38th Annual Conference of the International Society for Clinical Biostatistics

Vigo, Spain 9-13 July 2017

PROGRAMME

More Info: www.iscb2017.info
Welcome to the ISCB38 conference
July 9 - 13, 2017, Vigo, Spain

The 38th Annual Conference of the ISCB, hosted by the city of Vigo, brings together two plenary talks, eight oral invited sessions, and a number of oral and poster contributed sessions (Monday-Wednesday). Following the tradition of previous ISCB conferences, the Scientific Programme is completed with several pre-conference courses (Sunday) and mini-symposia (Thursday). This booklet collects the information related to all these scientific activities.

The informations corresponding to the plenary talks, the invited and contributed presentations, the courses and the mini-symposia are gathered up day-to-day. The talks of ISCB President’s Invited Speaker Stephen Senn and Keynote Speaker Francesca Dominici can be found in Monday’s and Wednesday’s sections, respectively. We thank very much Stephen and Francesca for their plenary talks, and all the member of the Scientific Programme Committee and the invited speakers and course providers for helping to devise an excellent scientific programme. We particularly thank Stephen Senn for accepting ISCB President’s invitation shortly before the conference dates, as soon as it was known that Anastasios Tsiatis would not be able to attend the ISCB38.

The number of contributed presentations raises to 363. They are distributed into 190 oral and 173 poster contributed presentations. All of them were selected by a peer review procedure, and we are happy to recognize the relevance and high-quality of all of them. Thanks to all the contributed authors!

Last but not least, we would like to express our deepest gratitude to the members of the Local Organising Committee for making the conference possible.

Jacobo de Uña Álvarez
Chair of the Local Organising Committee

Guadalupe Gómez Melis
Chair of the Scientific Programme Committee
Committees

The International Society for Clinical Biostatistics (ISCB) is devoted to stimulate research into the principles and methodology used in the design and analysis of clinical research and to increase the relevance of statistical theory to the real world of clinical medicine.

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Maria Durbán Reguera  Spain
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Rosa Lamarcia  Spain
Ian McGowan  US
Ana Luisa Papolia  Portugal
David Price  UK
Geraldine Rauch  Germany
Maria Xosé Rodríguez Álvarez  Spain
Montse Ruí  Spain
Martin Schumacher  Germany
Armando Teixeira Pinto  Australia
Lee-Jen Wei  US

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Support Staff
Carla M. Moreira  Institute of Public Health, University of Porto, Portugal

PhD Student
Marta Cousido Rocha  University of Vigo, Spain

Programme Overview

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<th>Monday 10</th>
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# Programme Overview

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<th>From</th>
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<th>CS2 Causal questions and principled answers: a guide through the landscape for practising statisticians</th>
<th>CS3 The analysis of recurrent event data in clinical trials</th>
<th>CS5 Advances in adaptive clinical trial design: Bayesian and frequentist approaches</th>
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<td>CS1 Statistical methods for microbiome studies</td>
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<td>CS4 Age-Period-Cohort modeling</td>
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**Details**

### Full-day courses

- **10.00 - 18.00 h.** CS2: Causal Questions and Principled Answers: a Guide Through the Landscape for Practising Statisticians *Room: Sala Mar 2*
  - **Bianca DeStavola**, UCL Great Ormond Street Institute of Child Health, United Kingdom
  - **Els Goetghebeur**, Ghent University, Belgium
  - **Saskia Le Cessie**, Leiden University Medical Center, The Netherlands
  - **Erica Moodie**, McGill University, Quebec, Canada
  - **Ingeborg Waernbaum**, Umea University, Sweden

- **10.00 - 18.00 h.** CS5: Advances in Adaptive Clinical Trial Design: Bayesian and Frequentist Approaches *Room: Sala Terra 2*
  - **Rajat Mukherjee**, Cytel, USA
  - **Pantelis Vlachos**, Cytel, Switzerland

### Half-day courses

- **10.00 - 13.30 h.** CS3: The Analysis of Recurrent Event Data in Clinical Trials *Room: Sala Mar 4*
  - **Mouna Akacha**, Novartis Pharma AG, Switzerland
  - **Richard Cook**, University of Waterloo, Canada

- **14.30 - 18.00 h.** CS1: Statistical Methods for Microbiome Studies *Room: Sala Mar 4*
  - **M. Luz Calle**, University of Vic - Central University of Catalonia, Spain

- **14.30 - 18.00 h.** CS4: Age-Period-Cohort Modeling *Room: Sala Terra 4*
  - **Jon Wakefield**, University of Washington, Seattle, USA

- **19.30 h.** Students’ Gathering *Estrella Galicia brewery (Praza de Compostela)*
Programme Overview

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<td>09.00</td>
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<td>Welcome</td>
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<td><strong>ISCB President’s Invited Speaker: Stephen Senn</strong></td>
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<td>The Revenge of RA Fisher: Thoughts on Randomgate and its Wider Implications</td>
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<td><strong>IS1</strong> Statistical methods for precision medicine</td>
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<td><strong>OC1</strong> Bayesian methods in clinical research 1</td>
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<td><strong>OC2</strong> Longitudinal data analysis and biomarker discovery</td>
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<td><strong>OC3</strong> Machine learning for clinical data analysis</td>
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<td><strong>OC4</strong> Multivariate survival analysis and dynamic prediction 1</td>
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<td><strong>PC1</strong> Clinical trials 1</td>
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<td><strong>OC5</strong> STRATOS 1</td>
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<td><strong>OC6</strong> Bayesian methods in clinical research 2</td>
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<td><strong>OC7</strong> Methods for handling missing data 1</td>
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<td><strong>OC8</strong> Rare diseases and small populations</td>
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<td><strong>OC9</strong> Survival analysis 1</td>
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<td><strong>IS2</strong> Methods in research on research</td>
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<td><strong>OC10</strong> Biostatistics for high dimensional data 1</td>
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<td><strong>OC11</strong> Joint modelling in practice 1</td>
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<td><strong>OC12</strong> Statistical methods for systematic reviews</td>
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<td><strong>OC13</strong> Causal inference and mediation analysis 1</td>
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<td><strong>PC2</strong> Clinical trials 2</td>
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<td><strong>IS3</strong> Beyond proportional hazards</td>
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<td><strong>OC14</strong> Bayesian methods in clinical research 3</td>
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<td><strong>OC15</strong> Complex survival data 1</td>
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<td><strong>OC16</strong> Design and analysis of clinical trials 1</td>
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<td><strong>OC17</strong> Statistical methods in epidemiology 1</td>
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<td><strong>PC3</strong> Biomedical studies 1</td>
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<td>Welcome reception at Pazo Quiñones de León (Castrelos Park)</td>
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Detailed Programme

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<td>09.00 - 09.30 h.</td>
<td>Welcome <strong>Room:</strong> Auditorio</td>
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<td><strong>ISCB President’s Invited Speaker Room:</strong> Auditorio</td>
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<td>10.30 - 11.00 h.</td>
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<td>11.00 - 12.30 h.</td>
<td><strong>IS1</strong> Statistical Methods for Precision Medicine <strong>Room:</strong> Auditorio</td>
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<td>Organised by Marie Davidian, North Carolina State University, USA</td>
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<td><strong>IS1-1</strong> Kelley Kidwell, University of Michigan, USA</td>
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<td>SMART Clinical Trial Design for Tailored Treatment Guidelines</td>
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<td><strong>IS1-2</strong> Eric Laber, Carolina State University, USA</td>
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<td>Sample Size Considerations for Precision Medicine</td>
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<td><strong>IS1-3</strong> Erica Moodie, McGill University, Quebec, Canada</td>
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<td>Personalizing Immunosuppressant Regimes Following Transplantation</td>
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<td>11.00 - 11.18 h.</td>
<td><strong>OC1-1</strong> Thomas Burnett</td>
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<td>Enhancing adaptive enrichment trials using short term endpoints</td>
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<td>11.19 - 11.36 h.</td>
<td><strong>OC1-2</strong> Katharina Hees</td>
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<td>Sample size recalculation in clinical trials incorporating historical data</td>
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<td>11.37 - 11.54 h.</td>
<td><strong>OC1-3</strong> Gaelle Saint-Hilary</td>
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<td>Comparing drug development strategies with probabilities of success including benefit-risk assessment to inform decision-making</td>
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<td>11.55 - 12.12 h.</td>
<td><strong>OC1-4</strong> Manuel Wiesenfarth</td>
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<td>Partial pooling of patient subgroups in phase II trials: improving performance when treatments are only active in a minority of groups</td>
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<td>12.13 - 12.30 h.</td>
<td><strong>OC1-5</strong> Kirsty Hicks</td>
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<td>Quantitative approaches to design and analysis of experimental medicine clinical trials</td>
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<td><strong>OC2</strong> Longitudinal data analysis and biomarker discovery <strong>Room:</strong> Sala Mar 4</td>
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<td>Chair: Paola Rebora</td>
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<td>11.00 - 11.18 h.</td>
<td><strong>OC2-1</strong> Bachirou Tadde</td>
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<td>Modeling trajectories and causal links between anatomic, cognitive and functional domains in Alzheimer’s disease: a latent process approach</td>
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<td><strong>OC2-2</strong> Lan Wen [StCA winner]</td>
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<td>Methods for handling longitudinal outcomes truncated by dropout and death</td>
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<td>11.37 - 11.54 h.</td>
<td><strong>OC2-3</strong> Gul Inan</td>
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<td>A criterion for selection of working correlation structure in generalized estimating equations</td>
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11.00 - 11.18 h. OC4-1 Tatek Getachew Habtemichael
Diagnosis of HIV/AIDS progression using a hidden Markov model

