourhan Shafik

New frontiers in network data analysis

Organiser: Marianna Pensky & Srijan Sengupta

Chair: Marianna Pensky

Room: Leda

13:30 **Partially-Exchangeable Multilayer Stochastic Block Models**

Daniele Durante, Francesco Gaffi, Antonio Lijoi, Igor Prünster

14:00 **Population-level Balance in Signed Networks**

Ji Zhu

14:30 **A nonparametric test of co-spectrality in networks**

Srijan Sengupta

15:00 **Discovering underlying dynamics in time series of networks**

Avanti Athreya, Zachary Lubberts, Youngser Park, Carey Priebe

Density and regression estimation under non standard conditions

Organiser: Valentin Patilea

Chair: Valentin Patilea

Room: Athena

13:30 **Empirical Risk Minimization under Random Censorship**

Stephan Clemençon

14:00 **Partly Linear Instrumental Variables Regression Without Smoothing on the Instruments**

Elia Lapenta, Jean-Pierre Florens

14:30 **Improved estimation of semiparametric cure regression models via presmoothing**

Eni Musta, Ingrid Van Keilegom, Valentin Patilea

15:00 **Semiparametric efficiency under identifiability constraints**

Mélanie Zetlaoui

15:30 - 16:00 Coffee Break



16:00 - 18:00 Invited Paper Session 5

New nonparametric and semiparametric methods on learning data with complex structures

Organiser: Wen Zhou

Chair: Chao Zheng

Room: Akamas A

16:00 **Confidence sets for Causal Discovery**

Mladen Kolar

16:30 **Data Integration Via Analysis of Subspaces (DIVAS)**

Jan Hannig

17:00 **Generalized dynamic factor models for spatio-temporal random fields on a network**

Chao Zheng

Expanding Statistical Frontiers with Nonparametric Methods

Organiser: Tanya Garcia

Chair: Tanya Garcia

Room: Akamas C

16:00 **Nonparametric instrumental regression with right censored duration outcomes**

Ingrid Van Keilegom, Jad Beyhum, Jean-Pierre Florens

16:30 **Robust and Efficient Estimation under Nonignorable Missing Response**

Yanyuan Ma

17:00 **Covariance and phase recovery for multivariate time series**

Irène Gannaz, Sophie Achard

17:30 **Bayesian variable selection based on empirical likelihood for ultra-high dimensional data**

Xinlei Wang, Can Xu, Yichen Cheng

New perspectives on nonparametric estimation of intensity and density functions

Organiser: Maria Dolores Martinez-Miranda

Chair: Maria Dolores Martinez-Miranda

Room: Aphrodite A

16:00 **Statistical learning for general point processes and applications to intensity and density estimation**

Christophe A.N. Biscio, Ottmar Cronie, Mehdi Moradi

16:30 **The modal age of Statistics**

José E. Chacón

17:00 **Kernel estimation methods beyond planar point processes**

Maria Isabel Borrajo García

17:30 **Superefficient estimation of future conditional hazards based on marker information**

Alex Isakson, Jens Nielsen, Enno Mammen, Cécile Proust-Lima

Financial Econometrics

Organiser: Genaro Sucarrat

Chair: Genaro Sucarrat

Room: Aphrodite B

16:00 **Inference on multiplicative component GARCH without any small-order moment**

Christian Francq, Baye Matar Kandji, Jean-Michel Zakoian

16:30 **Testing hypotheses on the innovations distribution in semi-parametric conditional volatility models**

Jean-Michel Zakoian, Christian Francq



- 17:00 **Subgeometrically ergodic autoregressions with autoregressive conditional heteroskedasticity**
Mika Meitz, Pentti Saikkonen
- 17:30 **Robust estimation and inference for time-varying unconditional volatility** Rickard Sandberg, Genaro Sucarrat

Nonparametric estimation

Organiser: Alexander Goldenshluger

Chair: Alexander Goldenshluger

Room: Christian Barnard

- 16:00 **Semi-parametric Bernstein-von Mises theorem for densities with jump under a mixture prior**
Natalia Bochkina, Judith Rousseau, J.-B. Salomond, Johan van der Molen Moris
- 16:30 **Statistical guarantees for high dimensional generative models**
Arnak Dalalyan, Victor-Emmanuel Brunel, Nicolas Schreuder
- 17:00 **Semiparametric estimation of McKean-Vlasov SDEs**
Denis Belomestny, Vytaute Pilipauskaite, Mark Podolskij
- 17:30 **Semiparametric ordered inference for conditional distributions**
Ori Davidov

