

**Stochastic Modeling Techniques and Data Analysis International Conference with Demographics Workshop
(SMTDA2018)**

12-15 June, 2018, Cultural Centre of Chania, Crete, Greece (A. Papandreou 70)

Program

| Session / Room | Date / Time | Authors / Talk Title / Event | Authors / Talk Title / Event |
|-------------------|-------------|---|---|
| | 7:45-8:45 | Tuesday June 12 | Registration |
| Auditorium | 8:45-9:30 | Opening Ceremony | |
| Auditorium | 9:30-10:20 | Plenary Session (Chair: Christos H Skiadas) Raimondo Manca <small>Universita' di Roma "La Sapienza", Rome, Italy</small> | Construction of Mean Salary Lines by Generalization of Binomial Stochastic Process |
| Auditorium | 10:20-11:00 | Plenary Session (Chair: Christos H Skiadas) Narayanaswamy Balakrishnan <small>McMaster University, Hamilton, Ontario, Canada</small> | First Passage Time of Degradation Process |
| | 11:00-11:30 | Coffee Break | |
| Auditorium | 11:30-12:10 | Plenary Session (Chair: Narayanaswamy Balakrishnan) Robert J. Elliott <small>University of Calgary, Canada, University of South Australia, Australia</small> | Dynamic Risk Measures and Nonlinear Expectations |
| Auditorium | 12:10-12:50 | Plenary Session (Chair: Anatoliy Swishchuk) Nikolaos Limnios <small>Université de Technologie de Compiègne, Sorbonne Universités, France</small> | BRANCHING PROCESSES IN SEMI-MARKOV RANDOM ENVIRONMENT |
| | 12:50-14:00 | Lunch | |
| Auditorium | 14:00-14:45 | Plenary Session (Chair: Christos H Skiadas) Jean-Marie Robine <small>MMDN, INSERM U1198, EPHE/PSL & University of Montpellier, France</small> | The Return of Winter Mortality Fluctuations |
| Auditorium | 14:45-15:30 | Plenary Session (Chair: Nikolaos Limnios) Mark Brown <small>Dept of Statistics, Columbia University, USA</small> | Taylor's Law via Ratios, for Some Distributions with Infinite Mean |
| | 15:30-16:00 | Coffee Break | |

| SCS1 | | Tuesday June 12 | | SPECIAL AND CONTRIBUTED SESSIONS SCS1 | |
|---------------|-------------|--|--|--|--|
| Room 1 | 16:00-17:30 | Chair: Christos H Skiadas, Co-Chair: Alina Potrykowska | | Health | |
| | | The Health State of a Population and the related Curves: Historical views and further perspectives | | Christos H Skiadas, Charilaos Skiadas and George Matalliotakis | |
| | | The health policy and the recent trends in mortality in Poland | | POTRYKOWSKA ALINA | |
| | | Using Stochastic Health State Function to Forecast Healthcare Demand and Healthcare Financing: Evidence from Singapore | | Ngee Choon CHIA and Shu Peng LOH | |
| | | Health status of elderly people in city and countryside in Russia | | Tamara Sabgayda, Anna Edeleva and Victorya Semyonova | |
| | | The Toll of Incidents, Accidents and Disasters on the Average Life Expectancy in Good Health | | Bushinskaya A.V., Timashev S.A. | |
| Room 2 | 16:00-17:30 | Chair: Filippo Petroni | | Real life application of stochastic models | |
| | | A Non-Homogeneous Semi-Markov Model for the Calculation of the claim reserving of a Health Fund | | Guglielmo D'Amico, Fulvio Gismondi, Montserrat Guillen, Jacques Janssen, Raimondo Manca, Ernesto Volpe di Prignano | |
| | | A probabilistic model of wind farm power generation via Copulas and indexed semi-Markov models | | Guglielmo D'Amico, Giovanni Masala, Filippo Petroni | |
| | | Optimal provision of a dispatchable energy source for wind energy management: dependence on the wind energy model | | Guglielmo D'Amico, Filippo Petroni, Fulvio Gismondi | |
| | | Reducing wind power uncertainty using insurance contracts | | Guglielmo D'Amico, Filippo Petroni, Fulvio Gismondi | |