11.19 - 11.36 h. OC4-2 Martin Wolkewitz
Using point-prevalence studies for risk factor analyses of hospital-acquired infections: a multi-state point of view

11.37 - 11.54 h. OC4-3 Michael Lauseker
Misspecification of cause of death in a progressive illness-death model

11.55 - 12.12 h. OC4-4 Francesca Leva
Multi state modelling for heart failure care path: a population-based study using administrative data

12.13 - 12.30 h. OC4-5 Klaus Langohr
A bidirectional multi-state model for panel data on bone mineral density among HIV-infected patients

11.55 - 12.12 h. OC3-4 Marius Thomas
Subgroup identification in dose-response studies via model-based recursive partitioning

12.13 - 12.30h. OC3-5 Andrea Hita
Segmentation methods comparison at events detection in physiological time-series: hidden Markov models versus spectrogram based techniques

11.00 - 11.54 h. OC3-1 Michael Leblanc
A model-based subgroup learning strategy

11.19 - 11.36 h. OC3-2 Mohammad Karim
Estimating inverse probability weights using super learner when weight-model specification is unknown in a marginal structural Cox model context

11.37 - 11.54 h. OC3-3 Insuk Sohn
Semivarying coefficient least squares support vector regression for analyzing high-dimensional gene-environmental data

11.55 - 12.12 h. OC3-4 Marius Thomas
Subgroup identification in dose-response studies via model-based recursive partitioning

11.00 - 12.30 h. OC3: Multistate survival analysis and dynamic prediction 1 Room: Sala Terra 4 Chair: Hae Won Uh

12.13 - 12.30 h. OC3: Multistate survival analysis and dynamic prediction 1 Room: Sala Terra 2 Chair: Hein Putter

12.13 - 12.30 h. OC5-4 Willi Sauerbrei
A computationally simple central monitoring procedure for the detection of data fabrication in multi-center clinical trials

12.36 - 13.30 h. OC5: STRengthening Analytical Thinking for Observational Studies (STRATOS) 1 Room: Auditorio Chair: Bianca De Stavola

M7 David Blanco De Tena-Dávila
Interventions to improve reporting guidelines adherence: a scoping review

M10 Pavel Mozgunov
A non-parametric information-theoretic approach for phase III clinical trials

M13 Ammarin Thakkinstian
Comparison of superficial surgical site infection between delayed primary versus primary wound closure in complicated appendicitis: a randomized controlled trial

M16 Daniel Slade
An efficient early phase trial design for dose-finding and activity evaluation in two patient populations simultaneously

M19 Lucinda Billingham
Progressive dose-finding phase I trials in cancer: can results from one trial inform the next?

M22 Pawin Numthavaj
Application of multilevel mixed model in randomized controlled trial of Mitomycin C for postoperative endoscopic sinus surgery

M25 Mojmir Vinkler
Effect of denoising on longitudinal volumetric measurements of brain atrophy measurements based on MRI for Alzheimer’s disease

M28 Tong-Yu Lu
Covariates-adjusted comparison of two treatments with ordinal responses

M31 Masahiko Gosho
Statistical methods for screening adverse drug interactions, with an application to spontaneous reporting systems database

M34 Xiaoyi Chen
Evaluation of statistical methods for pharmacovigilance signal detection from social media

M37 Thomas Zwingers
The use of historical controls in randomized clinical trials in rare diseases

M40 Diane Uschner
The choice of a randomization procedure for randomized controlled clinical trials

M43 Mohamed Amine Bayar
Impact of interim analyses in time-to-event randomized trials in rare diseases on a long-term horizon

M46 Akiko Kada
Evaluation of effect by using different control of internal clinical trial in rare disease registry

M49 Rutger Van Den Bor
A computationally simple central monitoring procedure for the detection of data fabrication in multi-center clinical trials

M52 Andrea Bassi
A novel decision-theoretic framework for adaptive multi-arm clinical trials

M55 Audrey Béliveau
Network meta-analysis of disconnected networks: how dangerous are random baseline treatment effects?

M58 Nicholas Magill
Addressing treatment contamination in trials of complex interventions: results from a simulation study comparing two design options

M61 Hao Zhang
Why cluster size matters – lower boundaries for the expected intra cluster correlation coefficient in cluster randomized controlled trials

12.36 - 13.30 h. OC5: STRengthening Analytical Thinking for Observational Studies (STRATOS) 1 Room: Auditorio Chair: Bianca De Stavola

12.36 - 12.54 h. OC5-1 Willi Sauerbrei
On ‘state-of-the-art’ for selection of variables and functional forms in multivariable analysis
12.55 - 13.12 h. OC5-2 Christen Gray
Accounting for complex measurement error in fractional polynomial models, with an application to alcohol and mortality

13.13 - 13.30 h. OC5-3 Aris Perperoglou
A comparison of spline methods in R for building explanatory models

12.36 - 13.30 h. OC6: Bayesian methods in clinical research 2 Room: Sala Mar 2
Chair: Heinz Schmidli
12.36 - 12.54 h. OC6-1 Philip Boonstra
Combining nested risk-prediction models
12.55 - 13.12 h. OC6-2 Andrea Cremaschi
A Bayesian approach to modelling drug interactions
13.13 - 13.30 h. OC6-3 Iván Navarro
Bayesian predictions for clinical trials with time-to-event endpoints

12.36 - 13.30 h. OC7: Methods for handling missing data 1 Room: Sala Mar 4
Chair: Nadine Binder
12.36 - 12.54 h. OC7-1 Cattram Nguyen
Practical guidance for handling convergence issues in multiple imputation
12.55 - 13.12 h. OC7-2 Shaun Seaman
Relative efficiency of joint-model and full-conditional-specification multiple imputation when conditional models are compatible
13.13 - 13.30 h. OC7-3 Emily Karahalios
Using multiple imputation to account for missing data in marginal structural models: a simulation study

12.36 - 13.30 h. OC8: Rare diseases and small populations Room: Sala Terra 4
Chair: Geert Molenberghs
12.36 - 12.54 h. OC8-1 Christina Fitzner
Comparison of stratified randomization to unstratified randomization in small sample size trials with rare events on the basis of empirical type I error rates
12.55 - 13.12 h. OC8-2 Kristian Brock
Assessing the design of our trial in an ultra-rare condition by the Parmar et al. framework for trials in smaller populations
13.13 - 13.30 h. OC8-3 Susanne Urach
Statistical properties of hypothesis tests for a goal attainment scaling endpoint

12.36 - 13.30 h. OC9: Survival analysis 1 Room: Sala Terra 2
Chair: Dimitris Rizopoulous
12.36 - 12.54 h. OC9-1 Carla Moreira
Flexible hazard rate estimation with interval sampling
12.55 - 13.12 h. OC9-2 Hans Van Houwelingen
Solving the Fine-Gray riddle
13.13 - 13.30 h. OC9-3 Ronald Geskus
Two approaches to estimation of the subdistribution hazard with time-varying covariates

13.30 - 15.00 h. Lunch Break Room: Sala Congresos

15.00 - 15.07 h. IS2: Methods in Research on Research Room: Auditorio
Organised by Els Goetghebeur, Ghent University, Belgium
Chair: Els Goetghebeur
15.00 - 15.18 h. IS2-1 John Ioannidis, Stanford University, USA
Lessons from Meta-Epidemiological Assessments
15.19 - 15.36 h. IS2-2 Isabelle Boutron, Paris Descartes University, France
The Peer Review Process: Why Evidence Based Practices Are Needed
15.37 - 15.54 h. IS2-3 Patrick Bossuyt, University of Amsterdam, Netherlands Twisting “Spin”: How to Avoid or Attenuate Exaggerated Claims in Reports of Biomarker Studies

15.00 - 16.30 h. OC10: Biostatistics for high dimensional data 1 Room: Sala Terra 2
Chair: M. Luz Calle
15.00 - 15.18 h. OC10-1 Maral Saadati
Regularized cause-specific hazards models for competing risks
15.19 - 15.36 h. OC10-2 Virginie Stanislas
Detecting interactions in GWAS with the gene-gene eigen-epistasis approach
15.37 - 15.54 h. OC10-3 Juan R. González
Efficient generalized canonical correlation approach to perform multomic data integration of big data matrices with missing individuals
15.55 - 16.12 h. OC10-4 Marianne Jonker
Statistical methods for detecting gene-gene and gene-environment interactions in genetic association studies
16.13 - 16.30 h. OC10-5 Harald Binder
Partitioned learning of deep Boltzmann machines for linking complex SNP patterns to clinical endpoints