Statistical methodology for complex and heterogeneous data

Organiser: Alexander Aue

Chair: Alexander Aue

Room: Leda

- 16:00 **Graphical models for nonstationary time series**
Suhasini Subbarao, Sumanta Basu
- 16:30 **Preprocessing functional data by a factor model approach**
Siegfried Hörmann, Fatima Jammoul
- 17:00 **Bootstrapping Spectral Statistics in High Dimensions**
Miles Lopes, Andrew Blandino, Alexander Aue
- 17:30 **Functional Sequential Treatment Allocation**
David Preinerstorfer, Anders Bredahl Kock, Bezirgen Veliyev

Exotic Testing and Inverse Problems

Organiser: Robert Mnatsakanov

Chair: Robert Mnatsakanov

Room: Athena

- 16:00 **What is the resolution of a microscope?**
Frank Werner
- 16:30 **Goodness of Fit Testing for Point Processes in Survival Analysis**
Umut Can, Roger Laeven, Estate Khmaladze
- 17:00 **Identification of convex polygons and non-negative probability measures on convex polygons from moment data**
Farhad Jafari, Robert Mnatsakanov, Satwik Pani
- 17:30 A unified method of estimation in some statistical inverse problems
Robert Mnatsakanov

18:15 - 19:15 General Meeting

Room: Akamas A



9:00 - 10:00 Keynote Talk: Aurore Delaigle

Chair: Marianna Pensky

Room: Akamas A

Estimation of the Distribution of Episodically Consumed Foods Measured with Error

10:00 - 11:00 Contributed Paper Session 2

Censored and missing data

Chair: Amichai Painsky

Room: Akamas A

10:00 **Nonparametric survival estimation with missing not at random censoring indicators**

Mikael Escobar-Bach, Olivier Goudet

10:20 **The mean, variance and correlation for bivariate recurrent event data with a terminal event**

Frank Eriksson

10:40 **Seeing the Unseen - a New Scheme for Missing Mass Estimation**

Amichai Painsky

High-dimensional data Chair: Nicolas Tavernier

Room: Akamas C

10:00 **Exponential bounds for regularized Hotelling statistics in high dimension**

El Mehdi Issouani, Patrice Bertail, Emmanuelle Gautherat

10:20 **Quantile LASSO with changepoints in panel data models**

Matus Maciak

10:40 **Nonlinear shrinkage estimation of large-dimensional covariance matrices using splines**

Nicolas Tavernier, Geert Dhaene

Copulas

Chair: Amitava Mukherjee

Room: Aphrodite A

10:00 **Tests of constant conditional dependence structures over partition sets**

Jean-David Fermanian, Alexis Derumigny, Aleksey Min

10:20 **Variable clustering using divergence type of dependence measures between random vectors**

Steven De Keyser, Irène Gijbels

10:40 **Nonparametric Surveillance of Unknown Structural Dependence in High-Dimensional Processes using Pseudo Copula and Eigenvectors – A Computational Approach**

Amitava Mukherjee

Screening and classification Chair: Dragan Radulovic

Room: Aphrodite B

10:00 **Novel nonparametric specification tests for additive concurrent model formulation**

Laura Freijeiro-González, Manuel Febrero-Bande, Wenceslao González-Manteiga

10:20 **Nonparametric Screening and Selection in presence of dependence among predictors with applications to environmental pollutants**

Sanjib Basu

10:40 **Accelerated Random Search for Weighted Nearest Neighbors**

Dragan Radulovic



Ranks and permutations Chair: Niels Olsen

Room: Leda

10:00 **A comparison of statistical methods for analyzing longitudinally measured ordinal outcomes in rare diseases**
Martin Geroldinger, Johan Verbeeck, Konstantin Emil Thiel, Geert Molenberghs, Arne Bathke, Georg Zimmermann

10:20 **Anomaly Detection for a Large Number of Streams: A Permutation/Rank-Based Higher Criticism Approach**
Ivo V. Stoepker, Rui M. Castro, Ery Arias-Castro, Edwin R. van den Heuvel

