Seventh International Workshop on Simulation
Department of Statistical Sciences, Unit of Rimini, University of Bologna
21-25 May, 2013 - Rimini, Italy

CONFERENCE PROGRAM

Monday, 20 May 2013

16:00 - 18:30 Conference registration, Registration desk

19:00 Welcome Party, Ristorante Nettuno

Tuesday, 21 May 2013

9:00 - Conference registration, Registration desk

9:30 - 10:20 Conference opening, Room A13

10:20 - 11:40 Parallel sessions

Room A3

***Stochastic modelling in various applications* I**

Session organizer - Chair: E. Bulinskaya, Lomonosov Moscow State University, Russia

- *Sensitivity analysis and optimal control of some applied probability models*, E. Bulinskaya, Lomonosov Moscow State University, Russia
- *Development of MDR method*, A. Bulinski, Lomonosov Moscow State University, Russia
- *Functional central limit theorem for integrals over level sets of Gaussian random fields*, A. Shashkin, Moscow State University, Russia

Room A6

***Estimation and testing* I**

Chair: S.B. Caudill, Rhodes College, USA

- *Exponential inequalities for the distribution tails of multiple stochastic integrals with Gaussian integrators*, A. Bystrov, Novosibirsk State University, Russia
- *Partially adaptive estimation of an ordered response model using a mixture of normals*, S.B. Caudill, Rhodes College, USA
- *On the generalized Δ^2-Distribution for constructing exact D-optimal designs*, T.I. Missov, Max Planck Institute for Demographic Research & University of Rostock, Germany, and S.M. Ermakov, St. Petersburg State University, Russia

Room T1

Some interesting and diverse applications

Session organizer - Chair: M.E. Johnson, University of Central Florida, USA

- *Attribute agreement analysis in a forensic handwriting study*, M. Boulanger, Rollins College, M.E. Johnson, University of Central Florida, T.W. Vastrick, Forensic Document Examiner, USA
- *Experimental design for engineering dimensional analysis*, C. Nachtsheim, University of Minnesota, USA
- *Et tu "Brute Force"? No! A statistically-based approach to catastrophe modeling*, M.E. Johnson, University of Central Florida, C.C. Watson, Watson Technical Consulting, USA

Room T3

Bayesian methods

Chair: C. Trivisano - S. Mignani, University of Bologna, Italy
- *Sequential combining of expert information using Mathematica*, P. Agati, L. Stracqualursi, and P. Monari, University of Bologna, Italy
- *Continuous endpoints in the design of Bayesian two–stage studies*, P. Brutti, F. De Santis, S. Gubbiotti, V. Sambucini, Sapienza Università di Roma, Italy
- *Joint prior distributions for variance components in Bayesian analysis of normal hierarchical models*, H. Demirhan, Hacettepe University, Z. Kalaylioglu, METU, Turkey

11:40 - 13:00 Parallel sessions

Room A3

Modelling techniques in biostatistics and reliability

Session organizer: I. Vonta, National Technical University of Athens, Greece
Chair: J.V. Tsimikas, University of Aegean, Greece
- *A Bayesian nonparametric mixture model for cluster analysis*, A. Guglielmi, Politecnico di Milano, Italy, Raffaele Argiento, CNR-IMATI Milano, Italy, and Andrea Cremaschi, University of Kent, UK
- *Reliability modeling with hidden Markov and semi-Markov chains*,V.S. Barbu, Université de Rouen, France
- *Spline based ROC curves and surfaces for biomarkers with an upper or a lower limit of detection*, L.E. Bantis, J.V. Tsimikas, and S.D. Georgiou, University of the Aegean, Greece
- *Flexible parametric and semiparametric inference for longitudinal data with a censored covariate*, J.V. Tsimikas and L.E. Bantis, University of Aegean, Greece

Room A6

Design in computer and simulation experiments

Session organizers - Chairs: R. Schwabe, Otto-von-Guericke University Magdeburg, Germany, and L. Pronzato, Université de Nice-Sophia Antipolis, France
- *Bayes-optimal importance sampling for computer experiments*, J. Bect and E. Vazquez, Supélec, France
- *An alternative for the computation of IMSE optimal designs of experiments*, B. Gauthier, L. Pronzato, and J. Rendas, Université de Nice-Sophia Antipolis, France
- *Numerical studies of space filling designs: optimization algorithms and subprojection properties*, B. Iooss, G. Damblin, and M. Couplet, EDF R&D, France
- *Maximum likelihood based sequential designs for logistic binary response models*, F. Freise, Otto-von-Guericke University Magdeburg, Germany

Room T1

Topics in multilevel models

Session organizer - Chair: C. Rampichini, University of Florence, Italy
- *Indirect inference and data cloning for non-hierarchical mixed effects logit models*, A. Gottard and G. Calzolari, University of Florence, Italy
- *Bayesian estimation with INLA for logistic multilevel models*, S. Metelli, L. Grilli, and C. Rampichini, University of Florence, Italy
- *Advances in multilevel modeling: a review of methodological issues and applications*, G. Roli and P. Monari, University of Bologna, Italy