15.00 - 16.30 h. OC11: Joint modelling in practice 1 Room: Sala Mar 2
Chair: Koos Zwinderman
15.00 - 15.18 h. OC11-1 David Hughes
Joint modelling of multiple longitudinal markers for clinical classification purposes
15.19 - 15.36 h. OC11-2 Regina Stegherr
Analysing unmeasured baseline covariates in studies with delayed entry using a joint model
15.37 - 15.54 h. OC11-3 Grigorios Papageorgiou
Individualized dynamic prediction of survival under time-varying treatment strategies
15.55 - 16.12 h. OC11-4 Jenifer Espasandín-Domínguez
A novel approach to joint modelling inflammatory markers through flexible copula regression models
16.13 - 16.30 h. OC11-5 Jack Wilkinson
Analysis of complex longitudinal data arising from multistage interventions

15.00 - 16.30 h. OC12: Statistical methods for systematic reviews Room: Sala Mar 4
Chair: Stephen Senn
15.00 - 15.18 h. OC12-1 Thomas Debray
Meta-analysis of external validation studies
15.19 - 15.36 h. OC12-2 Stephen Senn Random (Bayesian) main effect of treatment meta-analysis
15.37 - 15.54 h. OC12-3 Ian White A comparison of arm-based and contrast-based approaches to network meta-analysis
15.55 - 16.12 h. OC12-4 Yusuke Yamaguchi Bivariate meta-analysis for two binary outcomes with low incidence: a bivariate beta-binomial model using copulas
16.13 - 16.30 h. OC12-5 Bryony Langford Machine learning methods for systematic literature reviews: automated abstract selection based on study design

15.00 - 16.30 h. OC13: Causal inference and mediation analysis 1 Room: Sala Terra 4
Chair: Helene Jacqmin-Gadd
15.00 - 15.18 h. OC13-1 Bianca L. De Stavola Multiple questions for multiple mediators
15.19 - 15.36 h. OC13-2 Sabine Landau Mediation analysis for trials using Stein-like estimators with instrumental variables
15.37 - 15.54 h. OC13-3 Minna Genbäck Bias, bounds and sensitivity analysis for unobserved confounding when using regression imputation and double robust estimators
15.55 - 16.12 h. OC13-4 Anita Lindmark Sensitivity analysis for unobserved confounding of direct and indirect effects using uncertainty intervals
16.13 - 16.30 h. OC13-5 Paola Rebora Causal models to evaluate the role of anticoagulant therapy on mortality in haemodialysis patients

15.00 - 16.30 h. PC2: Clinical trials 2 Room: Hall
Chair: Armando Teixeira-Pinto
M2 Arsene Brunelle Sandie Exploration on non-inferiority test for continuous variable with smooth margin
M5 Olivier Collignon Challenges in using historical controls in drug development
M8 Lehana Thabane The registry-based trial-opportunities, challenges and solutions
M11 Manjula Schou Relative risk in indirect treatment comparisons
M14 Marion Proctor Simulation study to estimate bias of treatment effect in pain scores in diabetic neuropathy
M17 Siu Hung Cheung Sequential estimation-adjusted adaptive design for three-arm non-inferiority trials
M20 Stephen Walter Estimating effects in two-stage randomised trials when some participants are indifferent to treatment choice
M23 Masashi Shimura A bias correction method using prior information for interim analysis
M26 Sébastien Bailly Using a hierarchical score to account for composite outcomes in clinical trials: a re-analysis of the EMPIRICUS randomized clinical trial
M29 Kosuke Kashiwabara A reasonable adaptive Simon’s two-stage design

M32 Ryuji Uozumi Planning adaptive population selection design with survival endpoints
M35 Hiroaki Iijima Hierarchical modeling for cluster randomized cross-over trial with a discrete outcome
M38 Jane Candlish Analysis methods for partially nested randomized controlled trials
M41 Lesley-Anne Carter Comparing baseline as response and missing indicator methods for missing baseline data in a mixed design cluster randomised control trial
M44 Kazushi Maruo Inference on median difference for longitudinal skewed data in randomized clinical trials
M47 Michael Grayling Admissible multi-arm stepped-wedge cluster randomized trial designs
M50 Eisuke Hida Consideration of hybrid non-inferiority trials design using network-meta-analysis
M53 David Van Klaveren Measuring discrimination of models that predict treatment benefit: two examples guiding cardiovascular interventions
M56 Yoann Blangero A non-parametric method to evaluate predictive biomarkers for patient treatment selection: the area between curves
M59 Dominik Grathwohl Are enrichment designs for reducing the placebo response sound?
M62 James Morden Nested case-control and full cohort approaches for evaluating biomarkers in RCTs – comparison of methods using data from the TACT2 trial

16.30 - 17.00 h. Coffee Break Room: Hall

17.00 - 18.30 h. IS3: Beyond Proportional Hazards Room: Auditorio
Chair: Tomasz Burzykowski
IS3-1 Hajime Uno, Dana-Farber Cancer Institute, USA
On testing based on restricted mean survival time for time-to-event outcomes
IS3-2 Brian Cloggett, Harvard Medical School, USA
Non-Parametric Estimation of LongTerm Treatment Benefit from a Randomized Controlled Trial
IS3-3 Ludovic Trinquart, Boston University School of Public Health, Department of Biostatistics, USA
Non-Inferiority Trials with Time-to-Event Outcomes: Design Based on the Restricted Mean Survival Times

17.00 - 17.18 h. OC14-1 Jordan Elm Subject randomization with optimal unequal allocation in Bayesian adaptive trials
17.19 - 17.36 h. OC14-2 Reynaldo Martina A combined proof of concept and dose finding study with multiple endpoints: a Bayesian adaptive design in chronic prostatitis/chronic pelvic pain syndrome
## 38th Annual Conference of the International Society for Clinical Biostatistics
Vigo, Spain 9-13 July 2017

### PC3: Biomedical studies 1 Room: Hall
Chair: Maria José Rodríguez Álvarez

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<td>OC15- Complex survival data 1 Room: Sala Terra 2                         Chair: Philippe Lambert</td>
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<td>17.00 - 17.18 h</td>
<td>OC15-1 Andrew Titman Testing the Markov assumption in general multi-state models</td>
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<td>17.19 - 17.36 h</td>
<td>OC15-2 Nan Van Geloven The role of frailty in the evaluation of treatment delay</td>
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<td>17.37 - 17.54 h</td>
<td>OC15-3 Jooyoung Lee Bias in rate-based analysis of recurrent exacerbations due to the risk-free period</td>
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<td>17.55 - 18.12 h</td>
<td>OC15-4 Paul Blanche Inference in the competing risks setting via constrained nonparametric maximum likelihood estimation</td>
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<td>18.13 - 18.30 h</td>
<td>OC15-5 Tobias Bluhmki Empirical simulation of complex time-to-event data incorporating time-dependent exposures: a multistate approach</td>
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<td>17.00 - 18.30 h</td>
<td>OC16: Design and analysis of clinical trials 1 Room: Sala Mar 4            Chair: Gillian Lancaster</td>
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<td>17.00 - 17.18 h</td>
<td>OC16-1 Stella Preussler Optimal sample size allocation and go/no-go decision rules for phase II/III programs where several phase III trials are performed</td>
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<td>17.19 - 17.36 h</td>
<td>OC16-2 Beatriz Goulao Split-plot designs: sample size considerations</td>
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<td>OC16-3 Babak Choodari-Oskoei Type I error rates of Multi-Arm Multi-Stage (MAMS) platform clinical trials: impact of adding new research arms</td>
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<td>17.55 - 18.12 h</td>
<td>OC16-4 Marta Bofigli-Roig Sample size derivation for binary composite endpoints</td>
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<td>18.13 - 18.30 h</td>
<td>OC16-5 Toshiro Tango Power and sample size for the S.T repeated measures design combined with a linear mixed-effects model allowing for missing data</td>
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<td>17.00 - 18.30 h</td>
<td>OC17: Statistical methods in epidemiology 1 Room: Sala Terra 4            Chair: Saskia le Cessie</td>
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<td>17.00 - 17.18 h</td>
<td>OC17-1 Nadine Binder Missing disease information due to death may impact results of cohort studies reporting decline in dementia incidence</td>
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<td>17.19 - 17.36 h</td>
<td>OC17-2 Lasse Jakobsen Estimation of time to statistical cure</td>
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### Additional Sessions

- **Session OC14: Complex survival data**
  - **Chair:** Saskia le Cessie
  - **Sessions:**
    - Estimation of time to statistical cure
      - Missing disease information due to death may impact results of cohort studies reporting decline in dementia incidence
    - Sample size derivation for binary composite endpoints
    - Power and sample size for the S.T repeated measures design combined with a linear mixed-effects model allowing for missing data
  - **Programs:**
    - Phase III trials
    - Multistate models
    - Censored data

