

# 26<sup>th</sup> European Meeting of Statisticians, Toruń 2006

## SCIENTIFIC PROGRAM

### Main Lectures

**Opening Lecture:**

Gareth ROBERTS, *Exact simulation and inference for diffusions*

**Forum Lectures:**

Søren JOHANSEN, *A survey of cointegration analysis*

**Closing Lecture:**

Friedrich GÖTZE, *Asymptotic statistics and geometry of numbers*



### Special Invited Speakers

Marie HUŠKOVÁ, *Recent results in change point analysis*

Tomasz ROLSKI, *The theory of fluid queues*

Thomas MIKOSCH, *Heavy tail modeling*

Brian RIPLEY, *Software for statistical developments*

Donatas SURGAILIS, *Estimation of nonstationary long memory*

Chris GLASBEY, *A statistical approach to image warping*

### Invited Paper Sessions

**Invited Paper Session I:** *Empirical Process Techniques for Dependent Data*

**Session organizer:** István BERKES

**Speakers:** Walter PHILIPP, *Entropy conditions for subsequences of random variables with applications to empirical processes*

Wei Biao WU, *Empirical processes of causal stationary sequences*

**Invited Paper Session II:** *Statistics in Geophysics*

**Session organizer:** Tilmann GNEITING

**Speakers:** Adrian RAFTERY, *Probabilistic weather forecasting*

Paul SWITZER, *Statistical investigations of general circulation models for the study of climate*

Hans WACKERNAGEL, *Geostatistical assimilation of geophysical data*

***Invited Paper Session III: Recent Developments in Time Series***

**Session organizer:** Rainer DAHLHAUS

**Speakers:** Katarzyna BLINOWSKA, *Directed transfer function and its application for study of brain activity*  
Michael EICHLER, *Graphical models and causal inference for multivariate time series*  
Qiwei YAO, *Modelling multivariate volatilities by common factors: an innovation expansion approach*

***Invited Paper Session IV: Network Tomography***

**Session organizer:** Bin YU

**Speakers:** Gang LIANG, *A partial measurement approach to network traffic matrix estimation*  
George MICHAILIDIS, *Network monitoring through active tomography techniques*  
Cun-Hui ZHANG, *Some network tomography and species problems*

***Invited Paper Session V: Lifetime Data Analysis***

**Session organizer:** Mei-Ling LEE

**Speakers:** Philippe BROET, *Modeling gene expression changes related to early and late relapse in curable disease*  
Mei-Ling LEE, *Threshold regression models*  
George WHITMORE, *Modeling low birth weights using threshold regression: results for U.S. birth data*

***Invited Paper Session VI: Non/Semiparametrics***

**Session organizer:** Guenter WALTHER

**Speakers:** Yannick BARAUD, *Estimating the intensity of a random measure*  
Wolfgang POLONIK, *Multidimensional mode hunting*  
Ingrid VAN KEILEGOM, *Estimation of a semiparametric transformation model*

***Invited Paper Session VII: Model Selection in Function Estimation***

**Session organizer:** Holger DETTE

**Speakers:** Gerda CLAESKENS, *Information criteria for model selection: from fully focussed to blind*  
Fabrice GAMBOA, *Estimation in a shifted regression model*  
Winfried STUTE, *Model diagnosis for parametric regression in high dimensional spaces*

***Invited Paper Session VIII: Spatio-Temporal Models***

**Session organizer:** Marie-Colette VAN LIESHOUT

**Speakers:** Richard CHANDLER, *Space-time modelling using independence and generalized estimating equations*  
Monica CHIOGNA and Carlo GAETAN, *Spatio-temporal modelling of epidemiological processes*  
Eva B. Vedel JENSEN, *Spatio-temporal point processes - with a view to modelling in neuroscience*

***Invited Paper Session IX: Particle Filtering***

**Session organizer:** François LE GLAND

**Speakers:** Fredrik GUSTAFSSON, *Marginalization issues in particle filtering*  
Jaroslav KRYSTUL, *Interacting Particle System approach for estimating rare events in large scale stochastic hybrid systems*  
Anastasia PAPAVASILIOU, *Particle filters and uniform convergence*