13:00 - 14:30 Lunch

14:30 - 15:50 Parallel sessions

Room A3

Asymptotic permutation tests in heteroscedastic designs

Session organizer - Chair: E. Brunner, University Medical Center Göttingen, Germany

- *Asymptotic permutation tests and confidence intervals for paired samples*, F. Konietschke, University Medical Center Göttingen, Germany
- *Asymptotic permutation tests in factorial designs – Part I*, E. Brunner, University Medical Center Göttingen, Germany
- *Asymptotic permutation tests in factorial designs – Part II*, M. Pauly, University of Düsseldorf, Germany

Room A6

Response adaptive randomization

Session organizer - Chair: N. Flournoy, University of Missouri, USA

- *An urn model targeting fixed asymptotic allocations that are a function of treatments' performances*, A. Ghiglietti, Italy
- *A further study of the randomized play-the-leader design*, S. Coad, Queen Mary, University of London, UK, N. Flournoy, University of Missouri, USA, C. May, Università del Piemonte Orientale, Italy
- *Randomization-based inference (RBI) in clinical trials*, A. Galbete, J.A. Moler, H. Urmeneta, Public University of Navarra, F. Plo, University of Zaragoza, Spain

Room T1

***Estimation and testing* II**

Chair: S. Cagnone, University of Bologna, Italy

- *Statistical estimation of random field thresholds using Euler characteristics*, R.J. Adler, A. Monod, Technion Israel Institute of Technology, Israel, K. Bartz, and S.C. Kou, Harvard University, USA
- *Theory and algorithm for clustering rows of a two-way contingency table*, C. Hirotsu, Meisei University, and S. Yamamoto, RPM Co., Ltd., Japan
- *Statistical challenges in estimating frailty models on mortality surfaces*, T.I. Missov, Max Planck Institute for Demographic Research, Germany
- *An efficient method for pseudo-random UDG graph generating*, V. Shakhov, O. Sokolova, and A. Yurgenson, Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Russia

15:50 - 16:10 Coffee break

16:10 - 17:30 Parallel sessions

Room A3

Queueing systems modeling

Session organizer: E. Bulinskaya, Lomonosov Moscow State University, Russia

Chair: L. Afanasyeva, Lomonosov Moscow State University, Russia

- *Queueing systems with unreliable servers in a random environment*, L. Afanasyeva and E. Bashtova, Lomonosov Moscow State University, Russia
- *Analysis of a finite-capacity M/G/1 queue with batch arrivals and threshold overload control*, Y. Gaidamaka, K. Samuylov, E. Sopin, Peoples' Friendship University of Russia, and S. Shorgin, Institute of Informatics Problems of RAS, Russia
- *Modeling the optimal investment strategies in Sparre Andersen risk model*, A. Gromov, Lomonosov Moscow State University, Russia

- *Multichannel queuing systems in a random environment*, A. Tkachenko, Lomonosov Moscow State University, Russia

Room A6

Inference for response-adaptive design

Session organizer: N. Flournoy, University of Missouri, USA
Chair: A. Giovagnoli, University of Bologna, Italy
- *Group-sequential response-adaptive designs*, S. Coad, Queen Mary, University of London, UK
- *Asymptotic results for randomly reinforced urn models and their application to adaptive designs*, I. Crimaldi, IMT Institute for Advanced Studies Lucca, Italy
- *Two-stage adaptive optimal design with fixed first stage sample size*, A. Lane and N. Flournoy, University of Missouri, USA

Room T1

Convergence problems and simulation

Chair: D.N. Politis, University of California at San Diego, USA
- *Discrete simulation of stochastic delay differential equations*, H.S. Bhat, N. Kumar, and R.W.M. A. Madushani, University of California, USA
- *Model-free prediction intervals for regression and autoregression*, D.N. Politis, University of California at San Diego, USA
- *A contribution review in memoriam of Professor Reuven Rubinstein*, R. Vaisman, Israel Institute of Technology, Israel

Room T3

Design of experiments: algebra, geometry and simulation

Session organizer - Chair: R. Fontana, Politecnico di Torino, Italy
- *Quadrature rules for polynomial chaos expansions using the algebraic method in the design of experiments*, H.P.Wynn and J.Ko, London School of Economics, UK
- *Algebraic characterization of saturated designs*, R. Fontana, Politecnico di Torino, F. Rapallo, Università del Piemonte Orientale, and M.P. Rogantin, Università di Genova, Italy
- *Assessing errors in CMM measurements via Kriging and variograms: a simulation study*, G.Vicario, S.Ruffa, Politecnico di Torino, and G. Pistone, Collegio Carlo Alberto, Italy
- *Optimization via information geometry*, L. Malagò, University of Milan, and G. Pistone, Collegio Carlo Alberto, Italy