| Room 3 | 16:00-17:30 | Chair: Tõnu Kollo, Co-Chair: Jim Freeman | | Data Analysis - Time Series | |
| | | On determining the value of online customer satisfaction ratings – a case-based appraisal | | Jim Freeman | |
| | | Testing covariance structures: non-normal approach | | Tõnu Kollo, Marju Valge | |
| | | CLUSTATIS: A cluster analysis of multiblock datasets | | Fabien Llobell, Véronique Cariou, Evelyne Vigneau, | |
| | | Methods for assessing critical states of complex systems | | Amaury Labenne, El Mostafa Qannari | |
| | | The Limit of Human Performance in Triple Jump: an approach with Extreme Value Modelling | | Valery Antonov | |
| | | | | Frederico Caeiro, Manuela Oliveira, and Domingos Silva | |

| SCS2 | | Tuesday June 12 | SPECIAL AND CONTRIBUTED SESSIONS SCS2 | |
|---------------|-------------|--|---------------------------------------|--|
| Room 1 | 17:30-19:00 | Organizer: Sarah CUBAYNES and Jean-Marie ROBINE Chair: Jean-Michel GAILLARD | | Statistical models for biodemography |
| | | Aging in the wild Assessing age-dependent patterns of mammalian demographic rates in the wild using the MALDDABA database A Multi-State Model for studying the demography of species providing extended parental care: a case study on Polar Bears Indicators of longevity in humans | | Gaillard JM & Lemaître JF RONGET Victor, LEMAITRE Jean-François, GAILLARD Jean-Michel Sarah Cubaynes, Jon Aars, Nigel Yoccoz, Roger Pradel, Olivier Gimenez ROBINE Jean-Marie, CUBAYNES Sarah |
| Room 2 | 17:30-19:00 | Chair: Leonidas Sakalauskas, Co-Chair: Valery Antonov | | Distributions - Algorithms - Models |
| | | Entropy Analytics of GDP/Capita Distribution in E.U.-28 and Eurozone-19 Members States EM Algorithm for Estimating the Parameters of the Multivariate Stable Distribution Krising method with fractional distance Euclidean Matrices Side effects of new drug computer-aided design by methods of Quantitative Structure-Activity Relationship Stochastic Modeling and Data Analysis of Arab Impact Factor | | Yiannis Dimotikalis Leonidas Sakalauskas, Ingrida Vaiciulyte Leonidas Sakalauskas Valery Antonov, Anatoly Kovalenko, Konstantin Lebedinski Mahmoud Abdel-Aty |
| Room 3 | 17:30-19:00 | Chair: James R. Bozeman, Co-Chair: Gaida Pettere | | Theory - Data Analysis - Copula |
| | | Very Little or Nothing among Words Must Be Measured with Numbers Redistricting, Including Boundary Districts, Utilizing the Convexity Ratio and Counties Selection of proximity measures for a Topological Correspondence Analysis Empirical study of multivariate tail dependence Resampling procedures for a more reliable extremal index estimation | | Larry D. Griffin James R. Bozeman, Jillian Mori, Abigail Salvadore Rafik Abdesselam Ilze Zariņa, Gaida Pettere Dora Prata Gomes, Manuela Neves |
| Room 4 | 17:30-19:00 | Chair: Teresa Oliveira | | Experimental Statistics and Modelling: Challenges and applications in Education, Health Sciences and others |
| | | Educational Data Mining and Learning Analytics: state of the art and challenges Academic Success and Personal Characteristics Analysis by ANOVA Approach Some Combinatorial Designs Using R Individual Control Charts for Ashes Content in Mineral Coal A Nurse Dyad Model for Collaborative Action Planning and Goal Attainment to Support Patient Self-Management of Stroke Risk Factors | | Amílcar Oliveira and Teresa Oliveira M. Filomena Teodoro, Alcindo Gomes and José Maia Martins Amílcar Oliveira and Teresa Oliveira Luís M. Grilo and Teresa Oliveira Barbara Kimmel, Jane Anderson, Paul Swank and Ross Shegog |
| 19.00-19.30 | | Welcome Reception | | |

| Wednesday June 13 | | |
|--------------------------|----------------------|---|