***Invited Paper Session X: Weakly Dependent Limit Theorems***

**Session organizer:** Paul DOUKHAN

**Speakers:** Jérôme DEDECKER, *Rates of convergence in the central limit theorem for the minimal  $L^1$  distance*  
Gabriel LANG, *Weak dependence, definitions and examples*  
Michael H. NEUMANN, *Probability and moment inequalities for sums of weakly dependent random variables*

***Invited Paper Session XI: Random Matrices***

**Session organizer:** Jacek WESOŁOWSKI

**Speakers:** Vyacheslav GIRKO, *Theory of random matrices and general statistical analysis of random arrays. Twenty years later*  
Mylene MAIDA, *Spherical integrals in the finite rank setting*  
Jack SILVERSTEIN, *Eigenvalues of large sample covariance matrices of spiked population models*

***Invited Paper Session XII: Spatial Statistics***

**Session organizer:** Julian BESAG

**Speakers:** Montserrat FUENTES, *Methods to approximate a spatial likelihood*  
Chris HOLMES, *Modelling of spatial gaussian processes via spectral decompositions*  
Rasmus WAAGEPETERSEN, *An estimating function approach to inference for inhomogeneous Neyman-Scott processes*

***Invited Paper Session XIII: Recent Developments in Extremes***

**Session organizer:** M. Ivette GOMES

**Speakers:** Laurens DE HAAN, *On spatial extremes and applications*  
M. Ivette GOMES, *Reduced bias tail and extremal index estimation*  
Manuel SCOTTO, *Extremes of integer valued moving average sequences*

***Invited Paper Session XIV: Data Mining***

**Session organizer:** Jorge MURUZÁBAL

**Speakers:** Paola CERCHIELLO, *Statistical methods for classification of unknown authors*  
Jorge MURUZÁBAL, *Mining general cooperative patterns with evolutionary algorithms*

***Invited Paper Session XV: Randomness in Dynamical Systems***

**Session organizer:** Manfred DENKER

**Speakers:** Mikhail GORDIN, *Limit theorems for dynamical systems: useful structures and tools*  
Dalibor VOLNY, *Martingale approximations of stationary processes*  
Benjamin WEISS, *Universal prediction for ergodic processes*

***Invited Paper Session XVI: Financial Time Series***

**Session organizer:** Claudia KLUEPPELBERG

**Speakers:** Peter BROCKWELL, *Continuous-time nonlinear models in finance*  
Ronald A. GALLANT, *A statistical inquiry into the plausibility of Epstein-Zin-Weil utility*  
Alexander LINDNER, *A continuous time GARCH process of higher order*

***Invited Paper Session XVII: Machine Learning***

**Session organizer:** Vladimir KOLTCHINSKII

**Speakers:** Gilles BLANCHARD, *Different generalization error bounds for Support Vector Machine*  
Pascal MASSART, *A nonasymptotic Wilks phenomenon*  
Alexandre TSYBAKOV, *Aggregation by mirror averaging*

***Invited Paper Session XVIII: MCMC Applications***

**Session organizer:** Chris HOLMES

***Invited Paper Session XVIII: MCMC Applications***

**Speakers:** Rob DEARDON, *Modelling the spatio-temporal dynamics of the UK 2001 foot-and-mouth epidemic*  
John FORSTER, *MCMC for Bayesian ordinal data modelling*  
John STEPHENSON, *Inferring 3-dimensional geological thermal histories using semi-automotive RJMCMC*

***Invited Paper Session XIX: Random Graphs and Algorithms***

**Session organizer:** Valentin KOLCHIN

**Speakers:** Mark JERRUM, *Sampling perfect matchings, contingency tables and related structures*  
Michał KAROŃSKI, *Random Intersection Graphs*  
Yuri PAVLOV, *The limit distributions of the certain characteristics of the web random graphs*

***Invited Paper Session XX: Statistics in Genome Sciences***

**Session organizer:** Olle NERMAN

**Speakers:** Matti PIRINEN, *Estimating genealogies from marker data: a Bayesian approach*  
Bernard PRUM, *Continuous and discrete HMM for genome analysis*  
Natalie P. THORNE, *Investigating Illumina's Bead Arrays: Statistical analyses of data from highly replicated, randomly arranged, bead-based microarrays*