Wednesday, 22 May 2013

8:50 - 10:10 Parallel sessions

Room A2

Parallel processing for Monte Carlo simulation for categorical data

Chair: F. Pesarin, University of Padova, Italy
- *Monte Carlo sampling using parallel processing for multiple testing in genetic association studies*, C. Corcoran, Utah State University, P. Senchaudhuri, and W. Welbourn, Cytel Software Corporation, USA
- *Uniform generation of acyclic digraphs and new MCMC schemes via recursive enumeration*, J. Kuipers and G. Moffa, University of Regensburg, Germany
- *Exact P-value computation for correlated categorical data*, P. Senchaudhuri, Cytel Software Corporation, C. Corcoran, Utah State University, and V.P. Chandran, Cytel Software Corporation, USA
- *Sequential Monte Carlo method for counting vertex covers*, R. Vaisman, Israel Institute of Technology, Israel

Room A3

***Ordered random variables and related topics* I**

Session organizer: V.B. Nevzorov, St. Petersburg State University, Russia

Chair: M. Ahsanullah, Rider University, USA

- *Goodness-of-fit tests for the power function distribution based on Puri–Rubin characterization*, Y.Y. Nikitin and K.Y. Volkova, Saint-Petersburg State University, Russia
- *The probabilistic approximation of the one-dimensional initial boundary value problem solution*, N.V. Smorodina, St.Petersburg State University, Russia
- *On comparison of regression curves based on empirical Fourier coefficients*, V. Melas, A. Pepelyshev, St.Petersburg State University, Russia, L. Salmaso, and L. Corain, University of Padova, Italy

Room T1

Simulation-based optimal design

Session organizer - Chair: W. Mueller, Johannes Kepler University Linz, Austria

- *A Bayesian clinical trial design for targeted agents in metastatic cancer*, P. Müller, University of Texas, USA
- *Designing surveillance strategies for optimal control of epidemics using outcome-based utilities*, G.J. Gibson, Heriot-Watt University, UK
- *Simulation-based optimal design using MCMC*, A. Solonen, Lappeenranta University of Technology, Finland
- *Likelihood-free simulation-based optimal design*, M. Hainy, W.G. Müller, and H. Wagner, Johannes Kepler University Linz, Austria

Room T3

Monte Carlo methods for nonlinear kinetics equations

Session organizers: G. Mikhailov, S. Rogasinsky, Novosibirsk State University, Russia

Chair: S. Rogasinsky, Novosibirsk State University, Russia

- *Probability model of the interacting particles ensemble evolution and the parametric estimate of the nonlinear kinetic equation solution*, G.A. Mikhailov, S.V. Rogasinsky, Novosibirsk State University, Russia
- *Enhancement of the acceleration oriented kinetic model for the vehicular traffic flow*, A.V. Burmistrov, SB RAS, Novosibirsk State University, Russia
- *Monte Carlo algorithm for simulation of the vehicular traffic flow within the kinetic model with velocity dependent thresholds*, M.A. Korotchenko, SB RAS, Russia

10:10 - 10:40 Coffee break

10:40 - 12:00 Parallel sessions

Room A2

Random walks and branching processes

Session organizer: E. Bulinskaya, Lomonosov Moscow State University, Russia

Chair: E.B. Yarovaya, Moscow State University, Russia

- *Random walk in random environment conditioned to be positive: limit theorem for maximum*, V.I. Afanasyev, Steklov Institute, Moscow, Russia
- *Probabilistic counterparts of nonlinear parabolic systems*, Y. Belopolskaya, St.Petersburg State University for Architecture and Civil Engineering, Russia
- *Effective classification of branching processes with several points of catalysis*, E.Vl. Bulinskaya, Lomonosov Moscow State University, Russia
- *Limit distributions in branching random walks with finitely many centers of particle generation*, E.B. Yarovaya, Moscow State University, Russia

Room A3

***Ordered random variables and related topics* II**

Session organizer: V.B. Nevzorov, St. Petersburg State University, Russia
Chair: N.V. Smorodina, St. Petersburg State University, Russia

- *On a Bahadur-Kiefer representation of von Mises statistic type for intermediate sample quantiles*, N.V. Gribkova, St. Petersburg State University, Russia, and R. Helmers, Centre for Mathematics and Computer Science, the Netherlands
- *On some new record schemes*, M. Ahsanullah, Rider University, USA, and V.B. Nevzorov, St. Petersburg State University, Russia
- *Regression properties of sums of record values*, I. Akhundov, University of Waterloo, Canada, and V.B Nevzorov, St. Petersburg State University, Russia