| SCS3 | Wednesday June 13 | SPECIAL AND CONTRIBUTED SESSIONS SCS3 |
| Room 1 | 9.00-10.30 | Chairs: Platis, A., Univ. of the Aegean & Malefaki, S., Univ. of Patras |
| | | Statistical, Stochastic and Data Analysis Methods and Applications (SSDAMA I) |
| | | <p>Optimal Maintenance Policies of a Two Unit Multi-State Deteriorating System with Imperfect Switch</p> <p>Modeling the Reliability and Performance of a Wind Farm Using the Universal Generating Function Technique</p> <p>Statistical Inference for Multi-State Systems based on semi-Markov processes</p> <p>Probabilistic models for clinical pathways: the case of chronic patients</p> |
| | | <p>Vasilis P. Koutras, Sonia Malefaki, Agapios N. Platis</p> <p>Panagiotis Psomas, Agapios N. Platis, Vasilis P. Koutras</p> <p>Vlad Stefan Barbu, Alex Karagrigoriou, Andreas Makrides</p> <p>Stergiani Spyrou, Anatoli Kazektsidou, Panagiotis Bamidis</p> |
| Room 2 | 9.00-10.30 | Chair: Rosaria Simone |
| | | Uncertainty in model fitting and selection |
| | | <p>A Comparison of Covariate-based Prediction Methods for FIFA World Cups</p> <p>A Projection Pursuit Algorithm for preference data</p> <p>Choosing and Combining the Right Trees From an Ensemble</p> <p>On the choice of a model-based tree for ordinal scores</p> |
| | | <p>Andreas Groll, Gunther Schaubberger</p> <p>Mariangela Sciandra, Antonio D'Ambrosio, Antonella Plaia</p> <p>Marco Sandri, Marika Vezzoli, Roberto Savona</p> <p>Carmela Cappelli, Francesca di Iorio, Rosaria Simone</p> |
| Room 3 | 9.00-10.30 | Chair: Neir Antunes Paes |
| | | Mortality |
| | | <p>Modeling of mortality in elderly by prostate diseases in Brazil</p> <p>Regional Impacts of Future Climate Change on Health and Labor in Brazil</p> <p>Quality of Statistics on Cause of Death</p> <p>Single-year Estimates in Developing Countries Mortality Database (DCMD)</p> <p>Analysis of Sex-Age-Cause Specific Mortality in European Countries</p> |
| | | <p>João Batista Carvalho, Neir Antunes Paes</p> <p>Gilvan Guedes, Kenya Noronha, Aline Magalhaes, Edson Domingues, Kenia Souza, Flaviane Santiago, Debora Cardoso</p> <p>Tae Rim Lee</p> <p>Nan Li, Hong Mi</p> <p>Aleša Lotrič Dolinar, Simona Korenjak-Černe, Jože Sambt, Filipe Afonso, Edwin Diday</p> |
| Room 4 | 9.00-10.45 | Chair: Leda D. Minkova, Co-Chair: Yury Khokhlov |
| | | Risk |
| | | <p>Credit Portfolio Risk Evaluation with non-Gaussian One-factor Merton Models and its Application to CDO Pricing</p> <p>Ruin Probability in Multivariate Collective Risk Model with Dependent and Heavy-tailed Components</p> <p>On a family of bivariate birth processes and applications</p> <p>Information measure for financial time series: quantifying short-term market heterogeneity</p> <p>Assessment of Residual Lifetime Based on the Gompertz–Makeham Law and its Application to Insurance in the Global Warming Environment</p> <p>Gender differences and control for longevity risk with indexed pension systems</p> |
| | | <p>Takuya Fujii, Takayuki Shiohama</p> <p>Yury Khokhlov</p> <p>Leda D. Minkova</p> <p>Linda Ponta and Anna Carbone</p> <p>Bushinskaya A.V., Timashev S.A.</p> <p>Mariarosaria Coppola, Maria Russolillo, Rosaria Simone</p> |
| Room 5 | 9.00-10.30 | Chairs: Aglaia Kalamatianou and Franca Crippa |
| | | Advanced Statistical Methods in Social Sciences I |
| | | <p>Content of memory, dream and imagination: exploring processes in a multilevel approach</p> <p>A latent class analysis of the profile and satisfaction of users of the social care units in Greece</p> <p>Modelling social events through the joint models of survival and longitudinal data</p> <p>Social application with multivariate regression chain graph models</p> <p>A Latent Class Conjoint Model for a Labour Market Analysis</p> |
