Section 12: Probability and Statistics

Invited Lectures

Wednesday, 19 August — H 1028

16:15 – 17:00 **David John Aldous,** University of California, Berkeley, USA
Stochastic Coalescence *(I: p.140)*
Chair: Friedrich Götze

17:15 – 18:00 **Jayanta Kumar Ghosh,** Indian Statistical Institute, Calcutta, India and Purdue University, West Lafayette, USA
Bayesian Density Estimation *(I: p.143)*
Chair: Vladimir I. Koltchinskii

Thursday, 20 August — H 1028

14:00 – 14:45 **Ruth J. Williams,** University of California at San Diego, La Jolla, USA
Reflecting Diffusions and Queueing Networks *(I: p.152)*
Chair: Ludwig Arnold

15:00 – 15:45 **Maury D. Bramson,** University of Minnesota, Minneapolis, USA
State Space Collapse for Queueing Networks *(I: p.141)*
Chair: Jennifer T. Chayes

Friday, 21 August — H 1028

16:15 – 17:00 **Mark Freidlin,** University of Maryland, College Park, USA
Random and Deterministic Perturbations of Nonlinear Oscillators *(I: p.141)*
Chair: Jürgen Gärtner

17:15 – 18:00 **Jean-François Le Gall,** DMI — École Normale Supérieure, Paris, France
Branching processes, random trees and superprocesses *(I: p.147)*
Chair: Donald Dawson

Monday, 24 August — H 1028

14:00 – 14:45 **Friedrich Götze,** Universität Bielefeld, Bielefeld, Germany
Lattice Point Problems and the Central Limit Theorem in Euclidean Spaces *(I: p.143)*
Chair: Richard M. Dudley

15:00 – 15:45 **Marco Avellaneda (also Section 16),** Courant Institute, New York University, New York, USA
Inverse Problems in Quantitative Financial Modeling *(I: p.140)*
Chair: George C. Papanicolaou

Tuesday, 25 August — H 1028

14:00 – 14:45 **Alain-Sol Sznitman,** ETH Zürich, Zürich, Switzerland
Brownian motion and random obstacles *(I: p.149)*
Chair: Terry J. Lyons

15:00 – 15:45 **Peter Gavin Hall,** Australian National University, Canberra, Australia
Applications of Intentionally Biased Bootstrap Methods *(I: p.144)*
Chair: Olaf Bunke

Wednesday, 26 August **H 1028**

15:00 – 15:45	**David Oliver Siegmund,** Stanford University, Stanford, USA *Genetic linkage analysis: an irregular statistical problem* Chair: Uwe Küchler	*(I: p.148)*
16:15 – 17:00	**Boris Tsirelson,** Tel Aviv University, Tel Aviv, Israel *Within and beyond the reach of Brownian innovation* Chair: Yuri Kifer	*(I: p.149)*
17:15 – 18:00	**Iain Murray Johnstone,** Stanford University, Stanford, USA *Oracle Inequalities and Nonparametric Function Estimation* Chair: Persi W. Diaconis	*(I: p.146)*

Short Communications and Poster Sessions

Short Communications **Wednesday, 19 August**

Branching Processes **H 107**
Chair: Hermann Dinges

14:00 – 14:15	**Anton Wakolbinger,** Johann Wolfgang Goethe Universität, Frankfurt a.M., Germany *Critical branching random walks in a random medium*	*(p.272)*
14:15 – 14:30	**Aubrey Wulfsohn,** Warwick University, Coventry, Great Britain *Branching diffusions with random offspring distributions*	*(p.272)*
14:30 – 14:45	**Klaus Fleischmann,** WIAS, Berlin, Germany *Super-Brownian motion with a super-Brownian catalyst*	*(p.250)*

Data Analysis **H 1029**
Chair: Joerg Polzehl

14:00 – 14:15	**Osvaldo Marrero,** Villanova University, Villanova, PA, USA *Statistical analysis of seasonality in multiple groups*	*(p.260)*
14:15 – 14:30	**Fernando Rosado,** Departamento de Estatistica, Lisboa, Portugal *On the Outlier Problem for Structured Data*	*(p.268)*
14:30 – 14:45	**Vera Pawlowsky-Glahn,** Universitat Politècnica de Catalunya, Barcelona, Spain *Distances for multivariate spatial data analysis*	*(p.265)*

Random Walks, Discrete Structures **H 107**
Chair: Klaus Fleischmann

15:00 – 15:15	**Boris L. Granovsky,** Dept. of Math., Technion, Israel, Haifa, Israel *Spectral gap of certain continuous-time Markov processes*	*(p.252)*
15:15 – 15:30	**Rainer Siegmund-Schultze,** FU, Berlin, Germany *Level Crossing Probabilities for Random Walks*	*(p.269)*