10:40 **Confidence regions for univariate and multivariate data using permutation tests**
Niels Olsen

Functional & Clustered Data

Chair: Tomas Masak

Room: Athena

10:00 **Convolutional Networks and Tensor Product ANOVA Smoothing Splines**
Zaid Harchaoui, Meyer Scetbon

10:20 **Nonparametric regression with clustered observations**
Stanislav Anatolyev

10:40 **Inference and Computation for Sparsely Sampled Random Surfaces**
Tomas Masak

Time series

Chair: Carina Beering

Room: Zeus

10:00 **Fully data-driven non-parametric estimation of Toeplitz covariance matrices**
Karolina Klockmann

10:20 **A Test of Independence for Locally Stationary Processes Using a Weighted Characteristic Function- based Distance**
Carina Beering

11:00 - 11:30 Coffee Break

11:30 - 12:30 Special Invited Talk: Victor Chernozhukov

Chair: Ingrid Van Keilegom

Room: Akamas A

Long Story Short: Omitted Variable Bias in Causal Machine Learning

12:30 - 13:30 Lunch Break

16:00 - 22:00 Excursion & Conference Dinner



9:00 - 11:00 Invited Paper Session 6

New issues in deconvolution problems

Organiser: Clément Marteau

Chair: Clément Marteau

Room: Akamas A

9:00 **Adaptive minimax testing for circular convolution**

Sandra Schluttenhofer, Jan Johannes

9:30 **Deconvolution for some singular density errors with respect to the L1 loss**

Mathieu Sart

10:00 **Rate optimal estimation of quadratic functionals in inverse problems with partially known operator**

Martin Kroll

Statistics under nonstationarity

Organiser: Anne Leucht

Chair: Anne Leucht

Room: Akamas C

9:00 **Poisson Network Autoregression**

Konstantinos Fokianos, Mirko Armillotta

9:30 **Bootstrap for integer-valued GARCH(p,q) processes**

Michael Neumann

10:00 **Bootstrap confidence bands for the mean and covariance kernel of Banach space valued functional data**

Melanie Birke, Christoph Reihl

10:30 **Learning to reflect**

Lukas Trottnner

Topics in Econometrics: partial identification, boundary-adaptive kernel density estimation, and more TBA

Organiser: Jeff Racine

Chair: Jeff Racine

Room: Aphrodite A

09:00 **Estimating High Dimensional Monotone Index Models by Iterative Convex Optimization 1**

Shakeeb Khan, Xiaoying Lan, Elie Tamer

On Optimal Set Estimation for Partially Identified Binary Choice Models

Shakeeb Khan, Tatiana Komorova, Denis Nekipelou

09:30 **Dynamic Ordered Panel Logit Models**

Chris Muris, Bo Honoré, Martin Weidner

10:00 **Time-Varying Linear Transformation Models with Fixed Effects and Endogeneity for Short Panels**

Irene Botosaru, Chris Muris, Senay Sokullu

10:30 **Boundary-Adaptive Kernel Density Estimation - Empirical Support Kernels and Cross-Validation: The Curious Case of the Uniform Density**

Jeffrey Racine, Qi Li



New developments in rank-based methods

Organiser: Michele La Rocca

Chair: Valeria Vitelli

Room: Aphrodite B

- 09:30 **Avoiding Degeneracies in Ordinal Unfolding Using Kemeny-Equivalent Dissimilarities for Two-Way Two-Mode Preference Rank Data**

Antonio D'Ambrosio

- 09:30 **Permutation testing for thick data when the number of variables is much greater than the sample size**
Patrick Langthaler, Riccardo Ceccato, Arne Bathke, Rosa Arboretti, *Luigi Salmaso*

- 10:00 **Ranks or Pseudo-Ranks? Some practical considerations**

Georg Zimmermann, Arne C. Bathke

- 10:30 **Pseudo-Mallows for Efficient Probabilistic Preference Learning**

Valeria Vitelli

New frontiers in network data analysis

Organiser: Marianna Pensky & Srijan Sengupta

Chair: Srijan Sengupta

Room: Christian Barnard

- 09:00 **Clustering of Diverse Multiplex Networks**

Marianna Pensky

- 9:30 **Avoiding a popularity contest: network clustering with the random walk Laplacian**