Room T1

***Structural change detection and analysis of complex data* I**

Session organizer - Chair: A. Steland, RWTH Aachen University, Germany

- *Robust monitoring of CAPM portfolio betas*, M. Hušková, O. Chochola, Z. Prášková, Charles University in Prague Prague University, Czech Republic, and J. Steinebach, University of Cologne, Germany
- *Estimation of change-in-regression-models based on the Hellinger distance for dependent data*, A. Prause, A. Steland, and M. Abujarad, RWTH Aachen University, Germany
- *Fixed-width confidence intervals and asymptotic expansion of percentiles for the standardized version of sample location statistic*, B. Chattopadhyay, The University of Texas at Dallas, and N. Mukhopadhyay, University of Connecticut, USA

Room T3

Monte Carlo methods for vector kinetics

Session organizers: G. Mikhailov, S. Ukhinov, Novosibirsk State University, Russia
Chair: S. Ukhinov, Novosibirsk State University, Russia

- *Mathematical problems of statistical simulation of the polarized radiation transfer*, G.A. Mikhailov, A.S. Korda, and S.A. Ukhinov, SB RAS, Russia
- *Using coarse-grained and fine-grained parallelization of the Monte Carlo method to solve kinetic equations*, M. Marchenko, Novosibirsk State University, Russia
- *The use of the scalar Monte Carlo estimators for the optimization of the corresponding vector weight algorithms*, I.N. Medvedev, Novosibirsk State University, SB RAS, Russia

12:00 - 13:00 Keynote Session

Room A13

Challenges in random variate generation, L. Devroye, McGill University, Canada
Chair: E. Bee Dagum, University of Bologna, Italy

13:00 - 14:30 Lunch

14:30 - 15:50 Parallel sessions

Room A2

***Structural change detection and analysis of complex data* II**

Session organizer - Chair: A. Steland, RWTH Aachen University, Germany

- *A change detection in high dimensions using random projections-simulation study*, E. Skubalska-Rafajlowicz, Technical University of Wrocław, Poland
- *SSA change-point detection and applications*, A. Pepelyshev, RWTH Aachen University, Germany
- *Real time detection of trend-cycle turning points*, E. Bee Dagum and S. Bianconcini, University of Bologna, Italy

Room A3

Spatial, minimax, and discrimination designs

Session organizer - Chair: S. Ghosh, University of California, USA

- *Spatial sampling design in the presence of sampling errors*, E. Evangelou, University of Bath, UK, and Z. Zhu, Iowa State University, USA
- *Conditions for minmax designs*, H. Nyquist, Stockholm University, Sweden
- *Hierarchical fractional factorial designs for model identification and discrimination*, S. Ghosh, University of California, USA

Room T1

Adaption and simulation in experimental design

Session organizer: N. Flournoy, University of Missouri, USA

Chair: C. May, Università del Piemonte Orientale, Italy

- *A covariate-adjusted response adaptive design based on the Klein urn*, A. Galbete, J. Moler, Public University of Navarra, and F. Plo, University of Zaragoza, Spain
- *Kriging based adaptive sampling in metrology*, D. Romano, University of Cagliari, Italy
- *Simulation in clinical trials: some design problems*, A. Giovagnoli, University of Bologna, Italy

Room T3

Simulation issues for modelling ordinal data

Session organizer - Chair: D. Piccolo, University of Naples Federico II, Italy

- *Simulating correlated ordinal and discrete variables with assigned marginal distributions*, A. Barbiero and P.A. Ferrari, University of Milan, Italy
- *The influence of the dependency structure in combination-based permutation tests*, R. Arboretti, I. Cichi, L. Salmaso, V. Boatto, and L. Barisan, University of Padova, Italy
- *Comparison for alternative imputation methods for ordinal data*, F. Cugnata and S. Salini, University of Milan, Italy
- *Testing overdispersion in a mixture model*, M. Iannario, University of Naples Federico II, Italy

15:50 - 16:10 Coffee break

16:10 - 17:30 Parallel sessions

Room A2

Permutation tests

Chair: L. Salmaso, University of Padova, Italy

- *Ranking of multivariate populations in case of very small sample sizes*, E. Carrozzo and L. Corain, University of Padova, Italy
- *Nonparametric Zhang tests for comparing distributions*, M. Marozzi, University of Calabria, Italy
- *A comparison of different permutation approaches to testing effects in unbalanced two-level ANOVA designs*, S. Hahn, University of Jena, Germany, and L. Salmaso, University of Padova, Italy

Room A3

Complexity in statistical modeling

Session organizer - Chair: S. Ghosh, University of California, USA

- *Sparse factor models for high-dimensional interaction networks*, D. Causeur, Agrocampus, France
- *Measures of dependence for infinite variance distributions*, B. Garel, National Polytechnic Institute of Toulouse, France
- *Response surface prediction from a spatial monitoring process*, D. Zappa, Cattolica University of Milan, R. Borgoni, and L. Radaelli, University of Milan Bicocca, Italy