Distribution Theory **H 1029**
Chair: Lutz Mattner

15:00 – 15:15	**Tea-Yuan Hwang,** National Tsing-Hua University, Hsinchu, China, Taiwan *On some characterizations of population distributions*	*(p.254)*
15:15 – 15:30	**Papa Ngom,** Université d'Aix-Mairseille, Aix-en-Provence, France *Aspect bayésien des a-distributions et application*	*(p.263)*
15:30 – 15:45	**Lutz Mattner,** Universität Hamburg, Hamburg, Germany *What are cumulants?*	*(p.261)*

Short Communications — Thursday, 20 August

Interacting Particle Systems — **H 107**
Chair: Hans-Otto Georgii

16:15 – 16:30	**Jochen Geiger,** Universität Frankfurt, Frankfurt, Germany *The genealogy of a cluster in the multitype voter model*	*(p.251)*
16:30 – 16:45	**Alejandro F. Ramirez,** École Polytechnique Federale de Lausanne, Lausanne, Switzerland *Diffusion and saturation processes in random media*	*(p.267)*
16:45 – 17:00	**Kenji Handa,** Saga University, Saga, Japan *A lower bound for time correlation of lattice gas*	*(p.252)*

Limit Theorems — **H 1029**
Chair: Ludwig Paditz

16:15 – 16:30	**Alexander V. Bulinski,** Moscow State University, Moscow, Russia *Limit laws for arrays*	*(p.249)*
16:30 – 16:45	**Oleg I. Klesov,** National Technical University, Kiev, Ukraine *A general form of the strong law of large numbers*	*(p.256)*
16:45 – 17:00	**Michael P. Voit,** Universität Tübingen, Tübingen, Germany *Ultraspherical expansions and central limit theorems for unit spheres*	*(p.271)*

Particle Approximations, Stochastic Evolutions — **H 107**
Chair: Alfred Liemant

17:15 – 17:30	**Terry J. Lyons,** Imperial College of Science, London, Great Britain *Branching particle approximations to smoothing and filtering*	*(p.259)*
17:30 – 17:45	**Krystyna Twardowska,** Warsaw University of Technology, Warsaw, Poland *Applications of support theorems to invariance measure theory*	*(p.270)*
17:45 – 18:00	**Wolfgang Wagner,** Weierstraß Institut, Berlin, Germany *Stochastic particle systems approximating the stationary Boltzmann equation*	*(p.271)*

Limit Theorems, Inequalities, and Martingales — **H 1029**
Chair: Sergei Nagaev

17:15 – 17:30	**Anatoly N. Kochubei,** Institute of Mathematics, Kiev, Ukraine *Limit Theorems for Sums of p-Adic Random Variables*	*(p.257)*
17:30 – 17:45	**Toshitada Shintani,** Tomakomai Nat. Coll. of Technology, Hokkaido, Japan *Uniform integrability of L^1-bounded matingales*	*(p.269)*
17:45 – 18:00	**Sergei Nagaev,** Sobolev Institute of Mathematiks, Novosibirsk, Russia *Probability inequalities for sums of dependent Banach space valued random variables*	*(p.263)*

Short Communications — Friday, 21 August

Stochastic Processes I — **H 107**
Chair: Michael K.R. Scheutzow

14:00 – 14:15	**Yuriy V. Kolomiets,** Institute of Applied Mathematics, Donetsk, Ukraine *On behavior of solutions of evolution equations perturbed by random processes*	*(p.257)*
14:15 – 14:30	**Vassily A. Yaroshevsky,** Central Aerohydrodynamic Institute, Zhukovsky, Moscow, Russia *Estimation of large deviations of dynamic system phase*	*(p.273)*
14:30 – 14:45	**Anna V. Naydonova,** Kiev University, Kiev, Ukraine *Analysis of Stochastic Recurrent Algorithms with the Random Reaction Time and Applications for Some Queueing Models*	*(p.263)*

Bayesian Methods — **H 1029**
Chair: Michael Nussbaum

14:00 – 14:15	**Ammar Sarhan,** Monsoura Unicersity, Mansoura, Egypt *Empirical Bayes Estimators of Indexed Parameters of Exponential Families*	
14:15 – 14:30	**Olaf Bunke,** Humboldt–Universität, Berlin, Germany *Asymptotic behauviour of Bayes estimates under possibly incorrect models*	