***Invited Paper Session XXI: Empirical Process Applications***

**Session organizer:** Sara VAN DE GEER

**Speakers:** Michael KOSOROK, *Inference under right censoring for transformation models with a change-point based on a covariate threshold*  
Nicolas VAYATIS, *From classification to ranking: new challenges for statistical learning theory*  
Marten WEGKAMP, *Classification with reject option*

***Invited Paper Session XXII: Stein/Chen Method***

**Session organizer:** Sergey UTEV

**Speakers:** Andrew BARBOUR, *Stein's method and total variation approximation*  
Gesine REINERT, *Chi-square approximations with Stein's method*

***Invited Paper Session XXIII: Graphical and Algebraic Models for Multivariate***

**Session organizer:** Thomas RICHARDSON

**Speakers:** Mathias DRTON, *Binary Models for Marginal Independence*  
Seth SULLIVANT, *Sequential importance sampling for multiway tables*

***Invited Paper Session XXIV: Small Sample Problems***

**Session organizer:** Tomasz RYCHLIK

**Speakers:** Barry C. ARNOLD, *Parameter estimation in certain conditionally specified models*  
Erhard CRAMER, *Recent developments in progressive censoring*

**Contributed Paper Sessions**

Magdalena ALAMA-BUĆKO, *Construction of optimal confidence regions for location and scale basing on two order statistics*

Konrad BANACHEWICZ, *A flexible class of time-varying copulas for economic time series*

Sandor BARAN, *Mean estimation of the Wiener sheet*

Jacek BIAŁEK, *Average price dynamics - discrete and continuous time stochastic models*

Przemysław BIECEK, *Modeling and detecting two loci epistasis between QTLs*

Mariusz BIENIEK, *Bounds on expectations of differences of generalized order statistics*

Milena BIENIEK, *On entropies of random partitions of the unit segment*

Konstancja BOBECKA, *Characterizations related to neutrality of random probabilities*

Christine BOEHM, *The use of marginal structural models to deal with bias*

Rael BRAEKERS, *A conditional Koziol-Green model under dependent censoring*

Joanna BRUZDA, *Tests for LSTAR cointegration and joint tests for nonlinear cointegration with an application to exchange rates*

Mioara BUICULESCU, *Feller processes with fast explosion*

Joanna CHACHULSKA, *Bivariate NEF's with linear diagonal of the variance function*

Rainer DAHLHAUS, *Statistical inference for locally stationary processes*

Fraser Alexander DALY, *Upper bounds on Stein-type operators*

Yuri DAVYDOV, *Ergodic properties of crystallization processes*

Herold DEHLING, *Stochastic models for particle transport in fluidized bed reactors*

Eustasio DEL BARRIO, *The random projection method in goodness of fit for functional data*

Manfred DENKER, *Local limit theorems for weakly dependent processes*

Łukasz DĘBOWSKI, *The ergodic decomposition of excess entropy*

Zdenek FABIAN, *Geometry of distributions based on Johnson score*

Elżbieta FERENSTEIN, *On parameter estimation of conditionally heteroskedastic time series with hidden Markov chains*

Daria FIŁATOWA, *Parametric estimation of Black-Scholes model driven by a fractional Brownian motion*

Matthias FISCHER, *Testing for constant correlation by means of trigonometric functions*

Piotr FISZEDER, *Asset-pricing models with time-varying covariances*

Tilmann GNEITING, *Strictly proper scoring rules, prediction, and estimation*

Timo GOTTSCHALK, *Danckwerts' law for the first exit time of a Markov process with an absorbing boundary*

Mariusz GRZAÐZIEL, *Bayes invariant quadratic estimators of variance*

Charlotte GUDDAT, *A sensitivity analysis of MARS*

Armelle GUILLOU, *Modeling pairwise dependence of maxima in space*

János GYARMATI-SZABÓ, *An MCMC based predictions of belatedly reported insurance claims*

Raúl HERNANDEZ-MOLINAR, *Parameter and quantiles estimation using extreme values*

Seyed Mohammad Ebrahim HOSSEINI-NASAB, *Some properties of principal components for functional data analysis*