| | | <p>Franca Crippa, Angela Tagini</p> <p>Konstantina Kakava, Dimitrios Kalamaras, Aglaia Kalamatianou</p> <p>Marcella Mazzoleni</p> <p>Federica Nicolussi, Manuela Cazzaro</p> <p>Paolo Mariani, Andrea Marletta, Lucio Masserini, Mariangela Zenga</p> |
| 10:30-11:00 | | Coffee Break |

| Wednesday June 13 | | Plenary Talks | |
|----------------------|-------------|---|---|
| Room 1 | 11.00-11.45 | Plenary Session (Chair: Nikolaos Limnios) P.-C.G. VASSILIOU Dept of Statistical Sciences University College London; Mathematics Dept, AUTH, Greece | CHANGE OF PROBABILITY MEASURE IN NON-HOMOGENEOUS SEMI-MARKOV AND MARKOV RENEWAL PROCESSES. AN APPLICATION TO FORWARD PROBABILITY MEASURE IN CREDIT RISK |
| Room 1 | 11.45-12.30 | Plenary Session (Chair: Mark Brown) Olympia Hadjiliadis Dept of Mathematics and Statistics at Hunter College of the City University of New York, USA | Quickest Detection in The Wiener Disorder Problem with Post-Change Uncertainty |
| Room 2 | 11:00-12:30 | Chairs: Aglaia Kalamatianou and Franca Crippa The necessity to use advanced methods of analysis in order to approach complex phenomena: the example of the territorial attractiveness of the municipalities of Greece A Special Gen(d)re of Big Data: potentials of the data revolution to model gender (im)balance The Challenge of Assessing Financial Literacy: When Methodology Could Make a Difference Variable-geometry families in Italy: a statistical description. Advanced statistical methods for the analysis of length of studies in higher education institutions | Advanced Statistical Methods in Social Sciences II Marie-Noelle Duquenne, Stamatina Kaklamani Gaia Bertarelli, Fulvia Mecatti, Franca Crippa Paola A. Bongini, Paola Iannello, Emanuela E. Rinaldi, Mariangela Zenga, Alessandro Antonietti Ilija Negri, Gisella Bassanini Adele H. Marshall, Mariangela Zenga, Aglaia Kalamatianou |
| 12:30-13.30 | | Lunch | |
| Excursion | 13.30-22.00 | Wednesday, June 13 | Half Day Excursion to Knossos |

| Thursday June 14 | | |
|-------------------------|---|--|
| SCS4 | Thursday June 14 | SPECIAL AND CONTRIBUTED SESSIONS SCS4 |
| Room 1 | 9.00-10.30 | Chair: Sally McClean, Co-Chair: Aleka Papadopoulou Statistical and Modeling Techniques in the Healthcare Domain |
| | A mixed hidden Markov model for unbalanced longitudinal data | Hannah Mitchell |
| | Change point detection in activity monitoring using Multivariate Statistical techniques | Naveed Khan, Sally McClean, Shuai Zhang, Chris Nugent |
| | Improving the computational efficiency for calculating matrix exponentials in R using 'kexpmv' | Meabh G. McCurdy, Adele H. Marshall, Karen J. Cairns |
| | State Occupancies, First Passage Times and Duration in DNA sequences via semi Markov modelling | Aleka Papadopoulou, Haris Palikrousis and Evanthia Farmakioti |
| | Modelling length of stay of elderly patients in Italy using survival methods | Adele H Marshall, Ciara de Brun, Marianqela Zenqa |
| Room 2 | 9.00-10.40 | Chair: Yiannis Dimotikalis, Co-Chair: Maria Symeonaki Economy |
| | A Study of the Implications of the Ballast Water Management Convention on the Economy | Georgios I. Michalelis, Mary Karadima |
| | Investment timing when investment opportunities arrive in a random sequence | Michi Nishihara |
| | Efficacy of retention strategies for employee turnover | Evy Rombaut, Marie-Anne Guerry |
| | On the measurement of positive labour mobility | Maria Symeonaki, Glykeria Stamatopoulou |
| | Models for time series whose trend has local maximum and minimum values | Norio Watanabe |