- **Session OC15: Design and analysis of clinical trials**
  - **Chair:** Gillian Lancaster
  - **Sessions:**
    - Optimal sample size allocation and go/no-go decision rules for phase II/III programs
    - Split-plot designs: sample size considerations
    - Type I error rates of Multi-Arm Multi-Stage (MAMS) platform clinical trials
    - Sample size derivation for binary composite endpoints
    - Power and sample size for the S.T repeated measures design combined with a linear mixed-effects model allowing for missing data
  - **Programs:**
    - Phase II/III trials
    - Complex survival data
    - Censored data

- **Session OC16: Biomedical studies**
  - **Chair:** Maria José Rodríguez Álvarez
  - **Sessions:**
    - Exploratory factors of uric acid levels in patients with chronic heart failure based on multivariate adaptive regression splines and fuzzy c-regression models
    - Data-driven cluster analysis for identifying groups within users of anti-osteoporosis medication, using real-world primary care data
    - Mapping the modified Rankin Scale (mRS) measurement to the Assessment of Quality of Life (AQoL) utility values
    - Predictive models of malignant transudative pleural effusions
    - Bases incurred from non-random repeat testing of haemoglobin levels in blood donors
    - Data generating models of dichotomous outcomes: Heterogeneity in simulation studies for a random-effects meta-analysis
    - Meta-analysis of Vancomycin MIC Creep in Staphylococcus aureus infections: sensitivity analysis of the method
    - Treatment efficacy of cyclooxygenase inhibitors and acetaminophen in preterm neonates with symptomatic PDA: a network meta-analysis
    - Analysing missing data in longitudinal binary outcomes using generalized linear mixed-effects model with Markov correlation structure
    - Using the past to predict the future: how useful are longitudinal measurements?
    - Clustering of individual disability progression trajectories of multiple sclerosis patients using clinical and imaging data
    - Unequal intra-cluster variances in trajectory classification
    - Modeling individual disability course of multiple sclerosis patients using clinical and imaging data
    - Comparison of regression models with different covariance structures based on Bayesian model comparison
    - Comparison of regression methodology for analyzing health-related quality of life
M60 Mohadeseh Shojaei Shahrokh Abadi Estimating the economic costs of functional gastrointestinal tract disease using marginalized two-part model for semi-continuous data
M63 Caroline Wanja Mugo Trends in CD4 cell counts for patients on antiretroviral therapy: a Kenyan clinic
M66 Ana Luisa Papoila Estimation of the odds ratios for continuous covariates using generalized additive neural networks

20.00 h. Welcome Reception Pazo Quiñones de León (Castrelos Park)
Programme Overview

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Detailed Programme

09.00 - 10.30 h. IS4: Joint Modelling in Practice Room: Auditorio
Organised by Carmen Cadarso, University of Santiago de Compostela, Spain
Chair: Carmen Cadarso

IS4-1 Giampiero Marra, University College London, United Kingdom
Semiparametric Copula-Based Regression Models

IS4-2 Dimitris Rizopoulos, Erasmus University Medical Center, Rotterdam, The Netherlands
Joint Models with Multiple Longitudinal Outcomes and a Time-to-Event

IS4-3 Francisco Gude, University Hospital Complex of Santiago de Compostela, Spain
Joint Modelling Approaches in Diabetes Research

09.00 - 10.30 h. OC18: Biostatistics for high dimensional data 2 Room: Sala Terra 2
Chair: Marianne Jonker

OC18-1 Wessel Van Wieringen
A tale of two networks

OC18-2 Hélène Ruffieux
Joint variational inference for genetic association studies with multiple outcomes

OC18-3 Boris Hejblum
Type I error and false discovery rate control in RNA-seq differential analyses through a variance component score test

OC18-4 Donghwan Lee
Overall assessment of statistical significance in the presence of selection bias

OC18-5 Marta Cousido Rocha
Testing the equality of a large number of populations: an application to genome-wide studies

09.00 - 10.30 h. OC19: Design and analysis of clinical trials Room: Sala Mar 2
Chair: Erik Cobo Valeri

OC19-1 Gillian Heller
Beyond mean modelling: bias due to misspecification of dispersion

OC19-2 Gillian Lancaster
Conceptual framework and development of CONSORT extension guidelines for reporting pilot and feasibility trials

OC19-3 Ann Christina Foldenauer
Impact of carry-over effects in a classical cohort stepped wedge design under model misspecification

OC19-4 Jordi Cortés
Mediation analysis in randomized trials: the direction of bias

OC19-5 Jonathan Bartlett
Covariate adjustment and prediction of mean response in randomised trials
09.00 - 10.30 h. **OC20: Statistical methods in epidemiology 2** Room: Sala Terra 4
Chair: David Van Klaveren

09.00 - 09.18 h. **OC20-1 Cathy Tangen**
Accounting for differential detection bias when evaluating race and body mass index association with prostate cancer in a prevention trial

09.19 - 09.36 h. **OC20-2 Tat-Thang Vo**
Rethinking meta-analysis: addressing problems of non-collapsibility when combining treatment effects across patient population

09.37 - 09.54 h. **OC20-3 Chen Qu**
Modeling of mean-covariance structures in marginal structural models

09.55 - 10.12 h. **OC20-4 Laura Pazzaglia**
Marginal structural model to evaluate the joint effect of socioeconomic exposures on the risk of developing end-stage renal disease in patients with type 1 diabetes: a longitudinal study based on data from the Swedish Childhood Diabetes Study Group

10.13 - 10.30 h. **OC20-5 Daniela Zöller**
Automatic variable selection for exposure-driven propensity score matching with unmeasured confounders and complex correlation structures

09.00 - 10.30 h. **OC21: Diagnostic tests** Room: Sala Mar 4
Chair: Immaculada Arostegui

09.00 - 09.18 h. **OC21-1 Joyce Raymond Punzalan**
Binocular sensitivity and specificity of screening tests in cross-sectional diagnostic studies of paired organs

09.19 - 09.36 h. **OC21-2 Laure Wynants**
Individual participant data random-effects meta-analysis of the clinical utility of diagnostic tests and prediction models

09.37 - 09.54 h. **OC21-3 Johannes Berkhof**
Likelihood ratio tests for non-inferiority of a new screening test in a paired design when the non-diseased population is a mixture

09.55 - 10.12 h. **OC21-4 Hayley Jones**
Quantifying how test accuracy depends on threshold in a meta-analysis

10.13 - 10.30 h. **OC21-5 Andrý Bandos**
Evaluating diagnostic accuracy in free-response detection-localization tasks using ROC tools

09.00 - 10.30 h. **PC4: Survival analysis** Room: Hall
Chair: Ronald Geskus

**T1 Francesca Gasperoni**
Built-in clustering technique for time-to-event data through a discrete frailty term

**T4 Yishu Wang**
Flexible modeling of the effects of a sparsely measured continuous time-varying covariate in time-to-event analyses

**T7 Julia Krzykalla**
Time-dependent effects in Cox regression models - do they matter?

**T10 Serifat Folorunso**
Gamma-generalized gamma mixture cure fraction model in survival data

**T13 Laura Bonnett**
Estimating risk of seizure recurrence for people with epilepsy

11.00 - 12.30 h. **IS5: Complex Survival Data** Room: Auditorio
Organised by Ronald Geskus, Academic Medical Center, Amsterdam, The Netherlands
Chair: Ronald Geskus

**IS5-1 Luis Meira-Machado**
University of Minho, Portugal
Estimation of the Transition Probabilities in Non-Markov Models: New Contributions and Software Development

**IS5-2 Virginie Rondeau**
INSERM, France
The Use of Tumor Dynamics and New Lesions to Predict Survival with Multivariate Joint Frailty Models

**IS5-3 Hein Putter**
Leiden University Medical Center, The Netherlands
Robustness Properties of the (Landmark) Aalen-Johansen Estimator for survival data with higher loss to follow-up

11.00 - 12.30 h. **OC22: Bayesian methods in clinical research 4** Room: Sala Terra 4
Chair: Lisa Hampson

11.00 - 11.18 h. **OC22-1 Katya Mauff**
Weighted pairwise estimation of multivariate longitudinal outcomes in a Bayesian joint modelling framework

11.19 - 11.36 h. **OC22-2 Rachel Heyard**
Dynamic Bayesian variable selection for discrete time-to-event data in the presence of competing events
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Vigo, Spain 9-13 July 2017

**Tuesday, 11th July 2017**

11.00 - 12.30 h. **OC23: Statistical methods for precision medicine 1**
**Room: Sala Mar 4**
Chair: Kelley Kidwell

11.00 - 11.18 h. **OC23-1 Annette Kopp-Schneider**
Monitoring futility and efficacy in phase II trials: criteria for futility and efficacy in interim and final analysis