Alexander Modell

- 10:00 **Pseudo-likelihood-based M-estimation of networks with dependent connections and parameter vectors of increasing dimension**

Michael Schweinberger, Jonathan R. Stewart

Advances in semiparametric and nonparametric copula-based inference

Organiser: Irène Gijbels

Chair: Irène Gijbels

Room: Leda

- 9:00 **Bernstein estimators for conditional copulas and their derivatives**

Noel Veraverbeke

- 9:30 **A universal representation of statistical dependence**

Gery Geenens

- 10:00 **Kernel estimation of copulas for circular distributions**

Jose Ameijeiras-Alonso, Irène Gijbels

- 10:30 **Flexible multivariate distributions with central symmetry**

Jonas Baillien, Irène Gijbels, Anneleen Verhasselt

Nonparametric statistics and geometry

Organiser: Athanasios Georgiadis

Chair: Athanasios Georgiadis

Room: Athena

- 9:00 **Nonparametric estimation of covariance and autocovariance operators on the sphere**

Alessia Caponera, Julien Fageot, Matthieu Simeoni, Victor M. Panaretos

- 9:30 **Density estimation on manifolds or more general metric spaces**

Galatia Cleanthous, A..G. Georgiadis, G. Kerkycharian, P. Petrushev, D. Picard

- 10:00 **On high-frequency limits of U-statistics in Besov spaces over compact manifolds**

Claudio Durastanti, Domenico Marinucci, Xiaohong Lan

- 10:30 **On the rate of estimation for the invariant density of stochastic differential equations.**

Chiara Amorino, Arnaud Gloter



11:00 - 11:30 Coffee Break

11:30 - 12:30 Keynote Talk: Martin Wainwright

Chair: Alexander Goldenshluger

Room: Akamas A

Non-parametric estimation for reinforcement learning

12:30 - 13:30 Lunch Break

13:30 - 15:30 Invited Paper Session 7

Nonparametric Testing

Organiser: Miguel Delgado

Chair: Miguel Delgado

Room: Akamas A

13:30 **On the T-test**

Sergei. Novak

14:00 **Robust Inference On Infinite And Growing Dimensional Time Series Regression**

Abhimanyu Gupta, Myung Hwan Seo

14:30 **Debiased Semiparametric U-Statistics With an Application to Inequality of Opportunity**

Juan Carlos Escanciano

15:00 **Pearson Tests for Conditional Distributions.**

Miguel A Delgado, Julius Vainora

Modern challenges in structured time series data

Organiser: Yi Yu

Chair: Yi Yu

Room: Akamas C

13:30 **Adversarially robust change point detection**

Mengchu Li, Yi Yu

14:00 **Network Estimation by Mixing: Adaptivity and More**

Can Le, Tianxi Li

14:30 **Random Subspace Ensemble**

Yang Feng

15:00 **Optimal partition recovery: from chain graphs to lattices then general graphs.**

Yi Yu

Nonparametric random coefficient regression Organiser: Hajo Holzmann

Chair: Hajo Holzmann

Room: Aphrodite A

13:30 **Rate-optimal nonparametric estimation for random coefficient regression models**

Hajo Holzmann, *Alexander Meister*

14:00 **Random coefficients when regressors have limited variation** *Christophe Gaillac, Eric Gautier*

14:30 **Tests for Qualitative Features in the Random Coefficients Model**

Katharina Proksch, Fabian Dunker, Konstantin Eckle, Johannes Schmidt-Hieber

15:00 **Varying Random Coefficient Models**

Christoph Breunig



New developments of semi- and nonparametric methods in biostatistics

Organiser: Ronghui Xu

Chair: Ronghui Xu

Room: Aphrodite B

- 13:30 **Statistical modelling of COVID-19 data: Putting generalised additive models to work**

Ursula Berger

- 14:00 **Doubly Robust Estimation under the Marginal Structural Cox Model for a Binary Treatment**

Denise Rava, Ronghui Xu, Jelena Bradic

- 14:30 **Semiparametric Estimation for Non-randomly Truncated Data**

Ronghui Xu, Yuyao Wang, Andrew Ying

OODA: Trees and Graph Structured Objects

Organiser: Steve Marron

Chair: Steve Marron

Room: Christian Barnatd

- 13:30 **Regression Model with Unlabelled Network Response on Graph Space.**

Anna Calissano, Aasa Feragen, Simone Vantini

- 14:00 **Manifold valued data analysis of samples of Networks**

Katie Severn, Ian Dryden, Simon Preston

- 14:30 **Null hypothesis testing for network-valued data with a multiscale approach: analysis of brain networks of patients with autism.**