| | Independence test for continuous or discrete random variables | García, Jesús E., González-López, V.A., Londoño Sergio |
| Room 3 | 9.00-10.40 | Chair: James R. Bozeman Data Analysis |
| | CHANGE POINT ANALYSIS ON SEISMIC SEQUENCES OF GULF OF CORINTH | Lykou Rodi, George Tsaklidis, Eleftheria Papadimitriou |
| | Optimal scaling and contingency tables reveal the mismatch between patients' attitude and perception towards their asthma medications and complaints during the I-MUR service provision | Andrea Manfrin, Cecilio Mar Molinero, Janet Krska |
| | EVALUATING THE ROLE OF FACTORS' ROTATION IN MULTIVARIATE FACTOR ANALYSIS, REGARDING THE REPEATABILITY OF THE INFORMATION DERIVED, UNDER VARIOUS SCENARIOS OF RANDOM ERROR | Dimitris Panaretos, Malvina Vamvakari, George Tzavelas, Demosthenes Panagiotakos |
| | The impact of definitions in classifying the employed, unemployed and inactive when comparing measurements from different sources | Aggeliki Yfanti, Catherine Michalopoulou, Stelios Zachariou |
| | Determining the structure and assessing the psychometric properties of multidimensional scales constructed from ordinal and pseudo-interval items | Anastasia Charalampi, Catherine Michalopoulou, Clive Richardson |
| Room 4 | 9.00-10.40 | Chair: Hiroaki MOHRI, Co-Chair: Sergei Silvestrov Graphs - Nets - Kalman filter |
| | Damage Analysis induced by 2 Stochastic Processes | Hiroaki MOHRI, Jun'ichi Takeshita |
| | Updating of PageRank in Evolving Tree Graphs | Benard Abola, Pitos Seleka Biganda, Christopher Engström, Godwin A. Kakuba, John M. Mango, Sergei Silvestrov |
| | Exploring the relationship between ordinary PageRank, lazy PageRank and random walk with backstep PageRank for different graph structures | Pitos Seleka Biganda, Benard Abola, Christopher Engström, John Mango Magero, Godwin A. Kakuba, Sergei Silvestrov |
| | Sampling in Special Kinds of Nets | Papageorgiou Myrto, Farmakis Nikolaos |
| | Censored Kalman Smoother | Kostas Loumpornias, George Tsaklidis |
| | A Constrained State Space Model with GARCH Effect for the Estimation of Hidden Asset Return Jumps | Ourania Theodosiadou and George Tsaklidis |
| 10:30-11:00 | | Coffee Break |

| Thursday June 14 | | Plenary Talks | |
|-----------------------------|-------------|---|--|
| Room 1 | 11.00-11.40 | Plenary Session (Chair: Narayanaswamy BalaKrishnan) Markos Koutras University of Piraeus, Greece | Statistics Defined on Samples of Random Size: Theory and Applications |
| Room 1 | 11.40-12.20 | Plenary Session (Chair: Nikolaos Limnios) Anatoliy Swishchuk Dept of Mathematics and Statistics, University of Calgary, Canada | Stochastic Modelling of Big Data in Finance |
| Room 1 | 12.20-13.00 | Plenary Session (Chair: Raimondo Manca) Dmitrii Silvestrov Dept of Mathematics, Stockholm University, Sweden | Markov and Semi-Markov Reward Algorithms |
| SCS5 Thursday June 14 | | SPECIAL AND CONTRIBUTED SESSIONS SCS5 | |
| Room 1 | 13.00-14.10 | Chair: Stergios B. Fotopoulos | Probability |
| | | Generalizations of Poisson Process in The Modeling of Random Processes Related to Road Accidents | Franciszek Grabski |
| | | A study on probability density functions with negative exponent | Papatsouma Ioanna, Farmakis Nikolaos |
| | | Some properties of the multivariate generalized hyperbolic laws | Stergios B. Fotopoulos, Venkata K. Jandhyala, Alex Paparas |
| | | ON MULTIPLE CHANGE-POINT ESTIMATION FOR POISSON PROCESS | Top, Alioune |
| Room 2 | 13.00-14.10 | Chair: Timothy M. Young , Co-Chair: Amelia Simó | Regression |
| | | Generalized partially linear models to predict the goodness of a child garment fit | Amelia Simó, M. Victoria Ibáñez, Irene Epifanio, Vicent Gimeno |