11.19 - 11.36 h. **OC23-2 Aniek Sies**
Estimating the quality of optimal treatment regimes

11.37 - 11.54 h. **OC23-3 Joris Giai**
Analyzing multiple endpoints simultaneously in crossover trials using generalized pairwise comparisons and patient-defined thresholds

11.55 - 12.12 h. **OC23-4 Miranta Antoniou**
Deciding on the best biomarker-guided trial design: a case study

12.13 - 12.30 h. **OC23-5 Irene Schmidtmann**
Subgroups analysis of scoring systems – identifying hard to classify HCC patients

11.00 - 12.30 h. **OC24: Design and analysis of clinical trials 3**
**Room: Sala Mar 2**
Chair: John Whittaker

11.00 - 11.18 h. **OC24-1 Cornelia Ursula Kunz**
Incorporating data from patients with missing biomarker status into biomarker-based trial designs

11.19 - 11.36 h. **OC24-2 Jose Jiménez**
Cancer phase I trial design using drug combinations when a fraction of dose limiting toxicities is attributable to one or more agents

11.37 - 11.54 h. **OC24-3 Maxine Bennett**
Incorporating historical data into the design and analysis of a clinical trial with normally distributed outcome data

11.55 - 12.12 h. **OC24-4 Rasheed Abdur**
Multivariate individual bioequivalence

12.13 - 12.30 h. **OC24-5 Bastien Cabarrou**
How to address the heterogeneity in the design of phase II clinical trials in geriatric oncology?

11.00 - 12.30 h. **OC25: Survival analysis 2**
**Room: Sala Terra 2**
Chair: Andrew Titman

11.00 - 11.18 h. **OC25-1 Philippe Lambert**
Identification issues and efficient estimation strategies in cure survival models under insufficiently long follow-up

11.19 - 11.36 h. **OC25-2 Alessandro Gasparini**
Impact of model misspecification in survival models with frailty terms

11.37 - 11.54 h. **OC25-3 Mia Klinten Grand**
Regression models in survival analysis with left-truncation using pseudo-observations

11.55 - 12.12 h. **OC25-4 Lynsey Chudleigh**
Replicating individual patient data including covariate distributions to inform extrapolation of clinical trials using external data

12.13 - 12.30 h. **OC25-5 Nonhlanhla Yende-Zuma [CASc winner]**
Adjusting the effect of integrating antiretroviral therapy and tuberculosis treatment on mortality for non-compliance: an instrumental variables analysis

11.00 - 12.30 h. **PC5: Statistical methods in epidemiology**
**Room: Hall**
Chair: Carmen Cadarso

T2 Ana Matos Two indices to measure disease activity in patients with systemic lupus erythematosus: a comparative study

T5 Maarten Van Smeden Sample size recommendations for binary logistic prediction models: beyond events per variable criteria

T8 Matthew Gittins Excess zeros and estimating the true rate of work-related ill-health: the fatigued physician effect

T11 Paritosh Kumar Roy The benefits of spatial models for analyzing public health data in Bangladesh latitudes

T14 Kristi Läll Adjustment for the length of follow-up while assessing the performance of a clinical risk score

T17 Yu Luo Estimating the prevalence of treated attention deficit hyperactivity disorder in Ontario, Canada using Bayesian hierarchical modelling

T20 Timo Brakenhoff Outlier classification performance of risk adjustment methods when profiling multiple providers

T23 Irantzu Barrio Selection of optimal cut points in a logistic regression model with interactions

T26 Grace Joshy Development and population-specific calibration of a mortality risk prediction model in 123,697 middle-aged and older Australian men

T29 Anna Schritz Use of a bias-adjusted three-step approach to assess relationships in dietary pattern analysis

T32 Carly Milliren Impact of neighborhood size when examining contextual effects of school and neighborhood on adolescent BMI in cross-classified models: a simulation study

T35 Scott Harris Multilevel logistic modelling: issues when working with large datasets

T38 Benjamin French Selection of reference groups in cohort studies

T41 Sabine Hoffmann Shared and unshared exposure uncertainty in proportional hazards models: effects on risk estimation and shape of the exposure-response curve

T44 Bryony Langford Getting the balance right: comparing propensity score matching algorithms using real-world data from the US National Immunization Survey

T47 Jialing Huang Dichotomization of continuous variables with maximum OR values method in logistic regression

T50 Nicole Mealing A comparison of statistical methods to estimate the proportion of (non-specific) acute gastroenteritis burden attributable to rotavirus

T53 Roberto Melotti Digital spiral analysis metrics for discrimination of pathological tremor subtypes

T56 Elizabeth McKinnon A multivariate approach to investigating impact of obesity on iron status
### TUESDAY 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 12.36 - 13.30 h. | **OC26: STRengthening Analytical Thinking for Observational Studies** (STRATOS) 2 Room: Auditorio  
Chair: Willi Sauerbrei |
| 12.36 - 12.54 h. | **OC26-1 Philip Clare**  
Comparison of methods for adjusting for time-varying confounding |
| 12.55 - 13.12 h. | **OC26-2 Rebecca Whittle**  
Measurement error and timing of predictor values used in prediction model research: a systematic review of current practice and reporting |
| 13.13 - 13.30 h. | **OC26-3 Camila Olarte Parra**  
Is kidney transplantation best preceded by dialysis? On avoiding potential biases through G-estimation |
| 12.36 - 13.30 h. | **OC27: Joint modelling in practice 2** Room: Sala Mar 2  
Chair: Francisco Gude |
| 12.36 - 12.54 h. | **OC27-1 Eleni-Rosalina Andrinopoulou**  
Integrating latent classes in the Bayesian shared parameter joint model of longitudinal and survival outcomes |
| 12.55 - 13.12 h. | **OC27-2 Panagiota Filippou**  
Penalized likelihood estimation of a trivariate additive binary model |
| 13.13 - 13.30 h. | **OC27-3 Elisa Duarte**  
Using copula GAMLSS to study the relationship between the age at menarche and reproductive lifespan of women in Central Portugal breast cancer screening program |
| 12.36 - 13.30 h. | **OC28: Survival analysis 3** Room: Sala Terra 2  
Chair: Luis Meira-Machado |
| 12.36 - 12.54 h. | **OC28-1 Aysun Çetinay Yavuz**  
A shared frailty model using Gamma shape mixtures and the EM algorithm for interval-censored data |
A frailty model for the estimation of the excess mortality hazard in case of non-proportional hazards or unobserved heterogeneity in clustered survival data: can we tell the difference? |

### Additional Sessions

**38th Annual Conference of the International Society for Clinical Biostatistics**

**Vigo, Spain 9-13 July 2017**

**T58 Omololu Stephen Aluko**  
Multiple imputation and inverse probability weighting for estimating pulmonary disease prevalence in survey data with non-response

**T59 Kinga Salapa**  
Has the impact of risk factors on hearing loss in infants changed over 10 years? Polish Universal Neonatal Hearing Screening Program

**T61 Vishwajeet Singh**  
An epidemiological model to find out factors associated with nodal involvement among Indian oral cancer patients and its validation

**T62 Zheng Chen**  
Estimating case fatality risk and reproduction number for Ebola disease using daily notification data

**T65 Kirsi Manz**  
Analysis of spatially clustered data on schistosoma haematobium infection in southwestern Tanzania

**12.36 - 13.30 h.**  
Choosing Analytical Thinking for Observational Studies (STRATOS) 2 Room: Auditorio  
Chair: Willi Sauerbrei

**12.36 - 12.54 h.**  
Comparison of methods for adjusting for time-varying confounding

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Survival analysis 3 Room: Sala Terra 2  
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**12.36 - 12.54 h.**  
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**12.55 - 13.12 h.**  
A frailty model for the estimation of the excess mortality hazard in case of non-proportional hazards or unobserved heterogeneity in clustered survival data: can we tell the difference?
Programme Overview

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<td>IS6: Biostatistics for high dimensional data</td>
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<td>OC31: Design and analysis of clinical trials 4</td>
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<td>OC32: Multistate survival analysis and dynamic prediction 1</td>
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<td>OC33: Heterogeneity in biomedical studies and meta-analysis</td>
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<td>OC34: Statistical challenges of EHR (eHealth Records) analysis</td>
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<td>PC6: Bayesian methods and joint modeling</td>
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<td>Keynote Speaker: Francesca Dominici, Harvard University, USA</td>
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<td>Model Uncertainty and Covariate Selection in Casual Inference</td>
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<td>OC36: Statistical methods for precision medicine 2</td>
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<td>19.00</td>
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<td>Conference dinner at Hotel Pazo Los Escudos (Beach of Alcabre)</td>
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Detailed Programme

**09.00 - 10.30 h. IS6: Biostatistics for High Dimensional Data Room: Auditorio**
Organised by Jeanine Houwing-Duistermaat, University of Leeds, United Kingdom
Chair: Jeanine Houwing-Duistermaat

**IS6-1 Pietro Lio**, University of Cambridge, United Kingdom
An Integrative Network-Based Analysis of Multi-Omics for Survival Cancer Data