Alessia Pini, Ilenia Lovato, Stamm Aymeric, Maxime Taquet, Simone Vantini

- 15:00 **Finite sample smeariness of Fréchet means on manifolds**

Stephan Huckemann, Benjamin Eltzner, Shayan Hundrieser

Data Analysis on Stratified Spaces with applications to SARSCov2 RNA analysis

Organiser: Vic Patrangenaru

Chair: Vic Patrangenaru

Room: Leda

- 13:30 **Wald Space for Statistics of Phylogenetic Trees**

Jonas Lueg, Stephan F. Huckemann, Tom M. W. Nye, Maryam K. Garba

- 14:00 **Investigating Two Possible Origins of SARS-CoV-2: an RNA Analysis on Tree Spaces**

Roland Moore, Victor Patrangenaru, Adam Dixon

- 14:30 **CLT on Stratified Spaces with an example of phylogenies of SARS-CoV-2 data**

Vic Patrangenaru, Chen Shen

Statistical Inference in Models with Functional Data

Organiser: Wenceslao Gonzalez Manteiga

Chair: Pedro Galeano

Room: Athena

- 13:30 **Bootstrap test for the equality of distributions in separable Hilbert spaces**

Ana Colubi, Gil Gonzalez-Rodriguez, Wenceslao Gonzalez-Manteiga, Manuel Febrero-Bande

- 14:00 **On the complexity index of a functional time series**

Kwo Lik (Lax) Chan, Aldo Goia, Enea Bongiorno

- 14:30 **A goodness-of-fit test for functional time series with applications to diffusion processes**

Javier Alvarez-Liéban, Wenceslao González-Manteiga, Alejandra López-Pérez, Manolo Febrero-Bande

- 15:00 **Goodness-of-fit tests for the functional linear model with scalar response with responses missing at random**

Manuel Febrero-Bande, Pedro Galeano, Eduardo García-Portugués, Wenceslao González-Manteiga



15:30 - 16:00 Coffee Break

16:00 - 18:00 Invited Paper Session 8

Nonparametric approaches in survival analysis

Organiser: Ingrid Van Keilegom

Chair: Ingrid Van Keilegom

Room: Akamas A

16:00 **Instrumental variable estimation of dynamic treatment effects on a survival outcome**

Jad Beyhum, Samuele Centorrino, Jean-Pierre Florens, Ingrid Van Keilegom

16:30 **A new lack-of-fit test for censored quantile regression models when the covariate is high-dimensional**

Mercedes Conde-Amboage, Ingrid Van Keilegom, Wenceslao González-Manteiga

17:00 **Causal inference for semi-competing risks data**

Daniel Nevo, Malka Gorfine

Bayesian Nonparametrics: theory and computation

Organiser: Sergios Agapiou

Chair: Sergios Agapiou

Room: Akamas C

16:00 **Complexity of coordinate-wise inference algorithms for crossed random effects**

Omiros Papaspiliopoulos, Giacomo Zanella, Swanardip Ghosh

16:30 **A Bayesian Nonparametrics Analysis of Finite Element and Graphical Representations of Gaussian Processes**

Daniel Sanz-Alonso, Ruiyi Yang

17:00 **A unified construction for series representations and finite approximations of completely random measures.**

Xenia Miscouridou

17:30 **Linear methods for non-linear inverse problems**

Botond Szabo, Aad van der Vaart, Geerten Koers

Recent advances in nonparametric and semiparametric statistics

Organiser: Lan Wang

Chair: Irène Gijbels

Room: Aphrodite A

16:00 **Clustering on the Sphere: State-of-the-art and a Poisson kernel-based method**

Marianthi Markatou

16:30 **"Flexible Semi-Parametric Gaussian Process Classification".**

Dipak Dey, Zhiyong Hu

17:00 **Gaussian copulas adjusted for non- and semi-parametric regression**

Irène Gijbels, Yue Zhao, Ingrid Van Keilegom

Statistical Topological Data Analysis and Geometric Inference

Organiser: Johannes Krebs

Chair: Daniel Rademacher

Room: Aphrodite B

16:00 **Goodness-of-fit tests for spatial tessellations based on the persistence diagram**