| | | Improved Predictive Modeling of Wood Composite Products using Bayesian Additive Regression Trees (BART) | Timothy M. Young, Nana Tian, Yongke Sun |
| | | Differential gene expression and point pattern analysis | Guillermo Ayala, Angela Riffo-Campos and Amelia Simó |
| | | l1-Penalized Censored Gaussian Graphical Model | Luigi Augugliaro, Antonino Abbruzzo, Veronica Vinciotti |
| Room 3 | 13.00-14.10 | Chairs: Victorya Semyonova and Tamara Sabgayda | Health - Mortality |
| | | Development of health priorities for elderly residents of Russia and Belarus | Victorya Semyonova and Tamara Sabgayda |
| | | Subjective survival: an assessment of accuracy according to individual social profile | Apostolos Papachristos FIA CERA, Georgia Verropoulou |
| | | Application of a power-exponential function based model to mortality rates forecasting | Karl Lundengård, Belinda Strass, Andromachi Boulougari, Milica Rancic, Sergei Silvestrov |
| | | The impact of the current economic crisis on mortality in Greece | Anastasia Kostaki, Konstantinos Zafeiris, Byron Kotzamanis |
| Room 4 | 13.00-14.10 | Chair: Philippe Carette | Markov Models - Ornstein-Uhlenbeck process |
| | | Competing Markov manpower models and states based on seniority | Philippe Carette, Marie-Anne Guerry |
| | | Exploring the dynamics of business survey data with Markov models | W. Hölzl, S. Kaniowski, Y.M. Kaniowski |
| | | On the optimal designs for the prediction of complex Ornstein-Uhlenbeck processes | Sándor Baran, Kinga Sikolya |
| 14:10-15.00 | | Lunch | |

| Plenary Talks | | | |
|---------------------------------|---------------------|---|--|
| Room 1 | 15.00-15.45 | Plenary Session (Chair: Markos Koutras) Nozer D. Singpurwalla The City University of Hong Kong, Hong Kong | Likelihood, Confirmational Tenacity, and Mood Transitions, in Bayesian Inference |
| Room 1 | 15.45-16.30 | Plenary Session (Chair: Raimondo Manca) Claude Lefèvre Université de Lyon 1, ISFA, LSAF EA2429, 50 Avenue Tony Garnier, F-69007 Lyon, France and Université Libre de Bruxelles, Département de Mathématique, Campus de la Plaine C.P. 210, B-1050 Bruxelles, Belgique | On Finite Exchangeable Sequences and their Dependence, with Actuarial Applications |
| 16:30-17:00 Coffee Break | | | |
| SCS6 | Thursday June 14 | SPECIAL AND CONTRIBUTED SESSIONS SCS6 | |
| Room 1 | 17.00-18.30 | Chair: Markos Koutras Distributions of some run-related patterns in random sequences Efficient computation of distributions of pattern statistics using probability equivalence classes One-dimensional discrete scan statistics associated to some dependent models Compound sooner waiting time problems in multistate trials | Discrete models associated to pattern occurrences Yong Kong Donald E.K. Martin, Laurent Noe Cristian Preda, Alexandru Amarioarei Markos V. Koutras, Ioannis S. Triantafyllou |
| Room 2 | 17.00-18.30 | Chair: Karagrigoriou, A., University of the Aegean Low Price Effect and Post Model Correction of Value at Risk Discretization of the Tail Density Function and Discrete Expected Percentage Shortfall Examining Credit Scoring Methodologies with Alternative Data Periodic Regression Models for Outbreak Detection in Biosurveillance Systems On Generalized Linear Mixed Modeling of Epidemic Prone Syndromes in Biosurveillance | Statistical, Stochastic and Data Analysis Methods and Applications (SSDAMA II) Despina Skilogianni, Alex Karagrigoriou, George-Jason Siouris George-Jason Siouris, Alex Karagrigoriou, Despina Skilogianni Panagiota Giannouli, Christos E. Kountzakis Christina Parpoula, Alex Karagrigoriou, Angeliki Lambrou Emmanouil-Nektarios Kalligeris, Alex Karagrigoriou, Christina Parpoula, Angeliki Lambrou |