Mong-Na L. HUANG, *Exact D-optimal designs for response surface model on a circle with qualitative factors*

Wen-Jang HUANG, *Characterizations of bivariate distribution through some conditional expectations*

Peter JAGERS, *The path to extinction*

Adam JAKUBOWSKI, *Stable limits for ARCH(1) processes*

Maarten JANSEN, *Stable edge-adaptive multiresolution decompositions*

Alina JEÐRZEJCZAK, *Decomposition of the Gini index by sources of income*

Marianne JONKER, *Linkage analysis for interval censored survival data with application to migraine data*

Dorota JUSZCZAK, *Multivariate large deviations for lattice distributions*

Alexey KHARIN, *Robustness in sequential testing of parametric hypotheses for random sequences*

Petr KLASTERECKY, *On parameter estimation in case-cohort cox proportional hazards models*

Claudia KLUEPPELBERG, *Extremal behaviour of stochastic volatility models*

Tomasz KOZDRAJ, *Proposal for statistical expert system in stock data analysis*

Anne KRAMPE, *Computing exact confidence intervals for odds ratios and relative risks using algebraic statistics*

Willem KRUIJER, *Bayesian density estimation with location-scale mixtures components in hierarchical mixed linear models*

Jacek KWIATKOWSKI, *A Bayesian analysis of STUR models*

Robert KWIECIEŃ, *Jensen's inequality for Tukey's multivariate median*

Krzysztof LATUSZYŃSKI,  *$\epsilon$ - $\alpha$ -MCMC-approximation under drift condition*

Beatrice LAURENT-BONNEAU, *Adaptive estimation of linear functionals by model selection*

Henning LAUTER, *Discrimination of structured categorical data*

Mei-Ling Ting LEE, *Generalized rank tests for replicated microarray data*

Łukasz LENART, *Subsampling for periodically correlated time series in frequency domain*

Hannelore LIERO, *Goodness of Fit Tests for Accelerated Life Time Models*

Olivier LOPEZ, *Nonparametric lack-of-fit test for regression models with censored data*

Nelmarie LOUW, *Outlier identification in kernel Fisher discriminant analysis*

Krystyna MACIĄG, *Small sample study of a linear model with trend and seasonal components*

Piotr MAJERSKI, *Rates of convergence of the maximum likelihood estimator in convolution models*

Miriam MARUSIAKOVA, *Application of permutation principle in multiple structural change test*

Rada MATIC, *estimation problems for generalized circular unitary ensembles*

László MÁRKUS, *Hierarchical Bayesian modelling of the spatial dependence of insurance risk*

Wei-Cheng MIAO, *Dynamic portfolio decision: a simple cash-stock mix case*

Jan MIELNICZUK, *Randomized fixed design regression under long-range dependent errors*

Joaquín MIGUEZ, *Analysis of a simple selection technique for parallel implementation of particle filters*

Leila MOHAMMADI, *On nonnegative garrote estimator*

Manuel MOLINA, *Some contributions to the theory of population size dependent bisexual branching processes*

Karl MOSLER, *Central regions orderings*

Eva-Renate NAGEL, *On estimating the error distribution in nonparametric regression using additional information*

Mioara Alina NICOLAE, *A sufficient condition for weak ergodicity of a class of nonstationary Markov chains*

Wojciech NIEMIRO, *Sequential Monte Carlo algorithms with fixed relative precision*

John OHRVIK, *Neural network modeling: an evaluation based on medical data*

Witold ORZESZKO, *A new method of measuring the effects of noise reduction in chaotic data*

Jacek OSIEWALSKI, *Flexibility and parsimony in multivariate financial modeling: a hybrid DCC-SV model*

Magdalena OSIŃSKA, *Testing for causality in variance for series generated from Gaussian and  $t$  distributions*

Federico O'REILLY, *Exact  $p$ -values in goodness of fit*

Frank PALKOWSKI, *Nonparametric bootstrap of heteroskedastic time series*

Gyula PAP, *Convergence of step processes to diffusion processes and stochastic integrals with application for critical multitype branching processes*

Efstathios PAPARODITIS, *Simultaneous confidence bands for the spectral density of Gaussian processes*