Christian Hirsch, Johannes Krebs, Claudia Redenbach

16:30 **Large deviation principle for geometric and topological functionals and associated point processes**

Takashi Owada, Christian Hirsch

17:00 **Statistical Query Complexity of Manifold Estimation**

Eddie Aamari

17:30 **Topological Inference via Bootstrap Resampling**

Benjamin Roycraft



Extremes and Machine Learning

Organiser: Anna Kiriliouk
 Chair: Ioannis Papastathopoulos
 Room: Christian Barnard

16:00 **Extreme value statistics in semi-supervised models**
John Einmahl

16:30 **Bayesian semi-parametric modeling of jointly heteroscedastic extremes**
Karla Vianey Palacios Ramirez

17:00 **Extreme conditional expectile estimation in heavy-tailed heteroscedastic regression models**
Gilles Stupfler, Stéphane Girard, Antoine Usseglio-Carleve

Analysis of high-dimensional complex data

Organiser: Eugen Pircalabelu
 Chair: Eugen Pircalabelu
 Room: Leda

16:00 **Sufficient Dimension Reduction for high-dimensional settings**
Andreas Artemiou, Eugen Pircalabelu

16:30 **Stationary Subspace Analysis - A Statistical Perspective**
Klaus Nordhausen, Lea Flumian, Markus Martilainen

17:00 **Inference for the explained Gini coefficient: a penalized bootstrap procedure**
Alexandre Jacquemain, Cédric Heuchenne, Eugen Pircalabelu

17:30 **The Completion Of Covariance Kernels**
Kartik Waghmare

Topics in nonparametric inference and estimation

Organiser: Hira L. Koul & Indeewara Perera
 Chair: Indeewara Perera
 Room: Athena

16:00 **Testing for Restricted Stochastic Dominance under Survey Nonresponse with Panel Data**
Rami Tabri, Matthew Elias

16:30 **Seasonal Cyclical Models**
Natalia Bailey, Karim Abadir, Walter Distaso, Liudas Giraitis

17:00 **Optimal bias correction of the log-periodogram estimator of the fractional parameter: A jackknife approach**
Kanchana Nadarajah, Gael M Martin, Donald S Poskitt

17:30 **Specification tests for GARCH processes with nuisance parameters on the boundary**
Indeewara Perera

18:15 - 19:15 Poster Session – Room: Foyer

- Bounding the error of discretized Langevin algorithms for non-strongly log-concave targets, Arnak Dalalyan, Lionel Riou-Durand, *Avetik Karagulyan*
- Bayesian Nonparametric Methods for Comparative Judgement Models and Vulnerability Estimation in Developing Countries
Rowland Seymour, David Sirl, Simon Preston, James Goulding, Madeleine Ellis
- Mean Shrinkage Estimation for Diagonal Multivariate Natural Exponential Families
Nikolas Siapoutis, Bharath Sriperumbudur, Donald Richards
- A Gaussian model for survival data subject to dependent censoring and confounding
Gilles Crommen, Jad Beyhum, Ingrid Van Keilegom
- Advances in Multi-Output Quantile Regression
Miroslav Siman
- Partially linear additive models on symmetric positive-definite matrices and Lie groups
Changwon Choi, Byeong Uk Park, Zhenhua Lin
- Reconstruction of discretely sampled functional data with missing values Siegfried Hörmann, *Maximilian Ofner*



9:00 - 10:00 Special Invited Talk: Gabor Lugosi

Chair: Omiros Papaspiliopoulos
Room: Akamas A

Problems in network archaeology: root finding and broadcasting

10:00 - 11:00 Contributed Paper Session 3

Nonparametric regression

Chair: Leonie Selk
Room: Akamas C

10:00 **Nonparametric tests to detect trends based on theory of records. An application to the analysis of climate change**
Ana C Cebrian, Jorge Castillo, Jesús Asín

10:20 **Panel nonparametric regression with tensorial long short-term memory recurrent neural networks**
Andrej Srakar

10:40 **Nonparametric Regression and Classification with Functional, Categorical, and Mixed Covariates**
Leonie Selk, Jan Gertheiss