Room T1

Stochastic modelling in clinical trials

Session organizers: V. Fedorov, Quintiles, USA, V. Anisimov, Quintiles, UK

Chair: V. Anisimov, Quintiles, UK

- *Predictive hierarchic modelling of operational characteristics in clinical trials*, V. Anisimov, Quintiles, UK
- *Additive model for cost modelling in clinical trial*, N. Savy, G. Mijoule, University of Toulouse, France, and V. Anisimov, Quintiles, UK
- *Convergence of adaptive allocation procedures*, M. Zagoraiou, University of Calabria, and A. Baldi Antognini, University of Bologna, Italy

Room T3

Simulation tools and methods in hospital management

Session organizer - Chair: J. Ocaña, University of Barcelona, Spain

- *Queuing modeling and simulation analysis of bed occupancy control problems in healthcare*, C. Azcarate, F. Mallor, Public University of Navarre, and J. Barado, Hospital of Navarre, Spain
- *Modeling the anesthesia unit and surgical wards in a Chilean hospital using Specification and Description Language (SDL)*, J. Leiva Olmos, Hospital Dr. Gustavo Fricke, Chile, P. Fonseca i Casas, Polytechnic University of Catalonia, and J. Ocaña, University of Barcelona, Spain

20:00 Social dinner, Ristorante Nettuno

Thursday, 23 May 2013

8:50 - 10:10 Parallel sessions

Room A2

Numerical simulation of random fields with applications

Session organizer - Chair: V.A. Ogorodnikov, Novosibirsk State University, SB RAS, Russia

- *Numerical stochastic models of meteorological processes and fields and some their applications*, V.A. Ogorodnikov, Novosibirsk State University, SB RAS, N.A. Kargapolova, and O.V. Sereseva, SB RAS, Russia
- *A stochastic numerical model of daily precipitation fields based on an analysis of synchronous meteorological and hydrological data*, V.A. Ogorodnikov, Novosibirsk State University, SB RAS, V.A. Shlychkov, SB RAS, Russia
- *Simulation of extreme ocean waves by peaks of random functions*, S.M. Prigarin, Novosibirsk State University, SB RAS, K.V. Litvenko, SB RAS, Russia
- *The calculation of effective electro-physical parameters for a multiscale isotropic medium*, O.N. Soboleva and E.P. Kurochkina, SB RAS, Russia

Room A3

Nonstandard statistical models and their application

Session organizer - Chair: A.M. Andronov, Transport and Telecommunication Institute, Latvia

- *Markov-modulated samples and their applications*, A.M. Andronov, Transport and Telecommunication Institute, Latvia
- *Markov-modulated linear regression*, A.M. Andronov, N. Spiridovska and I. Yatskiv, Transport and Telecommunication Institute, Latvia
- *Stochastic modification of a Knapsack's problem*, M. Rebezova, Transport Clearing House, Russia, N. Sulima, Exigen Services Latvia, Latvia, and R. Surinov, Rosaviaconsorcium, Russia
- *Non-symmetrical passenger flows estimation using the modified gravity model*, D. Santalova, University of Tartu, Estonia

Room T1

Sequential nonparametric methods

Session organizer - Chair: E. Rafajlovicz, Technical University of Wrocław, Poland

- *An affine invariant k-nearest neighbor*, G. Biau, Université Pierre et Marie Curie, France, L. Devroye, McGill University, V. Dujmović, Carleton University, and A. Krzyżak, Concordia University, Canada
- *Fixed design regression estimation based on real and artificial data*, D. Furer, M. Kohler, Technische Universität Darmstadt, Germany, A. Krzyżak, Concordia University, Canada
- *Nonparametric change detection under dependent noise*, M. Pawlak, University of Manitoba, Canada
- *Nonparametric change detection based on vertical weighting*, A. Steland, RWTH Aachen University, Germany, M. Pawlak, The University of Manitoba, Canada, and E. Rafajlowicz, Technical University of Wrocław, Poland

Room T3

***Estimation and testing* III**

Chair: C. Viroli, University of Bologna, Italy

- *Dynamic structured copula models*, W. Härdle, O. Okhrin, Humboldt-Universität zu Berlin, and Y. Okhrin, University of Augsburg, Germany
- *Comparison of randomization techniques for non-causality hypothesis,* A. Papana, C. Kyrtsou, University of Macedonia, D. Kugiumtzis, Aristotle University of Thessaloniki, Greece, and C. Diks, University of Amsterdam, The Netherlands
- *Exact one-sided tests for semiparametric binary choice models*, K.H. Schlag, University of Vienna, Austria, and F. Solmi, University of Hasselt, Belgium

10:10 - 10:40 Coffee break

10:40 - 12:00 Parallel sessions

Room A2

Mixture of distributions for longitudinal data

Session organizers - Chairs: S. Minotti, University of Milan Bicocca, Italy, and A. Ciampi, McGill University, Canada