Adam PASZKIEWICZ, *On information of sigma-algebras*

Valentin PATILEA, *Breaking the curse of dimensionality in nonparametric testing*

Vygantas PAULAUSKAS, *On two problems of spatial autoregression*

Mariola PIŁATOWSKA, *The method of avoiding the effects of spurious regressions*

Mateusz PIPIEŃ, *Bayesian comparison of GARCH processes with asymmetric and heavy tailed conditional distributions*

Agnieszka PODRAZA-KARAKULSKA, *On scale invariant estimators for the shape parameter of gamma distribution*

Georgiana POPOVICI, *Sums of independent GAR(1) processes and parameter estimation for GAR(1)( $a,p,m$ ) processes by the EM algorithm*



Zuzana PRASKOVA, *Effect of dependence in regression model with a change*

Clementine PRIEUR, *Spectral properties of chaotic processes*

Saeid REZAKHAH, *Germ fields for harmonizable symmetric stable processes with rational spectral densities*

Tomasz RYCHLIK, *An optimal approximation problem, with an application in statistics*

Karen SCHETTLINGER, *Online time series processing by robust regression filters*

Tomasz SCHREIBER, *DKS phase separation phenomenon for polygonal Markov fields in the plane*

Christoph SCHUERMANN, *Modelling time series of count data from infectious diseases*

Raffaello SERI, *Generalized discrepancies on spheres of arbitrary dimension*

Ekaterina SERIKOVA, *The dimensionality reducing problem in statistical classification*

Hana SEVCIKOVA, *Simulating two-dimensional Gaussian random fields: fast and exact algorithms*

Michael SØRENSEN, *Efficient estimating functions for diffusions sampled at high frequencies*

Bartosz STAWIARSKI, *Score test of fit for composite hypothesis in the GARCH(1,1) model*

Victoria STEBLOVSKAYA, *Non-self-financing hedging in incomplete market*

Sarel Johannes STEEL, *A framework for input variable selection in kernel methods*

Milan STEHLIK, *Homogeneity and scale testing of generalized Gamma distribution*

Rafał SYNOWIECKI, *Subsampling schemes and its application to periodically correlated time series*

Krzysztof SZAJOWSKI, *On-line detection of a part of a sequence with unspecified distribution*

Zbigniew S. SZEWCZAK, *Local limit theorems for stationary sequences with infinite variance*

Bianca TEODORESCU, *Goodness-of-fit tests for conditional models with time-dependent coefficients under censoring and truncation*

Tatsiana TSEKHAVAYA, *First two moments of the variogram estimator*

Sergey UTEV, *Poisson--Stein equation and associated stochastic orderings*

Marie-Colette VAN LIESHOUT, *Markovianity in space and time*

Jacek WESOŁOWSKI, *Top-k-lists*

Kam-Fai WONG, *A more efficient estimation of additive hazard regression with current status data*

Vladimir ZAIATS, *Problems of statistical estimation in input-output systems*

Andr as ZEMPLENI, *High dimensional copulas for simulating and testing extreme-value models*

Chen ZHOU, *Existence and consistency of the maximum likelihood estimator for the extreme value index*

## **Poster Session**

Jakub BIJAK, *Bayesian framework for forecasting international migration: selected options*

Dariusz BISKUP, *Intrinsic and fractional Bayes factors for the Bayesian analysis of mixtures*

Marcin BŁAŻEJOWSKI, *Comparison of price elasticity of the demand for alternative models for high frequency data*

Grzegorz CHŁAPIŃSKI, *Modeling of spatio-temporal data using STARMAX models*

Agnieszka CHMIELECKA, *The equivalence of Bayes and robust Bayes estimators for different loss functions*

Anna DUDEK, *New bootstrap method for non-stationary point processes*

Maxim EMELIN, *Hybrid decision-making system in statistical knowledge evaluation model*

Sergey FRENKEL, *Execution Time Prediction of parallel-executed activities*

Marek GRZYWACZEWSKI, *Maximum principle for optimal portfolio selection in incomplete markets*

Katrin HOFMANN-CREDNER, *Limit laws for non-classical random matrices*

Denis KASCHEEV, *Use of simultaneous stochastic seismic inversion for lithology determination*