Survival analysis II

Chair: Ali Shariati
Room: Aphrodite A

10:00 **Instrumental variable quantile regression under random right censoring**
Lorenzo Tedesco, Jad Beyhum, Ingrid Van Keilegom

10:20 **Single-index mixture cure models. An application to a study of cardiotoxicity in breast cancer patients.**
Beatriz Piñeiro Lamas, Ricardo Cao, Ana López Cheda

10:40 **A Goodness-of-fit Test with Length-biased Data**
Ali Shariati, Vahid Fakoore, Mahboobeh Akbari

Statistical inference in complex models

Chair: Yann Issartel
Room: Aphrodite B

10:00 **Geometric-Median-of-Means in Non-Positive Curvature Spaces**
Ho Yun, Byeong Uk Park

10:20 **Bootstrap inference in functional linear regression models with scalar response**
Hyemin Yeon, Danieal Nordman, Xiongtao Dai

10:40 **The Seriation and 1D-localization problems in latent space models.**
Yann Issartel

Directional data Chair: Diego Bolon

Room: Christian Barnard

10:00 **Nonparametric regression estimation for a functional-circular model**
Andrea Meilan-Vila, Rosa M. Crujeiras, Mario Francisco-Fernández

10:20 **Nonparametric multimodal regression for a circular response**
Maria Alonso-Pena, Rosa M. Crujeiras

10:40 **A hybrid method for estimating highest density regions of directional data**
Diego Bolón, Rosa M. Crujeiras, Alberto Rodríguez-Casal



Robust Statistics II

Chair: Markus Neuhaeuser
Room: Leda

10:00 **Computation of the halfspace depth regions – exact algorithm**
Petra Laketa, Stanislav Nagy, Vit Fojtik, Pavlo Mozharovskyi

10:20 **Usefulness of the square-root allocation rule for many-to-one comparisons under non-normality**
Markus Neuhaeuser

11:00 - 11:30 Coffee Break

11:30 - 12:30 Contributed Paper Session 4

Permutation tests

Chair: Nick Koning
Room: Akamas C

11:30 **Time series comparisons: a permutation approach**
Stefano Bonnini, Michela Borghesi

11:50 **More Efficient Exact Permutation Tests**
Nick Koning, Jesse Hemerik

Change point analysis

Chair: Florian Pein
Room: Aphrodite A

11:30 **Semiparametric Detection of Changepoints in Location, Scale and Copula**
Gaurav Agarwal, Idris Eckley, Paul Fearnhead

11:50 **NP-FOCuS: a Nonparametric Approach for Online Changepoint Detection**
Gaetano Romano, Idris Eckley, Paul Fearnhead

12:10 **Cross-validation for change-point regression: pitfalls and solutions**
Florian Pein

Robust statistics III

Chair: Ragnhild Laursen
Room: Aphrodite B

11:30 **Robust estimation of a regression function in exponential families**
Juntong Chen

11:50 **Robust estimation of non-negative matrix factorization for mutational signatures using a flexible parametrization**
Ragnhild Laursen, Asger Hobolth, Lasse Maretty Sørensen

Applications of nonparametric inference

Chair: Prajamitra Bhuyan
Room: Christian Barnard

11:30 **Adaptive wavelet estimation of a latent variable model**
Andrej Srakar, Marilena Vecco

11:50 **Sales Forecasting with Weather Data using Fuzzy Natural Logic**
Tomas Tichy

12:10 **Analysing the causal effect of London cycle superhighways on traffic congestion**
Prajamitra Bhuyan, Emma McCoy, Haojie Li, Daniel Graham



Extreme values

Chair: Dora Prata Gomes
Room: Leda

- 11:30 **Semi-parametric weighted Hill estimators**
Frederico Caeiro, Ayana Mateus
- 11:50 **Nonparametric Asymptotic Confidence Intervals for Extreme Quantiles**
Samuel Maistre, Laurent Gardes
- 12:10 **Nonparametric resampling methods in the estimation of parameters of rare events**
Dora Prata Gomes, Helena Penalva, Sandra Nunes, Manuela Neves

