
Thursday, MAY 26th

08:30 – 11:00 Registration Desk at the IPT [Room O103]

09:00 – 09:20 Opening Ceremony [Room O106]

09:20 – 09:50 Plenary Session [Room O106]

Plenary Session 1

Room O106

Chairman: Stanislaw Mejza

09:20 **Choosing the Best Predictive Logit Model**

Christos Kitsos

09:50 – 10:10 Coffee break [Room O103]

10:10 – 11:30 Plenary Sessions [Rooms O104/O105/O106]

Organized Session 1

Room O106

**Computational Mathematics and Applications in Sciences
and Engineering**

Chairman: Filomena Teodoro

10:10 **MANOVA for the analyses of the effect of the
processing conditions on the dispersion of layered
clays in PP polymer**

Fátima de Almeida

10:30 **Text mining algorithms: a survey on the statistical
intuition**

Anacleto Correia

10:50 **Statistical characterization of noise in different
industrial workstations**

Aldina Correia

11:10 **Evaluation of GPS Static Relative Positioning**

Filomena Teodoro

Organized Session 2**Room O105**

**Practical applications of multivariate time series
analysis and longitudinal models**
Chairman: **Eliana Costa e Silva**

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- 10:10 **Forecasting the number of overnight stays in
Algarve**
Isabel Lopes
- 10:30 **A joint model of breast cancer with spatial effects**
Ana Borges
- 10:50 **Joint modelling of longitudinal CEA tumour marker
progression and survival data on breast cancer**
Ana Borges
- 11:10 **Causal influence between times series: a study
on imports, exports and economic growth**
Eliana Costa e Silva
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Organized Session 3**Room O104**

Numerical Methods in Fluids and Computation
Chairman: **Fernando Carapau**

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- 10:10 **Some results on the Frobenius coin problem**
Manuel Branco
- 10:30 **Animal movement: a simple chaotic model approach**
Carlos Correia Ramos
- 10:50 **High Weissenberg number problem: state of art**
Marília Pires
- 11:10 **A one-dimensional model for blood flow based on
Cosserat Theory**
Paulo Correia
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11:30 – 18:30 Cultural Tour

20:00 – 20:30 Cocktail at the “Hotel dos Templários”

Lobby bar, with piano

20:30 – 22:00 Conference dinner at the “Hotel dos Templários”

Friday, MAY 27th

09:00 – 12:00 Registration Desk at the IPT [Room O103]

09:00 – 10:30 Plenary Sessions [Room O106]

Plenary Sessions 2,3,4

Room O106

Chairman: **Christos Kitsos**

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- 09:00 **Quasi-stochastic model of the process of recurrent metastasis**
Marek Kimmel
- 09:30 **Analyzing data on protein content in two types of hybrid maize cultivars under three models with split units**
Iwona Mejza
- 10:00 **Data Science with the R software and applications**
Victor Leiva
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10:30 – 11:00 Coffee break + Poster Session [Room O103]

11:00 – 12:40 Parallel Sessions [Rooms O104/O105/O106/B260/B257]

Organized Session 4

Room O106

Statistics and Modelling

Chairman: **Milan Stehlik**

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- 11:00 **Stochastic bivariate models for bio-medical phenomena with two distinct kinds of dependencies between underlying random quantities**
Jerzy Filus
- 11:20 **Effects of violations of prerequisites in sequential designs on sample size and power**
Karl Moder
- 11:40 **Impact of Education Support Software on EMM Course Student Achievement**
Pavel Kolman
- 12:00 **Testing the difference between two quantiles from independent populations**
Martina Mittlboeck
- 12:20 **On robust testing for normality in autoregressive conditional heteroscedasticity models**
Luboš Střelec
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Organized Session 5**Room O105****Statistical Quality Control: Theory and Practice**Chairman: **Fernanda Figueiredo**

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- 11:00 **A nonparametric approach for simultaneous monitoring of event frequency and magnitude**
Amitava Mukherjee
- 11:20 **The effect of using an incorrect model on the performance of risk-adjusted control charts**
Maria João Inácio
- 11:40 **On the influence of control statistics in the performance of joint schemes for location and spread**
Patrícia Ramos
- 12:00 **Joint Control Charts applied to monitoring the concentration of particles with health effects in occupational environment**
Elisabete Carolino
- 12:20 **Acceptance sampling plans for sensory and chromatography analyses**
Fernanda Figueiredo
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Organized Session 6**Room O104****Stochastic processes with applications in System Biology, Genetics and Epidemiology**Chairman: **Inés M. del Puerto**

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- 11:00 **Stochastic epidemics with heterogeneous contacts in small networks**
António Gómez-Corral
- 11:20 **Modeling stochastic introgression with branching processes**
Maria Conceição Serra
- 11:40 **Mathematical modeling of the population dynamics of Black Vulture colonies through Branching Processes**
Manuel Mota
- 12:00 **A two-sex branching process as model to explain the fate of a recessive allele linked to X chromosome**
Miguel González
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Organized Session 7**Room B260**