| Room 3 | 17.00-18.40 | Chair: M.J. Valderrama, Co-Chair: István Fazekas HAR-type models for realized volatility forecasting: the role of structural breaks Robust forecasting of electricity prices Branching Processes Modeling in Cancer Research Forecasting Population by Branching Processes General Bahr-Esseen inequalities and their applications Forecasting impact factor of a journal in Dentistry by PCA | Modeling - Forecasting Giuseppina Albano, Davide De Gaetano Luigi Grossi, Fany Nan Maroussia Slavtchova-Bojkova Pamen Trayanov István Fazekas, Sándor Pecsora P. Valderrama, M. Escabias, M.J. Valderrama |
| Room 4 | 17.00-18.40 | Chair: Nikolaos Farmakis, Co-Chair: Jesús García Alternative measures of average life span, by socio-economic position in England and Wales: a 30 years comparison Opening up the statistical genetics toolbox to the longitudinal study of reproductive ageing Coefficient of Variation in Life tables Similarity between Strains of Zika from Tropical and Subtropical Regions Socioeconomic inequalities in depression and cumulative disadvantage theory: differences by gender among older adults Exploring the Factors that Determine Depression among 50+ Europeans since Childhood: The Role of Adverse Experiences as Mediators | Demography Asim Butt, Chris White Christodoulou, M., Brettschneider, J., Steinsaltz, D. Nikolaos Farmakis, Dimitrios Seirinopoulos García, Jesús E., González-López, V.A. Georgia Verropoulou, Eleni Serafetinidou Eleni Serafetinidou and Georgia Verropoulou |

| PS | 18:30-19:00 | POSTERS | POSTER SESSION |
|-----------------------------|-------------|---|---|
| | | A new bivariate distribution with gamma and beta marginals | Markos V. Koutras, Theodora K. Kokkinioti |
| | | Estimating probabilities of default for portfolios with low or zero defaults | Vasileios M. Koutras |
| | | Changes in mortality in the context of economic and social development – example of selected European countries | Justyna Majewska, Grażyna Trzpiot |
| | | Modelling Customer Behaviour In Online Gambling | Maria Balzan, Lino Sant |
| | | Long memory process under strong mixing noises | Soraya HADDAD, Karima BELAIDE |
| | | Modeling And Solving A Dynamic Winner Determination Problem Under Three Reals Objectives | Larbi Asli, Méziane Aider |
| | | Life expectancy in India- Present and Future trends A Spatio-Temporal Bayesian Model Approach | Adrita Banerjee, Ajeet Kumar Singh |
| | | Taylor series expansion approach for epistemic uncertainty propagation in queueing models with inventory | Soufit Massinissa, Abbas Karim |
| | | Quantile estimation for Pareto distribution | Ayana Mateus, Frederico Caeiro |
| Thursday June 14 | 19.30-23.30 | Bus depart at 19:00 from the Conference Venue | Farewell Dinner |

| Friday June 15 | | |
|----------------|----------------|--|
| SCS7 | Friday June 15 | SPECIAL AND CONTRIBUTED SESSIONS SCS7 |
| Room 1 | 10.00-11.30 | <p>Chair: Sotiris Bersimis</p> <p>Health Monitoring using Statistical Process Monitoring Techniques</p> <p>Statistical inference based on r-size biased sample with an application to statistical process monitoring George Tzavelas, Apostolos Batsidis, Polychronis Economou</p> <p>A New Technique for Monitoring Public Health Combining Scan Statistics and Control Charts Sotiris Bersimis, Athanasios Sachlas, Markos V. Koutras</p> <p>Monitoring the Number and the Spatial Distribution of Disease Events Using Convex Hulls and Control Charting Polychronis Economou, Sotiris Bersimis, Athanasios Sachlas</p> <p>Risk-Adjusted Control Charts: A Review Stelios Psarakis, Athanasios Sachlas, Sotiris Bersimis</p> <p>Support Vector Machines: A Review and Applications in Statistical Process Monitoring Anastasios Apsimidis, Stelios Psarakis</p> |