Stochastic Processes II		**H 107**
Chair: Peter Imkeller		
15:00 – 15:15	**Andrzej Makagon,** Hampton University, Hampton, VA, USA *Periodically Correlated Processes and Mackey's Imprimitivity Theorem*	*(p.259)*
15:15 – 15:30	**Boris G. Martchenko,** Inst. of Electrodynamics UNAS, Kiev, Ukraine *Concerning on a theorem for periodic in Slutskiy sense linear random processes*	*(p.260)*
15:30 – 15:45	**Andrew Ya. Olenko,** Kyiv University, Kyiv, Ukraine *On some properties of correlation and spectral functions*	*(p.264)*

Stochastic Algorithms		**H 1029**
Chair: Peter Mathé		
15:00 – 15:15	**Grigori Milstein,** WIAS, Berlin, Germany *The probability approach to numerical solution of nonlinear parabolic equations*	*(p.261)*
15:15 – 15:30	**Vadim I. Arkin,** CEMI, Russian Academy of Sciences, Moscow, Russia *Optimal stopping problems with restrictions*	*(p.248)*
15:30 – 15:45	**Peter Mathé,** Weierstraß Institut, Berlin, Germany *Efficiency of Monte Carlo Integration Using Markov Chains*	*(p.260)*

Short Communications — Saturday, 22 August

Self Similarity, White Noise		**H 107**
Chair: Murad S. Taqqu		
16:15 – 16:30	**Iosif Kolumban,** Babes-Bolyai University, Cluj-Napoca, Romania *Invariant sets in Menger spaces*	*(p.257)*
16:30 – 16:45	**Louis F. Rossi,** University of Massachusetts, Lowell, MA, USA *Self-similar viscous rotating vortical structures*	*(p.268)*
16:45 – 17:00	**Yuh-Jia Lee,** National Cheng-Kung University, Tainan, China, Taiwan *Generalized White Noise Functionals on Classical Wiener Space*	*(p.258)*

Tests and Confidence Sets		**H 1029**
Chair: Ekkehard Glimm		
16:15 – 16:30	**Alejandra Cabana,** IVIC — Departamento de Matematicas, Caracas, Venezuela *Goodness-of-Fit Tests Based on Transformed Empirical Processes*	*(p.249)*
16:30 – 16:45	**Roman Rozanski,** Wroclaw University of Technology, Wroclaw, Poland *Asymptotically consistent and efficient fixed-size sequential confidence sets*	*(p.269)*
16:45 – 17:00	**Ekkehard Glimm,** Inst. für Biometrie und Med. Fakultät Magdeburg, Magdeburg, Germany *Power and admissibility of spherical multivariate tests*	*(p.251)*

Teaching in Probability		**H 107**
Chair: Murad S. Taqqu		
17:15 – 17:30	**Natalya V. Vinogradova,** Karelian State Pedagogical Univ., Petrozavodsk, Russia *Classical Definition of Probability*	*(p.271)*
17:30 – 17:45	**Yuliya Stepanovna Mishura,** Kiev University, Kiev, Ukraine *Generalized stochastic integrals with application to fractional Brownian motion*	

Short Communications — Monday, 24 August

Liapunov Exponents		**H 107**
Chair: Michael K.R. Scheutzow		
16:15 – 16:30	**Volker Wihstutz,** University of North Carolina, Charlotte, NC, USA *Stability Maps for Systems with Noise Induced Stability*	*(p.272)*
16:30 – 16:45	**Peter Imkeller,** Humboldt–Universität, Berlin, Germany *An explicit description of the Lyapunov exponents of the noisy damped harmonic oscillator*	*(p.254)*
16:45 – 17:00	**Michel L.E. Rieutord,** Observatoire Midi-Pyrénées, Toulouse, France *A boundary value problem of mixed type in a spherical shell*	*(p.268)*

Empirical Processes and Nonparametric Inference **H 1029**
Chair: Michael Nussbaum

16:15 – 16:30	**Samir Ben Hariz,** Université de Paris Sud, Orsay, France *Uniform CLT for empirical process indexed by classes of functions* *(p.248)*
16:30 – 16:45	**Michael Jaehnisch,** Weierstraß Institute, Berlin, Germany *Asymptotic equivalence for a density model with independent but non identically distributed random variables* *(p.255)*
16:45 – 17:00	**Vladimir I. Koltchinskii,** University of New Mexico, Albuquerque, NM, USA *Empirical geometry of multivariate data: a deconvolution approach* *(p.257)*

Large Deviations **H 107**
Chair: Dmitry Ioffe

17:15 – 17:30	**Esa Nummelin,** University of Helsinki, Helsinki, Finland *Large deviations of random vector fields with applications to economics* *(p.264)*
17:30 – 17:45	**Rolando Rebolledo,** Universidad Católica de Chile, Santiago, Chile *Stopping Times and Large-Deviation Principles* *(p.267)*
17:45 – 18:00	**Tzuu-Shuh Chiang,** Academia Sinica, Taipei, Taiwan *Large deviation of small diffusions in discontinuous media* *(p.250)*