Statistical Distributions and ApplicationsChairman: **Filipe Marques**

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- 11:00 **Improving the asymptotically unbiased extreme value index estimation**
Frederico Caeiro
- 11:20 **Pseudo Maximum Likelihood and Moments Estimators for some Ergodic Diffusions**
Pedro Mota
- 11:40 **Random polygonal lines iteratively generate on the plane**
Rui Santos
- 12:00 **Revisiting the choice of block size and the threshold in the extremal index estimation**
Dora Gomes
- 12:20 **Series representations for the sum of independent Gamma random variables and for the product of independent Beta random variables**
Filipe Marques
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Organized Session 8**Room B257**

Algebra, Mathematics and ComputationChairman: **João Araújo**

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- 11:00 **Comparing Several Tests of Randomness Based on the Difference of Observations**
Ayana Mateus
- 11:20 **Nontrivial Ground States for Cooperative Cubic Schrödinger Systems**
F. Oliveira
- 11:40 **Specht modules and symmetry classes of tensors**
Fátima Rodrigues
- 12:00 **The polynomial hierarchy of time**
Isabel Oitavem
- 12:20 **A complete rewriting system for the Plactic monoid using crystals**
António Malheiro
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12:30 – 14:00 Lunch [IPT Restaurant]

14:00 – 14:30 Plenary Session [Room O106]

Plenary Session 5

Room O106

Chairman: **Victor Leiva**

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- 14:00 **Big data challenges for statistical approaches to 21st century medical imaging**
Robert Aykroyd
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14:30 – 15:50 Parallel Sessions [Rooms O104/O105/O106/B260]

Invited PPWB5 Session 1

Room O106

Applications of quantitative methods in economics and finance

Chairman: **Stanislaw Mejza**

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- 14:30 **Comparative analysis of classical and positional approaches to the synthetic evaluation of housing conditions in EU countries**
Joanna Stanisławska
- 14:50 **The use of biplot in the analysis of poverty determinants in EU countries**
Andrzej Wołoszyn
- 15:10 **Identification of spatial effects in the evaluation of socio-economic development of EU regions**
Romana Głowicka-Wołoszyn
- 15:30 **Ecoinnovation efficiency**
Paweł Bartoszczuk
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Organized Session 9

Room O105

Matrices in Science and Engineering

Chairman: **João Cardoso**

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- 14:30 **On Some Problems of Analytic Geometry over the Octonions**
Paulo Saraiva
- 14:50 **Spatio-temporal modelling of environmental monitoring data from different surveys**
Luís Margalho
- 15:10 **Linear Algebra and Image Processing: a new teaching approach**
Cristina Caridade
- 15:30 **Finding the Closest Generalized Essential Matrix**
João Cardoso
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Organized Session 10**Room O104**

Statistical Models in Applied SciencesChairman: **Rosário Ramos**

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- 14:30 **t-Student and Mann-Whitney tests applied to small sample data - inevitable but uninformative?**
Francisco Caramelo
- 14:50 **Study of the differences in mortality and length of hospital stay in acute myocardial infarction at hospital level**
Teresa Magalhães
- 15:10 **A comparative study of the estimators for the demand of Engineering Courses in Portugal**
Raquel Oliveira
- 15:30 **At which sample size is Monte Carlo Cross-Validation reliable for dichotomous classifiers?**
Miguel Patrício
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Organized Session 11**Room B260**

Statistical inference for discrete-valued time seriesChairman: **Isabel Silva**

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- 14:30 **Simple integer-valued bilinear model: inference, prediction and diagnostic**
Isabel Pereira
- 14:50 **Surveillance in Discrete Time Series**
Maria da Conceição Costa
- 15:10 **On the maxima of integer models based on a new operator**
Maria da Graça Temido
- 15:30 **Outliers detection in integer-valued time series**
Isabel Silva
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15:50 – 18:00 Visit to the "Convento de Cristo"

Saturday, MAY 28th

09:00 – 10:00 Plenary Sessions [Room O106]

Plenary Sessions 6,7	Room O106
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Chairman: Amílcar Oliveira

09:00	On optimality of neighbor designs under mixed interference models
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Augustyn Markiewicz

09:30	Linear Sufficiency in Models with Orthogonal Block Structure
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João Mexia

10:00 – 10:30 Special Invited Session [Room O106]

Round Table (Publications)	Room O106
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Chairman: Adriana Aykroyd

10:00	Organized discussion on the aims of the Journal of Applied Statistics and of the Springer book
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10:30 – 10:45 Coffee break + Poster Session [Room O103]