- *Modeling longitudinal data with finite mixtures of regression models*, B. Grün, Johannes Kepler Universität Linz, Austria
- *Simultaneous t-model-based clustering applied to company bankrupt prediction*, A. Lourme, Université Bordeaux 4 & Institut de Mathématiques de Bordeaux, and C. Biernacki, Université Lille 1 & CNRS, France
- *Cluster weighted modeling with B-splines for longitudinal data*, S.C. Minotti, University of Milan Bicocca, and G.A. Spedicato, Cattolica University of Milan, Italy
- *Clustering of longitudinal data based on mixture of ELMM with autoregressive errors*, C. Xu, V. Tagalakis, C.M.T. Greenwood, A. Ciampi, McGill University, Canada

Room A3

Randomization

Session organizer - Chair: N. Heussen, RWTH Aachen University, Germany

- *Potential advantages and disadvantages of stratification in methods of randomization*, A. Glass and G. Kundt, University Medicine Rostock, Germany
- *Adjusting for selection bias in single-blinded randomized controlled clinical trials*, L.N. Kennes, RWTH Aachen University, Germany
- *Monte Carlo techniques for computing conditional randomization tests,* W.F. Rosenberger, George Mason University, and V. Plamadeala, Precision Therapeutics, USA

Room T1

Design of experiments and computing

Session organizer - Chair: J. Stufken, University of Georgia, USA

- *Multiplicative methods of computing D-optimal stratified experimental designs*, R. Harman, Comenius University in Bratislava, Slovak Republic
- *Optimal designs for hierarchical generalized linear models*, T. Waite, D. Woods, University of Southampton, UK, and P. Van de Ven, VU University Medical School, The Netherlands
- *An algorithm approach of constructing optimal/efficient crossover designs*, M. Yang, University of Illinois, USA

Room T3

Copula methods and complex dependence

Session organizer - Chair: S. Giannerini, University of Bologna, Italy

- *A copula-based approach for discovering inter-cluster dependence relationships*, F.M.L. Di Lascio, Free University of Bozen-Bolzano, S. Giannerini, University of Bologna, Italy
- *Invariant dependence structures*, F. Durante, Free University of Bozen-Bolzano, Italy
- *Simulations and computations of weak dependence structures by using copulas*, E. Foscolo Free University of Bozen-Bolzano, Italy
- *Simulating from the copula that generates the maximal probability for a joint default under given (inhomogeneous) marginals*, M. Scherer, Technische Universität München, J.F. Mai, XAIA Investment GmbH, Germany

12:00 - 13:00 Keynote Session

Room A14

Structure of life distributions, I. Olkin, Stanford University, USA

Chair: V. Melas, St.Petersburg State University, Russia

13:00 - 14:30 Lunch

14:30 - 15:50 Parallel sessions

Room A2

Developments in design of experiments

Session organizer - Chair: J. Stufken, University of Georgia, USA

- *Optimal Bayesian designs for prediction in deterministic simulator experiments*, E.R. Leatherman, T.J. Santner, The Ohio State University, A. Dean, University of Southampton and The Ohio State University, USA
- *The A-criterion: interpretation and implementation*, J.P. Morgan and J.W. Stallings, Virginia Tech, USA
- *Some thoughts about L-designs for parallel line assays*, J. Stufken, University of Georgia, USA

Room A3

Optimal fixed and random experimental sizes

Session organizer - Chair: D. Rasch, University of Natural Resources and Life Sciences Vienna, Austria

- *Implementation of Bayesian methods for sequential design using forward sampling*, J. Pilz, Alpen-Adria-University Klagenfurt, Austria
- *Sample size in approximate sequential designs under several violations of prerequisites*, K. Moder, University of Natural Resources and Life Sciences Vienna, Austria
- *Use of Doehlert designs for second-order polynomial models*, L.R. Verdooren, Danone Research, The Netherlands

Room T1

Simulations and computations for parametric goodness-of-fit tests in reliability and survival analysis

Session organizers - Chairs: M. Nikulin, Université Victor Segalen, France, and B. Lemeshko, Novosibirsk State Technical University, Russia

- *Application of nonparametric goodness-of-fit tests for composite hypotheses*, A.A. Gorbunova, B.Y. Lemeshko, S.B. Lemeshko, and A. Rogozhnikov, Novosibirsk State Technical University, Russia
- *Nonparametric testing goodness-of-fit of a regression reliability function using the Beran estimator*, E. Chimitova and V. Demin, Novosibirsk State Technical University, Russia
- *Models with cross-effect of survival functions in the analysis of patients with multiple myeloma*, A. Bitukov, O. Rukavitsyn, Main Military Clinical Hospital N.N. Burdenko, E. Chimitova, B. Lemeshko, M. Vedernikova, Novosibirsk State Technical University, Russia, and M. Nikulin, Université Victor Segalen, France
- *Flexible regression models in survival analysis*, M. Nikulin, Université Victor Segalen, France, and M. Vedernikova, Novosibirsk State Technical University, Russia

