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The Alfried Krupp Wissenschaftskolleg is an academically independent institution sponsored by the Stiftung Alfried Krupp Kolleg.

Recently, there has been a lot of progress in change point analysis, but that also means that this statistical area becomes more diverse and fragmented. So the aim of the workshop is to bring together researchers with different perspectives, coming from mathematical statistics, computational statistics and biostatistics. It should provide the opportunity to discuss the present state of change point analysis and possible future research directions.

The Alfried Krupp Wissenschaftskolleg is an academically independent institution sponsored by the Stiftung Alfried Krupp Kolleg Greifswald. The Institute is intended to assist outstanding research and realize projects in interdisciplinary and international co-operation.

The initiative to establish the Alfried Krupp Wissenschaftskolleg came from the former Chairman of the Board of Trustees of the Alfried Krupp von Bohlen und Halbach-Stiftung, Professor Dr. h. c. mult. Berthold Beitz. Professor Beitz associated this initiative with the idea that an institute for advanced study in the Hanseatic and University city of Greifswald could assist Greifswald to become once again the „liberal, cosmopolitan centre for encounters in the Baltic Sea region" that it used to be for centuries. The Alfried Krupp Wissenschaftskolleg is committed to this goal and Alfried Krupp von Bohlen und Halbach's conviction that it is „a moral duty to enable one's neighbours to participate actively in the progress of knowledge".

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Change Point Detection

Limit Theorems, Algorithms, and Applications in Life Sciences

International Conference
8th July - 10th July 2019

Monday, 8th July 2019

9.00 am – 9.30 am
Opening and Welcome addresses by the academic coordinator of the Alfried Krupp Wissenschaftskolleg and the Scientific Chairs of the International Conference

9.30 am - 10.00 am
Change Point Detection by Distance Covariance Function
Konstantinos Fokianos (Lancaster)

10.00 am - 10.30 am
On asymptotic of p-variation of partial sums process
Alfredas Račkauskas (Vilnius)

10.30 am - 11.00 am
Coffee Break

11.00 am – 11.30 am
Testing for change-points in Long Memory Stochastic Volatility time series
Annika Betken (Bochum)

11.30 am – 12.00 pm
Testing structural breaks in large dynamic models
Zuzana Praskova (Prague)

12.00 pm – 12.30 pm
Change point detection in two-sample multivariate situations
Marie Hušková (Prague)

12.30 pm – 2.00 pm
Lunch Break

2.00 pm – 2.30 pm
Rationalization of detection of the multiple disorders
Krzysztof Szajowski (Wrocław)

2.30 pm – 3.00 pm
Multiple Change Point Estimation Based on Moving Sum Statistics
Claudia Kirch (Magdeburg)

3.00 pm – 3.30 pm
Multiple Changepoint Detection with Prior Information on the Changepoint Times
Robert Lund (Clemson)

3.30 pm – 4.00 pm
Coffee Break

4.00 pm – 4.30 pm
Segmentation of Time-Series with Dependence
Emilie Lebarbier (Paris)

4.30 pm – 5.00 pm
The Cross-Entropy Method for Multiple Change-Point Detection for Life Sciences Using Breakpoint R Package
Madawa W. Jayawardana (Swinburne)

5.00 pm – 5.30 pm
Robust change-point detection by the R-package robc
Roland Fried (Dortmund)

6.30 pm – 8.00 pm
Public Key Note Lecture
From Münchhausen to Einstein: Likelihood Approximations in Time Series Analysis
Claudia Kirch (Magdeburg)
Moderation: Professor Dr. Martin Wendler
Afterwards: Reception

Tuesday, 9th July 2019

9.00 am – 9.30 am
Multiple cusp estimation in regression models
Maik Döring (Hohenheim)

9.30 am – 10.00 am
Detecting possibly frequent change-points: Wild Binary Segmentation 2 and steepest-drop model selection
Piotr Fryzlewicz (London)

10.00 am – 10.30 am
Analysis of structural changes in a time series by order patterns
Christoph Bandt (Greifswald)

10.30 am – 11.00 am
Coffee Break

11.00 am – 11.30 am
Applying Bayesian modelling and inference for multiple change point detection in continuous time: a case study
Elja Arjas (Helsinki)

11.30 am – 12.00 pm
A Bayesian Circular Changepoint Method to Identify Changes in Daily Activity Levels
Rebecca Killick (Lancaster)

12.00 pm – 12.30 pm
Monitoring and Profiling of Quality in Hospitals
Johannes Rauh (Berlin)

12.30 pm – 2.00 pm
Lunch Break

2.00 pm – 2.30 pm
A statistical method to detect abrupt changes in trees
Guillem Rigaill (Paris)

2.30 pm – 3.00 pm
Change points in the network structure between high dimensional multivariate time series
Ivor Cribben (Alberta)

3.00 pm – 3.30 pm
Modeling Evolution of Spectral Properties in Stationary Processes of Varying Dimensions
Raanju Sundararajan (Thuwal)

3.30 pm – 4.00 pm
Coffee Break

4.00 pm – 4.30 pm
Bivariate change point detection - joint detection of changes in expectation or variance
Michael Messer (Frankfurt)

4.30 pm – 5.00 pm
Assessing time series stationary by combining change-point detection tests of different types
Ivan Kojadinovic (Pau)

5.00 pm – 6.00 pm
Poster Session

7.30 pm
Dinner at the Brasserie Hermann
Gützkower Straße 1, 17489 Greifswald

Wednesday, 10th July 2019

9.00 am – 9.30 am
Asymptotic delay time of sequential change-point procedures based on U-Statistics
Christina Stöhr (Magdeburg)

9.30 am – 10.00 am
The Essential Histogram for Discrete and Continuous Data
Housen Li (Göttingen)

10.00 am – 10.30 am
Structural breaks in nonparametric models via atomic pursuit methods
Matis Maciak (Prague)

10.30 am – 11.00 am
Coffee Break

11.00 am – 11.30 am
Consistent nonparametric change point detection combining CUSUM and marked empirical processes
Maria Mohr (Hamburg)

11.30 am – 12.00 pm
Changepoint estimation in a nonparametric time series regression model
Leonie Selk (Hamburg)

12.00 pm – 12.30 pm
Nuisance Parameters Free Changepoint Detection in Non-stationary Series
Michal Pesta (Prague)

12.30 pm – 2.00 pm
Lunch Break

2.00 pm – 2.30 pm
Change-point models in Mathematical Finance Series
Lioudmila Vostrikova (Angers)

2.30 pm – 3.00 pm
Change-point analysis for finding functional signals in genomes
Jonathan Keith (Melbourne)

3.00 pm – 3.30 pm
Summary and Closing