10:45 – 12:45 Parallel Mini-courses[Rooms O106/O105]

Mini-course 1	Room O106
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Chairman: Teresa Oliveira

10:45	Theories and Strategies of Goal Setting and Goal Attainment in Patients' Self-Management of Chronic Diseases: Practical Application of Chronic Disease Management Using Video-Technology
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Barbara Kimmel, Jane Anderson, Guilherme Oliveira and Cristina Lopes

Mini-courses 2,3 **Room O105**

Chairman: **Rosário Ramos**

- 10:45 **Ruler, Compass and Nail: 360 degree Spherical
Perspective made simple**
António Araújo
- 11:45 **Creativity and mathematics creation in history**
Iran Mendes
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12:45 – 14:15 Lunch [Lodge Restaurant]

14:15 – 15:45 Plenary Sessions [Room O106]

Plenary Sessions 8,9,10 **Room O106**

Chairman: **Luís Grilo**

- 14:15 **Statistical and probabilistic modeling for cancer
risks: mammary cancer and neuroblastoma**
Milan Stehlík
- 14:45 **Risk return profile in the hedge fund industry**
Isabela Pruchnicka-Grabias
- 15:15 **Tests for equality of mean vectors with structured
covariance matrices**
Carlos A. Coelho
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14:45 – 16:10 Coffee break [Room O103]

16:10 – 17:50 Parallel Sessions [Rooms O104/O105/O106/B260]

Invited PPWB5 Session 2 **Room O106**

Statistical Modelling and Applications

Chairman: **Teresa Oliveira**

- 16:10 **A general method for bivariate stochastic models
construction**
Jerzy Filus
- 16:30 **Long memory stochastic processes construction**
Lidia Filus
- 16:50 **The uniform distribution product as approach to
the (Q, r) inventory model using R software**
J. Seijas-Macias

17:10 **Combination of Statistical and Clinical Methods to Assess the Risk of Tooth Loss**

José Pereira

17:30 **Recent developments on optimal designs and their applications in inference**

Milan Stehlík

Organized Session 12

Room O105

Computational Data Analysis and Numerical Methods

Chairman: **Luís Grilo**

16:10 **Multivariate analysis applied to school achievement in mathematics in the 3rd cycle - a case study**

Maria da Luz Soares

16:30 **Shapes and computer generation of the numerical range of complex matrices on a Hilbert space**

Ana Nata

16:50 **Misclassification and asymmetry in binary regression model**

Martin Jacinto

17:10 **Non-parametric Individual Control Chart for Silica in Water**

Luís Grilo

Organized Session 13

Room O104

Statistics and Applications in Life Sciences

Chairman: **Manuela Neves**

16:10 **Spatio-temporal structure of ecological assemblages: a comparative study between STATICO and Canonical Correspondence Analysis**

Susana Mendes

16:30 **Applying mixed models in the selection of ancient grapevine varieties**

Elsa Gonçalves

16:50 **Pulse Wave Velocity: statistical characterization of Early Vascular Aging**

Pedro Oliveira

17:10 **Field methods guided by parameter estimation in wind farm monitoring protocols**

Regina Bispo

Organized Session 14**Room B260**

Applications in StatisticsChairman: **Manuela Oliveira**

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- 16:10 **Models with orthogonal block structure, commutativity and B -Matrices**
Carla Santos
- 16:30 **Focusing on the Inference**
Cristina Dias
- 16:50 **Effect of growth medium, temperature and incubation time on *Chlamydomonas reinhardtii***
Vinod Patil
- 17:10 **Analysis and prediction of heat wave over India during 2015**
Venkata Dodla
- 17:30 **Determinants behavior analysis of demand for passengers to the Portuguese air travel leisure market: Application with Partial Least Squares Regression (PLS)**
José Vicente
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18:00 **Closing Ceremony [Room O106]**

Poster Session [Room O103]

Chairman: **Célio Marques****Uni- and multivariate approach to evaluate susceptibility to Fusarium head blight of wheat hybrids**

Tadeusz Adamski (Poster included in the Invited PPWB5 Session 1)

Principal Component Analysis with Physical Fitness Variables

Domingos Silva (Poster included in the Organized Session 14)

A multilevel analysis of student's achievement in mathematics

Susana Faria (Poster included in the Organized Session 10)

Structural Time Series Models Applied to a Water Quality Monitoring Problem

Manuela Gonçalves (Poster included in the Organized Session 10)

On the Probability of Return Levels for Spatial Extreme Events

Luísa Pereira

Estimating the extremal coefficient: a comparison of methods

Marta Ferreira

A multivariate Birnbaum-Saunders model and its diagnostics and application to biomedicine

Carolina Marchant

Approximate probabilities and critical values for Bartels randomness test

Ayana Mateus

Environmental awareness and education: A higher education-based study

Célio Marques