Room T3

Probabilistic models and accelerated plans

Chair: F. Pesarin, University of Padova, Italy

- *Small variance estimators for rare event probabilities*, M. Broniatowski and V. Caron, University Paris 6, France
- *Upper bounds for the error in some interpolation and extrapolation designs*, M. Broniatowski, Université Pierre et Marie Curie (Paris VI), France, and G. Celant, University of Padova, Italy
- *Laws of large numbers for random variables with arbitrarily different and finite expectations via regression method*, S. Fiorin, University of Padua, Italy

15:50 - 16:10 Coffee break

16:10 - 17:30 Parallel sessions

Room A2

***Estimation and testing* IV**

Chair: S. Giannerini, University of Bologna, Italy

- *A statistical approach to the H index*, P. Cerchiello and P. Giudici, University of Pavia, Italy
- *Complex areal sampling strategies for estimating forest cover and deforestation at large scale*, L. Fattorini and M.C. Pagliarella, University of Siena, Italy
- *Estimating power grid reliability using a splitting method*, W. Wadman, D. Crommelin, and J. Frank, CWI Amsterdam, The Netherlands

Room A3

Experimental designs constructed by computers

Session organizer: D. Rasch, University of Natural Resources and Life Sciences Vienna, Austria
Chair: J. Pilz, Alpen-Adria-University Klagenfurt, Austria

- *Design of experiments using R*, A. Gebhardt, University Klagenfurt, Austria
- *A conjecture about BIBDs*, D. Rasch, University of Natural Resources and Life Sciences Vienna, Austria, F. Teuscher, FB Genetik und Biometrie, Germany, and L.R. Verdooren, Danone Research, The Netherlands
- *A new and easy to use method to test for interaction in block designs*, K. Moder, University of Natural Resources and Life Sciences Vienna, Austria

Room T1

Computer intensive methods and simulations for the analysis of longitudinal data

Session organizer - Chair: A. Montanari, University of Bologna, Italy

- *Model-based clustering of multivariate longitudinal data*, L. Anderlucci and C. Viroli, University of Bologna, Italy

- *An algorithm to simulate VMA processes having a spectrum with fixed condition number*, M. Farné, University of Bologna, Italy
- *A wild-bootstrap scheme for multilevel models*, L. Modugno and S. Giannerini, University of Bologna, Italy

Room T3
***Estimation and testing* V**
Chair: L. Salmaso, University of Padova, Italy
- *Two notions of consistency useful in permutation testing*, S. Bonnini and F. Pesarin, University of Padova, Italy
- *Bivariate Lorenz curves based on the Sarmanov-Lee distribution*, J.M. Sarabia and V. Jordá, University of Cantabria, Spain
- *The study of the Laplace transform of Marshall-Olkin multivariate exponential distribution*, I.V. Zolotukhin, Russian Academy of Sciences, Russia

Friday, 24 May 2013

8:50 - 10:10 Parallel sessions

Room A2
Monte Carlo methods in optical probing
Session organizer - Chair: B.A. Kargin, Novosibirsk State University and SB RAS, Russia
- *Monte Carlo modeling in non-stationary problems of laser sensing of scattering media*, B.A. Kargin, Novosibirsk State University and SB RAS, and E.G. Kablukova, SB RAS, Russia
- *Monte Carlo methods for reconstructing a scattering phase function from polarized radiation observations*, A.S. Korda, S.A. Ukhinov, SB RAS, Russia
- *The Clouds and the Sea Surface Stochastic Models in the Atmosphere Optics*, S.M. Prigarin, Novosibirsk State University and SB RAS, Russia

Room A3
***Special simulation problems* I**
Session organizer: S.M. Ermakov, St. Petersburg State University, Russia
Chair: A. Sipin, Vologda State Pedagogical University, Russia
- *Empirical convergence bounds for Quasi-Monte Carlo integration*, A.A. Antonov and S.M. Ermakov, St. Petersburg State University, Russia
- *Parallel Monte Carlo method for American option pricing*, A.V. Dmitriev and S.M. Ermakov, St. Petersburg State University, Russia
- *Monte Carlo method for partial differential equations*, A. Sipin, Vologda State Pedagogical University, Russia

Room T1
Random walks
Chair: Y. Paramonov, Riga Technical University, Latvia
- *Double-barrier first-passage times of jump-diffusion processes*, L. Fernández, University of the Basque Country UPV/EHU, Spain, P. Hieber, and M. Scherer, Technische Universität München, Germany
- *Time change related to a delayed reflection,* B.P. Harlamov, IPME, RAS, Russia
- *Random walks methods for solving BVP of some meta elliptic equations*, V. Lukinov, Novosibirsk State University, Russia
- *Change detection in a Heston type model*, G. Pap, T.T. Szabó, University of Szeged, Hungary