Statistics for Stochastic Differential Equations **H 1029**
Chair: Mikhailo Yadrenko

17:15 – 17:30	**Marianne Huebner,** Michigan State University, East Lansing, Michigan, USA *Nonparametric estimation for stochastic partial differential equations*
17:30 – 17:45	**Ruth Pfeiffer,** University of Maryland, College Park MD, USA *Statistical Problems for Stochastic Processes with Hysteresis* *(p.266)*
17:45 – 18:00	**Alexander Frolovich Taraskin,** Samara State Aerospace University, Samara, Russia *On problems of statistics for SDE* *(p.270)*

Short Communications Tuesday, 25 August

Brownian Motion I **H 107**
Chair: Jean-Pierre Imhof

16:15 – 16:30	**Frank B. Knight,** University of Illinois, Urbana, Illinois, USA *On the moments of the area functional of Brownian bridge* *(p.256)*
16:30 – 16:45	**Andrei Nikolaevich Borodin,** St. Petersburg Dept. Steklov Math. Inst., St. Petersburg, Russia *Distributions of functionals of a particular non-Markov process* *(p.249)*
16:45 – 17:00	**Peter Mörters,** Universität Kaiserslautern, Kaiserslautern, Germany *Pathwise Kallianpur Robbins laws for planar Brownian motion* *(p.262)*

Time Series Analysis **H 1029**
Chair: Alexander Frolovich Taraskin

16:15 – 16:30	**Mirta Benšić,** Faculty of Economics, Osijek, Croatia *Asymptotic properties of the least square estimators in regression models with singular errors* *(p.248)*
16:30 – 16:45	**Uwe Hassler,** Freie Universität, Berlin, Germany *When Do Polynomial Regressions of Nonstationary Fractionally Integrated Processes Make Sense?* *(p.252)*
16:45 – 17:00	**Pavel S. Knopov,** V.M. Glushkov Institute of Cybernetics, Kyiv, Ukraine *Asymptotic Properties of Non-Linear Estimators for Some Non-Stationary Regression Models* *(p.256)*

Brownian Motion II **H 107**
Chair: Frank B. Knight

17:15 – 17:30	**Viet Ha Hoang,** University of Cambridge, Cambridge, Great Britain *Singularly perturbed Dirichlet problems in randomly perforated domains* *(p.253)*
17:30 – 17:45	**Vesna Perisic,** Universität des Saarlandes, Saarbrücken, Germany *On some energy inequalities* *(p.265)*

Statistics for Random Fields		**H 1029**
Chair: Alexander Frolovich Taraskin		
17:15 – 17:30	**Nikolai Leonenko,** Kyiv University, Kyiv, Ukraine	
	Parameter identification for stochastic Burgers flows via parabolic rescaling	*(p.258)*
17:30 – 17:45	**Nadiya Zinchenko,** Kyiv University, Kyiv, Ukraine	
	Asymptotic Properties of Stable Processes and Fields	*(p.273)*
17:45 – 18:00	**Molisen M. Mohammadzadeh,** Tarbiat Modarres University, Tehran, Iran	
	Spectral Approximation to the Likelihood for an Intrinsic Gaussian Random Field	

Short Communications — Wednesday, 26 August

Gaussian Processes		**H 107**
Chair: Manfred Breger		
14:00 – 14:15	**Krzysztof Dębicki,** University of Wrocław, Wrocław, Poland	
	Asymptotic of the tail distribution of supremum from a Gaussian process	*(p.250)*
14:15 – 14:30	**Tudor Sireteanu,** Institute of Solid Mechanics, Bucharest, Romania	
	An extension of Gaussian equivalent linearization	*(p.270)*
14:30 – 14:45	**Victoria Parkhomenko,** Kiev University, Kiev, Ukraine	
	Spectral representation of the scaling limit solutions of the Burgers' equation with random data	*(p.265)*

Nonparametric Curve Estimation		**H 1029**
Chair: Joerg Polzehl		
14:00 – 14:15	**Renfang Jiang,** Dept. of Math. Michigan Tech. Univ., Houghton, U.S.A.	
	The mean sum of squared error of a wavelet based multinomial density estimator	*(p.255)*
14:15 – 14:30	**Eva Herrmann,** Technische Universität Darmstadt, Darmstadt, Germany	
	Visualization of empirical test results for pseudorandom number generators	*(p.253)*
14:30 – 14:45	**Hua Liang,** Humboldt–Universität, Berlin, Germany	
	Partially linear errors-in-variables model	*(p.258)*

Poster Session **Saturday, 22 August**

14:00 – 15:45 **MA 144**