G. Tamer KAYAALP, *The estimation of missing data with maximum likelihood methods in animal research*

Yury KHOKHLOV, *Network traffic model containing Stable Levy Motion and Fractional Brownian Motion simultaneously*

Vladimir KLIMES, *Forecasting of import and export price indices development*

Alena KOUBKOVA, *Sequential change-point detection in location model based on M-estimators*

Paweł KUFEL, *Comparison of estimation methods of autoregressive processes*

Tadeusz KUFEL, *The GRETL software as a tool of statistical and econometric analysis*

Victor LYUMKIS, *Methods of estimation of activity efficiency to increase reliability of products outcome*

Weronika ŁAUKAJTYS, *Reflecting stochastic differential equations*

Jose M. MUINO, *Estimating the proportion of true null hypotheses with the method of moments*

Tomasz NIEDZIELSKI, *Discriminating between local tectonic structures using statistical tests for quasi-independence supported by Monte Carlo simulation*

Anna NIKODEM, *Ruin probability calculation methods for phase-type clam size distribution*

Dariusz PARYS, *The more powerful stepwise multiple testing procedure with controlling of the family-wise error rate*

Clara Margarida PISCO VISEU, *An empirical tail index and VaR analysis*

Piotr POKAROWSKI, *Markov Chain Monte Carlo simulations for a minimal protein-like lattice model*

Stefan POKRZYWNICKI, *Statistical properties and autocorrelation function for Hopf bifurcation oscillatory systems*

Wai-Yin POON, *The analysis of structural equation model with ranking data*

Marcin PRZYSTALSKI, *Treatment comparisons in semiparametric models*

Evgeniy RAFIKOV, *About estimators in learning theory in the case of unbounded responses*

Adrian RÖLLIN, *Alternatives to the normal: translated Poisson distribution*

Natalia SANIUK, *Statistical analysis of the size of loss from emergency situations*

Natalya SEMENCHUK, *Convergence rate of moments of spectral density estimation constructed via wavelet methods*

Marios SERGIDES, *Bootstrapping the local periodogram of a locally stationary process*  
Sviatlana STALEUSKAYA, *Optimal investment by Kelly criteria*  
Charles SUQUET, *Application of Holderian FCLT to epidemics detection*  
Joanna TARASIŃSKA, *A note on Srivastava and Hui's tests of multivariate normality*  
Bartosz ZIEMKIEWICZ, *Integrals with respect to a fractional Brownian motion and other Gaussian processes*

## **Special Invited Sessions**

### ***Special Invited Paper Session in Memory of Alexander Nagayew***

**Session organizers:** Sergey AYVAZYAN, Yuri DAVYDOV

**Speakers:** Ildar A. IBRAGIMOV  
Vyantas PAULAUSKAS  
Victoria STEBLOVSKAYA  
Yuri DAVYDOV

### ***Special Invited Session on History of Polish Statistics***

**Session organizer:** Czesław DOMAŃSKI

**Speakers:** Czesław DOMAŃSKI, Tomasz KOZDRAJ, *Development of Polish statistical thought*  
Józef POCIECHA, *Development of multivariate classification methods in Poland*  
Józef OLEŃSKI, *Functions of official statistics in the information infrastructure of the state*

## Scientific Committee

Herold Dehling (Chair)	(Ruhr-Universität Bochum)
Peter Bühlmann	(Eidgenössische Technische Hochschule Zürich)
Paolo Giudici	(Università degli Studi di Pavia)
Jesper Moeller	(Aalborg University)
Alexander Nagaev	(Nicolaus Copernicus University, Toruń)
Zuzana Praskova	(Charles University, Prague)
Gesine Reinert	(Oxford University)

## Local Organizing Committee

Adam Jakubowski (Chair)  
Joanna Bruzda  
Joanna Karłowska-Pik (Secretary)  
Weronika Łaukajtys  
Tadeusz Kufel  
Wojciech Niemiro  
Mariola Piłatowska  
Andrzej Rozkosz  
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Tomasz Schreiber (Secretary)  
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Bartosz Ziemkiewicz

*(all represent the Nicolaus Copernicus University)*