10:10 - 10:40 Coffee break

10:40 - 12:00 Parallel sessions

Room A2

Computer intensive techniques for time series analysis

Session organizer - Chair: M. La Rocca, University of Salerno, Italy

- *Unit roots in presence of (double) threshold processes*, F. Giordano, M. Niglio, and C.D. Vitale, University of Salerno, Italy
- *Outliers in multivariate GARCH models*, A. Grané Chavez, H. Veiga, B. Martín-Barragán, Universidad Carlos III de Madrid, Spain
- *Heuristic optimization for time series analysis*, D. Maringer, University of Basel, Switzerland
- *The analysis of time course ranking data by nonparametric inference*, M.G. Schimek, M.D. Bloice, and V. Švendová, Medical University of Graz, Austria

Room A3

New methodologies for clinical trials for small population groups

Session organizers: H. Dette, Ruhr-Universitaet Bochum, and R-D. Hilgers, RWTH Aachen University, Germany

Chair: R-D. Hilgers, RWTH Aachen University, Germany

- *Strengths and weaknesses with non-linear mixed effect modelling approaches for making inference in drug development*, M. Bergstrand and M. O Karlsson, Uppsala University, Sweden
- *Two-stage optimal designs in nonlinear mixed effect models: application to pharmacokinetics in children*, C. Dumont, M. Chenel, and France Mentré, University Paris Diderot, France
- *Model selection approach for genome wide association studies in admixed populations,* P. Szulc, Wroclaw University of Technology, Poland
- *Chronological bias in randomized clinical trials*, M. Tamm, RWTH Aachen University, Germany

Room T1

Advances in estimation of complex latent variable models

Session organizer - Chair: S. Mignani, University of Bologna, Italy

- *Adaptive quadrature for likelihood inference in dynamic latent variable models*, F. Bartolucci, University of Perugia, and S. Cagnone, University of Bologna, Italy
- *Estimation of complex item response theory models using Bayesian simulation-based techniques*, C. Glas, University of Twente, The Netherlands
- *Bayesian estimation of multidimensional IRT models for polytomous data*, I. Martelli, M. Matteucci and S. Mignani, Italy

12:00 - 13:20 Parallel sessions

Room A2

Applications and simulations

Chair: S. Bianconcini, University of Bologna, Italy

- *An ecological study of associations between cancer rates and quality of air and streams*

R. Amin, University of West Florida, N. Hitt, US Geological Survey, M. Hendryx, West Virginia University, and M. Shull, University of West Florida, USA

- *Daniels' sequence and reliability of fiber composite material,* Y. Paramonov, V. Cimanis, and S.Varickis, Riga Technical University, Latvia
- *Minimax decision for reliability of aircraft fleet and airline*, Y. Paramonov, M. Hauka, and S. Tretyakov, Riga Technical University, Latvia

Room A3

***Special simulation problems* II**

Session organizer: S.M. Ermakov, St. Petersburg State University, Russia

Chair: A. Sipin, Vologda State Pedagogical University, Russia

- *Algorithm of approximate solution of traveling salesman problem*, T.M. Tovstik, E.V. Zhukova, St. Petersburg State University, Russia
- *The Supertrack approach as a classical Monte Carlo scheme*, E. Tsvetkov, Moscow Institute of Physics and Technology, Russia
- *The dependence of the ergodicity on the time effect in the repeated measures ANOVA with missing data based on the unbiasedness recovery*, A. Ufliand and N. Alexeyeva, St. Petersburg State University, Russia

Room T1

Simulation based Bayesian estimation of latent variable models

Session organizer - Chair: C. Glas, University of Twente, The Netherlands
- *Bayesian random item effects modeling: analyzing longitudinal survey data*, J.P. Fox, University of Twente, The Netherlands
- *Turning simulation into estimation*, M. Marsman, G. Maris, T. Bechger, Cito, Institute for Educational Measurement, and C. Glas, University of Twente, The Netherlands
- *MCMC estimation of directed acyclic graphical models in genetics*, S.M. van den Berg, University of Twente, The Netherlands

13:20 - 14:50 Lunch

14:50 - 15:50 Keynote Session

Room A14

Left truncated and right censored lifetime data: simulation and analysis, N. Balakrishnan, McMaster University, Canada
Chair: L. Salmaso, University of Padova, Italy

15:50 - 16:20 Conference closing, Room A14

Saturday, 25 May 2013

10:00 Tour of the Surgeon's House (Domus del Chirurgo)

Rooms Alberti (A2, A3, A6, A13, A14): via Quintino Sella, 13
Rooms Teatini (T1, T3), Registration desk: Piazzetta Teatini, 10
Lunch, Coffee break: *Ristorante Teatini*, Piazzetta Teatini, 3
Welcome party and Social Dinner: *Ristorante Nettuno*, Lungo Mare Murri Augusto 2/A
Surgeon's House (Domus del Chirurgo): piazza Ferrari