**IS6-2 Hae Won Uh**, Leiden University Medical Center, The Netherlands
Latent Variable Modelling for Multiple Omics Data

**IS6-3 John Whitaker**, Glaxo Smith Kline Pharmaceuticals, United Kingdom
Genomics and Drug Discovery

**09.00 - 10.30 h. OC31: Design and analysis of clinical trials 4 Room: Sala Mar 2**
Chair: Frank Bretz

**OC31-1 Corine Baayen**
Sequential trials in the context of competing risks – a case study

**OC31-2 Kevin Kunzmann**
Test-compatible inference for adaptive two-stage single-arm designs with binary endpoint

**OC31-3 Meinhard Kieser**
Optimal planning of phase II/III programs for clinical trials with multiple endpoints

**OC31-4 Ayon Mukherjee**
Covariate-adjusted response-adaptive designs in clinical trials where the survival responses of patients follow a semi-parametric model

**OC31-5 Matteo Quartagno**
A new design for trials for finding optimal treatment duration

**09.00 - 10.30 h. OC32: Multistate survival analysis and dynamic prediction 2 Room: Sala Terra 2**
Chair: Klaus Langohr

**OC32-1 Kritika Suresh [StCA winner]**
Comparison of joint modeling and landmarking for dynamic prediction under an illness-death model

**OC32-2 Ulrich Beyer**
Predicting treatment outcome using intermediate state information based on a multistate landmark model including pre-landmark co-variables

**OC32-3 Maja Katharina Von Cube**
A dynamic prediction approach to analyse the population-attributable fraction of ventilator associated pneumonia

**OC32-4 Leyla Azarang**
Multi-state net survival model

**OC32-5 Brice Ozenne**
Assessing treatment effects on registry data in presence of competing risks

From To Side Meetings (on invitation only)

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<th>Side Meetings (on invitation only)</th>
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<td>StuDay Group, Room: Sala Terra 3</td>
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09.00-10.30 h. OC33: Heterogeneity in biomedical studies and meta-analysis
Room: Sala Terra 4
Chair: Jarek Harezlak

09.00 - 09.18 h. OC34-1 Clemence Leyrat
How should missing time-varying confounders be handled to estimate marginal effects from electronic medical records?

OC34-2 Olympia Papachristofi
The role of electronic health records in the design of trials of complex interventions: a view from surgery

OC34-3 Lauren Rodgers
A quasi-experimental approach to account for unmeasured confounders in the assessment of side effects using observational data

OC34-4 Kristi Krebs
Genetic variation in the Estonian population: a pharmacogenomic study of adverse drug reactions using electronic health records

OC34-5 David Cheng [STCA winner]
Efficient and robust semi-supervised estimation of treatment effects in electronic medical records data

09.00 - 10.30 h. PC6: Bayesian methods and joint modelling Room: Hall
Chair: Carmen Armero

W1 Tomoyoshi Hatayama
Bayesian central statistical monitoring based on adverse event incidence for risk based monitoring approach: a practical usage of historical data on central statistical monitoring

W4 María Jesús Rufo Bazaga
A preventive program for university instructors and students: a relevant role of eHealth in chronic kidney disease management

W7 Gaelle Saint-Hillary
A simple way to unify Multi-Criteria Decision Analysis (MCDA) and Stochastic Multi-Criteria Acceptability Analysis (SMCA) using a Dirichlet distribution in benefit-risk assessment

W10 Chia-Ru Chung
Design of phase I clinical trial based on Bayesian test
IS7-1 Heinz Schmidli, Novartis Pharma AG, Switzerland  
Bayesian Evidence Synthesis for Extrapolation in Clinical Research
IS7-2 Peter Müller, University of Texas at Austin, USA  
A Population-Finding Design with Covariate-Dependent Random Partitions
IS7-3 Lisa Hampson, Lancaster University, United Kingdom  
Use of Bayesian Approaches for Extrapolating from Adult Efficacy Data to Design and Interpret Confirmatory Trials in Children

14.30 - 16.00 h. OC35: Complex survival data 2 Room: Sala Terra 2  
Chair: Hans Van Houwelingen
15.25 - 15.42 h. OC35-4 Lisa Hampson  
A statistical significance test for the dependent covariate with a nonlinear trajectory over time: a simulation study
15.43 - 16.00 h. OC35-5 Song Yang  
Improving the testing of treatment effect in clinical trials with time to event outcomes

14.30 - 16.00 h. OC36: Statistical methods for precision medicine 2 Room: Sala Mar 4  
Chair: Tim Friede
15.25 - 15.42 h. OC36-3 Erik Van Werkhoven  
Development of treatment-selection markers for studies with failure-time outcomes
15.43 - 16.00 h. OC36-5 Taesung Park  
Pathway-based approach to NGS data with multiple phenotypes

14.30 - 16.00 h. OC37: Design and analysis of clinical trials 5 Room: Sala Mar 2  
Chair: Sandra Lee
15.25 - 15.42 h. OC37-5 Frank Bretz  
Assessing the similarity of dose response and target doses in two non-overlapping populations

14.30 - 16.00 h. OC38: Statistical methods in epidemiology 3 Room: Sala Terra 4  
Chair: Ana Luisa Poapolo
15.25 - 15.42 h. OC38-4 David Van Klaveren  
The calibrated model-based concordance improved assessment of discriminative ability in patient clusters of limited sample size
15.43 - 16.00 h. OC38-5 Pedro Sa-Couto  
A graphical guideline for the selection of reliability and agreement methods for clinical studies

14.30 - 16.00 h. PC7: Observational studies Room: Hall  
Chair: Els Goetghebeur
W2 Joy Leahy  
How beneficial is individual patient data in a mixed treatment comparison?
W5 Emily Karahalios  
An empirical investigation of the impact of different methods for synthesising evidence in a network meta-analysis
W8 Junfeng Wang  
Comparative meta-analysis of diagnostic studies: a review and comparison of currently proposed approaches
W11 Ralf Bender  
Undertaking meta-analyses when only very few studies are available
W14 Valentina Assi  
Evaluation of practical methods for estimating means for meta-analysis of continuous, non-normally-distributed outcomes
W17 Silva Kasela  
From eQTL associations to suggested mechanisms
W20 Nadia Sourial  
Applying the causal inference framework in policy evaluation: a case study in the evaluation of primary care reforms in Ontario, Canada
W23 Jessica Rees  
Extending the MR-Egger method for multivariable Mendelian randomization to correct for both measured and unmeasured pleiotropy
W26 Fabiola Del Greco M.  
Screening the effects of lipidomic alterations on atrial depolarization
W29 Anurika De Silva  
Multiple imputation for handling missing values in a time-dependent covariate with a nonlinear trajectory over time: a simulation study
W32 Alba Maria Franco Pereira  
A statistical significance test for the binormal ROC curve with measurements below the limit of detection
W35 Tanja Berger  
Parameter estimation for normally distributed data with observations below multiple lower limits of quantification
W38 Elizabeth Howarth: Intention-to-treat analyses when missing outcomes depend on post-randomisation factors

W41 Julie Simpson: Sensitivity analysis within multiple imputation framework using delta-adjustment: application to Longitudinal Study of Australian Children

W44 Nikos Pantazis: Observed vs. expected information matrix in linear mixed models under MAR dropout

W47 Yusuhe Yamaguchi: A comparison of multiple imputation methods for incomplete longitudinal binary data

W50 Jianhua Wu: Quantile regression for complex survey data

W53 Ines Mesa Eguiaagaray: A multilevel logistic model of poor quality staff-inpatient interactions accounting for variability across patients and observation periods

W56 Aejeong Jo: Risk inhibitor and risk of diabetic retinopathy using national claim data in Korea

W59 Carla Henriques: Prognostic models for death in operated acute pancreatitis

W62 Min Jung Ko: Relationship of statin use with the risk of type 2 diabetes mellitus and the benefit of cardiovascular disease using a nationwide administrative database

W65 Hyeo Jeong Kim: Relationship of entecavir adherence with clinical outcomes in Korean patients with chronic hepatitis B

16.00 - 16.30 h. Coffee Break Room: Hall

16.30 - 18.00 h. IS8: Clinical Trial Simulations: the When, Where and What Room: Auditorio
Organised by Geraldine Rauch, University of Heidelberg, Germany
Chair: Mouna Akachha

IS8-1 Frank Konietzchke: University of Dallas, USA
Parametric and Nonparametric Bootstrap Methods for General MANOVA

IS8-2 Tim Friede: Georg-August University of Göttingen, Germany (Co-author: Norbert Bender, BfArM, Bonn)
A Framework for Simulations in Clinical Research with Applications in Small Populations and Rare Diseases

IS8-3 Antje Jahn: University of Mainz, Germany
Simulating Recurrent Event Data with a Calendar Time Scale

16.30 - 18.00 h. OC39: Bayesian methods in clinical research 5 Room: Sala Mar 2
Chair: Peter Müller