| Room 2 | 10.00-11.40 | <p>Chair: Konstantinos N. Zafeiris</p> <p>Mortality - Data Analysis</p> <p>NEW DISTRIBUTIONS TO MORTALITY MODELLING: A DIFFERENT APPROACH Andreopoulos Panagiotis, Tragaki Alexandra, Bersimis G. Fragkiskos</p> <p>A proposed procedure for forecast future mortality trends Avraam Demetris, Bersimis G. Fragkiskos, Andreopoulos Panagiotis</p> <p>Mortality differentials among the Euro-zone countries in 2016 Konstantinos N. Zafeiris, Aspasia Tsioni</p> <p>Health trends in the entire and the peripheral populations of Greece during the 21st century: a new approach Konstantinos N. Zafeiris, Christos Skiadas</p> <p>Calculation Methods for Binomial Classification of Discrete Data. An Application in both Simulated and Real Data Bersimis Fragkiskos, Varlamis Iraklis, Vamvakari Malvina, Demosthenes Panagiotakos</p> <p>Malnutrition>Anemia>High MMR in India: Some Analysis Barun Kumar Mukhopadhyay</p> |
| Room 3 | 10.00-11.40 | <p>Chair: Sergei Silvestrov</p> <p>Data Analysis - Statistics</p> <p>Critical points of the Vandermonde determinant on spheres defined by various norms Karl Lundengård, Asaph Keikara Muhumuza, Jonas Österberg, Sergei Silvestrov, John Mango, Godwin Kakubua</p> <p>The Generalized Vandermonde Interpolation Polynomial Based on Divided Differences Asaph Keikara Muhumuza, Karl Lundengård, Jonas Österberg, Sergei Silvestrov, John Mango, Godwin Kakubua</p> <p>Calibration of multiscale two-factor stochastic volatility models: A second-order asymptotic expansion approach Betuel Canhanga, Anatoliy Malyarenko, Ying Ni, Milica Rancic, Sergei Silvestrov</p> <p>Advanced Monte Carlo pricing of European options in a market model with two stochastic volatilities Anatoliy Malyarenko, Ying Ni, Betuel Canhanga, Sergei Silvestrov</p> <p>Some results for the moments of the overshoot in a random walk with positive drift Losidis Sotirios, Konstadinos Politis</p> <p>Estimating Functions In The Presence Of A Nuisance Parameter-The Multivariate Case Douli Marigo</p> |
| Room 4 | 10.00-11.30 | <p>Chair: Traian Pirvu</p> <p>Orlicz duality in stochastic processes and risk measures' applications</p> <p>Orlicz duality in stochastic processes and risk measures' applications Christos E. Kountzakis, Dimitrios G. Konstantinides</p> <p>Quantile hedging for annuity contracts Jevtic Petar, Traian Pirvu, Tuan Q. Tran</p> <p>Longevity bond pricing in equilibrium Traian Pirvu, Jevtic Petar, Minsuk Kwak</p> <p>Ruin Probabilities for a Double Renewal Risk Model with Frequent Premium Arrivals Dimitrios G. Konstantinides</p> |
| 11:30-12:00 | | Coffee Break |

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| Friday June 15 | | Plenary Talks - Invited Talks | |
| Room 1 | 12.00-12.40 | Plenary Session (Chair: Nikolaos Limnios) Elena Yarovaya Dept of Probability Theory, Faculty of Mechanics and Mathematics, Lomonosov Moscow state University, Moscow, Russia | Particle Systems, Non Homogeneous Environments and Large Deviations |
| Room 1 | 12.40-13.20 | Invited Talk (Chair: Mark Brown) Yang Kang Columbia University, USA | Distributionally Robust Optimization via Optimal Transport and its Applications in Machine Learning |
| Room 1 | 13.20-14.00 | Plenary Session (Chair: Mark Brown) Erol Peköz Boston University, Boston, MA, USA | Wealth Exchange Models |
| 14:00-14.30 | | Closing Ceremony | |
| 14:30-15.30 | | Goodbye Drinks | Lunch |
| Excursion | Saturday June 16 (8:00-18:00) | | Full Day Excursion |