12:30 - 13:30 Lunch Break

13:30 - 15:30 Invited Paper Session 9

Inference for Dependent Data

Organiser: Kostas Fokianos
Chair: Kostas Fokianos
Room: Akamas A

- 13:30 **High-Dimensional Mixed Models with Varying Coefficients and Functional Random Effects** Michael Law,
Ya'acov Ritov
- 14:00 **Monotonic Alpha-divergence Minimisation for Variational Inference**
Kamelia Daudel, Randal Douc, Francois Roueff
- 14:30 **Hold-out estimates of prediction models for Markov processes**
Joseph Rynkiewicz
- 15:00 **Testing for changes in the tail-index of Long Memory Stochastic Volatility time series**
Davide Giraudo, Annika Betken, Rafal Kulik

Nonparametric Approaches to Complex Data Problems

Organiser: Somnath Datta
Chair: Somnath Datta
Room: Akamas C

- 13:30 **A Bayesian nonparametric approach to causal mediation with multiple mediators**
Michael Daniels
- 14:00 **Structurally Sparse Bayesian Neural Networks**
Taps Maiti, Sanket Jantree, Shrijita Bhattacharya
- 14:30 **Semiparametric Analysis of Clustered Interval-Censored Survival Data using Soft Bayesian Additive Regression Trees**
Debajyoti Sinha, Piyali Basak, Antonio Linero
- 15:00 **Regression Analysis of a Future State Entry Time Distribution Conditional on a Past State Occupation in a Progressive Multistate Model**
Somnath Datta

Computational Statistics

Organiser: Stefan Sperlich
Chair: Stefan Sperlich
Room: Aphrodite A

- 13:30 **Nonparametric inference for big-but-biased data**
Ricardo Cao, Laura Borraro
- 14:00 **Local inference for data giants**
Gilles Cattani, Michael Scholz, Stefan Sperlich
- 14:30 **Multivariate nonparametric change point detection with Random Forests and other classifiers**
Solt Kovács, Malte Lonschien, Peter Bühlmann
- 15:00 **Sparse Deep Learning**
Johannes Lederer



Multivariate Non-Parametric Tests

Organiser: Simos Meintanis

Chair: Charl Pretorius

Room: Aphrodite B

13:30 **On the IPCW approach for testing independence**

Marija Cuparić, *Bojana Milošević*

14:00 **Optimal nonparametric testing of Missing Completely At Random, and its connections to compatibility**

Tom Berrett

14:30 **Inference procedures for models with multivariate elliptically symmetric stable Paretian laws**

Charl Pretorius, Simos Meintanis, John Nolan, Zhou Zhou

Functional estimation in Monte Carlo methods

Organiser: Sylvain Le Corff

Chair: Luc Lehericy

Room: Christian Barnard

13:30 **Diffusion Schrodinger Bridge and Score-Based Generative Modeling**

Valentin De Bortoli, James Thornton, Arnaud Doucet, Jeremy Heng

14:00 **Fundamental limits for learning hidden Markov model parameters**

Kweku Abraham, Elisabeth Gassiat, Zacharie Naulet

14:30 **Deconvolution with general and unknown noise distribution**

Luc Lehericy, Sylvain Le Corff, Elisabeth Gassiat

Stochastic networks, graphs, and random matrices

Organiser: Anirban Dasgupta

Chair: Eugen Pircalabelu

Room: Leda

13:30 **Efficiency Lower Bounds for Distribution-Free Nonparametric Tests Based on Optimal Transport**

Nabarun Deb, Bhaswar Bhattacharya, Bodhisattva Sen

14:00 **Network Regression and Supervised Centrality Estimation**

Junhui Cai, Dan Yang, Wu Zhu, Haipeng Shen, Linda Zhao

14:30 **Community detection on probabilistic graphical models with group-based penalties**

Gerda Claeskens, Eugen Pircalabelu

Recent advances in dimension reduction and functional data analysis

Organiser: Bing Li

Chair: Efstathia Bura

Room: Athena

13:30 **Statistical Inference For Functional Linear Quantile Regression**

Peijun Sang

14:00 **Nonparametric graphical models for high-dimensional functional data**

Eftychia Solea, Holger Dette

14:30 **Functional Single-Index Models and Gaussian Stein's Identity**

Bharath Sriperumbudur, Krishna Balasubramanian, Hans-Georg Mueller

15:00 **Sufficient dimension reductions for mixed predictors**

Efstathia Bura, Liliana Forzani, Pamela Llop, Rodrigo Garcia Arancibia, Diego Tomass