16.30 - 18.48 h. OC39-1 Pablo Emilio Verde: The hierarchical meta-regression approach and learning from clinical evidence

16.49 - 17.06 h. OC39-2 Miguel Caubet Fernández: A Bayesian multivariate latent t-model for assessing the effects of intracranial radiotherapy and corticosteroid therapy on cardiometabolic risk factors in survivors of childhood acute lymphoblastic leukemia

17.07 - 17.24 h. OC39-3 Despina Vasilieou: Bayesian clinical trial design for rare diseases; prior opinion elicitation for chronic rheumatoid multifocal osteomyelitis

17.25 - 17.42 h. OC39-4 Christian Röver: Extrapolation in meta-analysis

17.43 - 18.00 h. OC39-5 Elena Lázaro: Dealing with baseline hazard functions in Bayesian joint models
16.30 - 16.48 h. **PC8: Biomedical studies 2 Room: Hall**
Chair: Jeanine Houwing-Duistermaat

- **W3 Pilar Magdalena** Unemployment, obesity and economic crisis
- **W6 Ozan Cinar** An evaluation of methods for combining dependent p-values in genome-wide association studies
- **W9 Linda Chaba** Evaluation of methods for gene selection in melanoma cell lines
- **W12 Cheikh Ndour** A two-tailed hypothesis testing with a margin
- **W15 Florent Guinot** Are single nucleotides the right scale for genome-wide association studies?
- **W18 Soheila Khodakarim** Validation of classification and data reduction methods based on gene expression data
- **W21 Hasinur Rahaman Khan** Ranking based variable selection for censored data using AFT models
- **W24 Stanislav Katina** Functional data analysis of event-related potentials in assessing neural processing underlying mental rotation in time domain
- **W27 Sara Khalid** The comparative performance of logistic regression and random forest in propensity score methods: a simulation study
- **W30 Pär Karlsson** Evaluation of potential bias of methods for selection of variables into propensity scores - a simulation study
- **W33 Attila Csala** Multiblock sparse PLS for high dimensional data
- **W36 Norman Jiménez Otero** Goodness-of-fit and multiple comparison procedures for disorder detection in NGS experiments
- **W39 Taoufik Zoubeidi** Fixed size confidence regions for the parameters of the linear mixed effects logistic model
- **W42 Timo Brakenhoff** Measurement error in exposure and confounder status in medical research: a systematic review of practices in high impact journals
- **W45 Carly Milliren** Leveraging free text notes in the electronic medical record: an example identifying peripheral IV infiltrates using natural language processing
- **W48 Verena Hoffmann** Modifying the ggtree function to visualize IgG recognition strength of peptide variants in the context of their phylogenetic relationship
- **W51 Jozefien Buyze** Modelling the spread of gonorrhoea in an MSM population
- **W54 Andrey Mysslivets** Method of Interaction on site*subject level for central statistical monitoring
- **W57 Josep Carrasco** Estimating marginal proportions and intraclass correlations with clustered binary data
- **W60 Harbajan Chadha-Boreham** Guidances for statistics in regulatory affairs in Wikipedia: initiative of the ISCB Statistics in Regulatory Affairs Subcommittee (SIRA SC)
- **W63 Lena Schneiderheinze** Sequential analysis in the context of hospital benchmarking
- **W64 Insu Jang** ChimerDB 3.0: an enhanced database for fusion genes from cancer transcriptome and literature data mining
- **W66 Jinhyuk Choi** 4D Nucleome viewer: a web-based dynamic browsing tool for chromatin interactions

18.00 - 18.30 h. **ISCB39 Presentation Room: Auditorio**

19.00 h. **Conference Dinner at Hotel Pazo Los Escudos (Beach of Alcabre)**
### Programme Overview

**Thursday 13**

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<td>SY1 Choosing estimands in a clinical trial</td>
<td>Invited talk</td>
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<td>SY2 Modeling personalized screening: a step forward on risk assessment methods</td>
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<td>SY3 Statistical methods for medical imaging and their use in clinical epidemiological studies</td>
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<td>Invited Talk</td>
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### Detailed Programme

#### Mini-Symposia

**09.30 - 16.00 h.**  
**SY1: Choosing Estimands in a Clinical Trial**  
Room: Sala Mar 2  
Promoters: Rosa Lamarca, AstraZeneca R&D Centre, Barcelona, Spain and Frank Bretz, Novartis Pharma, AG, Switzerland

**Session 1: New scientific and regulatory environment ICH E9 Addendum**

**09.30 - 09.45 h.**  
Introduction  
Moderator: R. Lamarca

**09.45 - 12.30 h.**  
ICH E9 addendum on ‘Estimands and Sensitivity Analysis’  
(break in between)

**Rob Hemmings,** Medicines and Healthcare products Regulatory Agency, United Kingdom - Regulatory Perspective  
**Mouna Akacha,** Novartis Pharma AG, Switzerland - Industry Perspective

**12.30 - 13.00 h.**  
**Esther García Gil,** Aclidinium Franchise, AstraZeneca, Barcelona, Spain - Clinical perspective

**13.00 - 13.30 h.**  
Panel discussion  
Moderators: F. Bretz, R. Hemmings, M. Akacha and E. García

**13.30 - 14.30 h.**  
**Lunch Break**  
Room: Sala Congresos

**Session 2: Methodological perspectives on the estimand framework**  
Moderator: F. Bretz

**14.30 - 15.00 h.**  
**James Roger,** London School of Hygiene & Tropical Medicine, United Kingdom - Statistical perspective

**15.00 - 15.30 h.**  
**Rhian Daniel,** London School of Hygiene & Tropical Medicine, United Kingdom - Casual inference perspective

**Session 3: The new era in clinical research**  
Moderator: R. Lamarca

**15.30 - 16.00 h.**  
Panel discussion and Q&A  
M. Akacha, F. Bretz, R. Daniel, E. García, R. Hemmings and J. Roger
09.30 - 16.00 h. SY2: Modelling Personalised Screening: a Step Forward on Risk Assessment Methods Room: Auditorio
Promoter: Montse Rüe, University of Lleida, Spain

09.30 - 11.00 h. Antonis Antoniou, University of Cambridge, United Kingdom - Modelling for High Risk Individuals
Judith Balmaña, Vall d’Hebron Institut of Oncology, Spain - Clinical Practice Perspective

11.00 - 11.30 h. Coffee Break

11.30 - 13.00 h. Sandra J. Lee, Harvard T.H. Chan School of Public Health and Dana Farber Cancer Institute, USA - Collaborative Modeling for Cancer Screening
Ewout W. Steyerberg, Erasmus University Medical Center, Rotterdam, The Netherlands - Modelling for Clinical Prediction

13.30 - 15.15 h. Inmaculada Arostegui, University of the Basque Country and Basque Center for Applied Mathematics, Spain - Validating Prediction Models

14.30 - 15.15 h. Inmaculada Arostegui, University of the Basque Country and Basque Center for Applied Mathematics, Spain - Validating Prediction Models

15.15 - 16.00 h. General debate

09.30 - 16.00 h. SY3: Statistical Methods for Medical Imaging and their Use in Clinical and Epidemiological Studies Room: Sala Mar 4
Promoter: María Durbán, University Carlos III of Madrid, Spain

09.30 - 11.00 h. Jarek Harezlak, Indiana University, USA - Regression modeling with Laplacian-based regularization: theory and brain imaging applications
Brian Caffo, Bloomberg School of Public Health, John Hopkins University, USA - Am I My Connectome? Fingerprinting With Repeated Resting State Functional MRI Data

11.00 - 11.30 h. Coffee Break

11.30 - 13.00 h. María del Mar Vila, Institut Hospital del Mar Investigacions Mèdiques (IMIM), Spain - Carotid Artery Characterization in Ultrasound Imaging using Machine Learning Techniques
Finbarr O’Sullivan, University College Cork, Ireland - Statistical Extraction of the Arterial Input Function in Dynamic PET Imaging Studies: A Review and Some Recent Developments

13.00 - 14.30 h. Lunch Break Room: Sala Congresos

14.30 - 15.15 h. Manuel Desco, University General Hospital Gregorio Marañón and University Carlos III of Madrid, Spain - Validity of Psychological and Neuroimaging Findings

15.15 - 16.00 h. General debate
Students’ Day

Room: Sala Terra 2

09.25 - 09.30 h. Welcome
Nadine Binder University of Freiburg, Germany

09.30 - 10.00 h. David W. Warne Consultant Biostatistician and Academic Fellow at University of Geneva, Switzerland
How Not to Plan A Career in University, Big Pharma, Small Biotech, Medium Pharma. Consulting and Back to University

Session 1: Good research process: from programming discipline to adherence to guidelines
Chair: Maja Von Cube

10.00 - 10.15 h. Theodor Adrian Balan
From scripts to packages: how to be disciplined about your R code

10.15 - 10.30 h. Alessandro Gasparini
Exploring results from simulation studies interactively

10.30 - 10.45 h. David Blanco de Tena-Dávila
Increasing research value, reducing waste: interventions to improve adherence to reporting guidelines in the context of MiRoR project

10.45 - 11.00 h. Discussion

11.00 - 11.30 h. Coffee Break

11.30 - 12.00 h. Irene Schmidtmann University Medical Center, Johannes Gutenberg University Mainz, Germany
Portrait of a Consultant Biostatistician

Session 2: On comparing and improving biostatistical approaches
Chair: David Blanco de Tena-Dávila

12.00 - 12.15 h. Hana Šinkovec
A solution to the problem of separation in logistic regression?

12.15 - 12.30 h. Oludare Ariyo
Bayesian Inference for skew-normal linear mixed models with covariates measurements errors

12.30 - 12.45 h. Sonia Pérez-Fernández
Generalizations of the receiver operating characteristic curve

12.45 - 13.00 h. Discussion

13.00 - 14.30 h. Joint Lunch

14.30 - 15.15 h. Moderated round on open questions
Chair: Maral Saadati & Michael Grayling

Session 3: Time-to-event data: from simple to complex solutions
Chair: Theodor A. Balan

15.15 - 15.30 h. Maja Von Cube
Simple parametric analysis for a multi-state model in hospital epidemiology

15.30 - 15.45 h. Lionelle Nkam
Joint model for longitudinal marker and time-to-event in presence of competing risks: application on cystic fibrosis

15.45 - 16.00 h. Isaac Fwemba
Bayesian approach to modelling unobserved household and cluster effect on under five mortality rate in Zambia. An approach to inform strategic program implementation and decision marking in the health sector

16.00 - 16.15 h. Yovaniina Alarcón Soto
Data Science in HIV studies

16.15 - 16.30 h. Discussion

16.30 - 17.00 h. Deborah Ashby Imperial College London, United Kingdom
Using Statistical Theory, Epidemiology and Clinical Trials for Public Health Impact

17.00 - 18.00 h. Farewell and joint ice cream outside in the sun
Instructions for Presenting Authors

Oral Presentations

Eight invited sessions and forty-two oral contributed sessions will take place at the ISCB2017 conference. You can find the session in which your presentation is scheduled on the website of the conference and in the conference programme.

The length of oral contributed presentations is 15 minutes, followed by 3 minutes of discussion. For invited presentations, the respective session organiser determines the time.

The chair of your session, who will also keep track of time and lead the discussion, will introduce each presentation.

You are requested to report to the Speaker-Ready Zone (2nd floor) at least 60 minutes prior to the start of your session (preferably the day before) to make sure that your presentation will be uploaded to the computer provided in the lecture room. An audio-visual technician will assist you and assign your file to the correct session folder.

Prepare your presentation as pdf or PowerPoint. Please, bring your presentation in a USB stick.

You are requested to be in the assigned lecture room 10 minutes prior to the start of your session to meet the chairperson and receive final instructions, if any.

The use of computers provided by the conference organisation is mandatory for both invited and oral contributed presentations. No personal laptop or notebook computers will be allowed.

Equipment in the lecture rooms

One stand-alone computer.
Projection system.
One laser pointer.
One wireless microphone (only Auditorium, Sala Mar 2 and Sala Terra 2 rooms).

Poster Presentations

Eight poster sessions will take place in the main hall of the conference venue. They are scheduled from Monday to Wednesday in parallel to the invited and oral contributed sessions. You can find the session in which your poster is scheduled on the website of the conference and in the conference programme.

This year, the Scientific Programme Committee (SPC) aims to put poster presentations in a prominent place and increase their visibility during the conference. During each poster session, poster presenters are requested to give a 3-minute oral presentation, followed by 1-minute discussion. A chairperson will keep track of time and lead the discussion. In addition, the SPC would like to encourage poster presenters to record in advance a short video summarizing the content of the poster. The videos should be first uploaded to Google Drive, and then shared with us. All videos will be made accessible on both the conference website and app. In that way anyone can see your presentation at any time.

Poster presentation guidelines

Size of posters: DIN A0 – maximum 84 cm (wide) x 119 cm (high).

Please place the title and the authors at the top of your poster.

Please indicate the presenting author if different from the first author.

You are requested to hang your poster at the poster board marked with the corresponding code at least 15 minutes before the start of your session (preferably, at the beginning of the assigned day). Adhesive double-sided tape will be provided on-site.

At the end of the assigned day, you are requested to remove your poster from the poster board.

Please, stay nearby your poster during your poster session.

Mini oral presentations

3-minute oral presentation, followed by 1-minute discussion. A chairperson will keep track of time and lead the discussion.

Awards

Conference Awards for Scientists (CASc)


OC41-5 Abhik Ghosh. Robust inference under the beta regression model with application to health care studies.

Student Conference Awards (StCA)


OC32-1 Krithika Suresh. Comparison of joint modeling and landmarking for dynamic prediction under an illness-death model.


OC40-3 Sam Brilleman. Bayesian joint models for multiple longitudinal biomarkers and a time-to-event outcome: software development and a melanoma case study.
Opening hours of registration desk

Sunday 9 July 2017: 08.00 - 18.00 h.
Monday 10 July 2017: 08.00 - 18.00 h.
Tuesday 11 July 2017: 08.00 - 14.00 h.
Wednesday 12 July 2017: 08.00 - 18.00 h.
Thursday 13 July 2017: 08.00 - 13.00 h.

Coffee and Lunch Breaks

Refreshments during the breaks and lunch are included in the conference fees. Lunch on Sunday is included only if a full-day or two half-day courses are booked.

Smoking

Smoking is not allowed at the conference venue.

Taxis

• Radio Taxi Service: + 34 986 272 829
• Radio Taxi Vigo: + 34 986 252 700
• Sociedad Cooperativa Autotaxis: + 34 986 296 957
• Taxi Transfer: + 34 600 251 843
• Central Radio Taxi: + 34 986 470 000

Rental cars

• AVIS BUDGET GROUP: +34 986 268 276
• EUROPCAR: +34 986 486 878
• HAPPYCAR: +34 900 907 163
• NATIONAL ATESA: +34 986 486 561

Vigo Railway stations

Vigo has two railway stations: URZAIZ where departs the AVE (Spain’s high-speed train), and GUIXAR, located in Areal St., both of them right in the city centre and close to the main tourist and economic attractions.

• Information about stations: +34 902 432 343
• Information about tickets: +34 902 240 505

More information at www.renfe.com

Shuttle bus service

A shuttle bus service will be available from the city centre to the conference venue. This service is sponsored by Vitrasa, the public transport company of Vigo.

The bus will leave from the corner of the Praza de Compostela at the intersection of the streets Areal, Colón and Concepción Arenal. The bus-stop is labelled as “Rúa do Areal”. At the end of the day, the bus will return from the conference venue to the same point. On Tuesday, the return trip will end at the Port of Vigo (only for the participants to the Cíes Islands excursion).

The timetables are as indicated in the table below:

<table>
<thead>
<tr>
<th>Day</th>
<th>City centre -&gt;</th>
<th>Conference venue</th>
<th>City centre -&gt;</th>
<th>Conference venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>09.00 h.</td>
<td>09.20 h.</td>
<td>18.15 h.</td>
<td>18.35 h.</td>
</tr>
<tr>
<td>Monday</td>
<td>08.00 h.</td>
<td>08.20 h.</td>
<td>18.45 h.</td>
<td>19.05 h.</td>
</tr>
<tr>
<td>Tuesday</td>
<td>08.20 h.</td>
<td>08.40 h.</td>
<td>14.30 h.</td>
<td>18.45 h.</td>
</tr>
<tr>
<td>Wednesday</td>
<td>08.20 h.</td>
<td>08.40 h.</td>
<td>18.45 h.</td>
<td>19.05 h.</td>
</tr>
<tr>
<td>Thursday</td>
<td>08.50 h.</td>
<td>09.10 h.</td>
<td>16.15 h.</td>
<td>18.15 h.</td>
</tr>
</tbody>
</table>

Also, you can get to the conference venue by public bus (regular lines).

Available public bus:
• Line L10
• Line 15B

Certificates

Attendees, invited and contributed authors and course providers will be able to download their corresponding certificates through the website after the conference. The Technical Secretariat will contact the attendees by e-mail as soon as these certificates are available.
SOCIAL PROGRAMME
**Welcome Reception**  
**Monday 10**

The Welcome Reception will take place at Pazo Quiñones de León. The “pazo” is the typical Galician manor house that served as residence of the nobility during the 17th-19th centuries. The Pazo Quiñones de León was built at the end of the 17th century and is one of the most remarkable examples of this type of buildings. The Pazo is surrounded by magnificent gardens and is next to Castrelos Park, one of the main parks in Vigo. The Pazo also houses a museum, which invites you to discover the best Galician art of the 20th century. All attendees are encouraged to arrive at the Welcome Reception earlier, so they can enjoy a walk through the incredible gardens and a visit to the museum.

**Date:** Monday, 10th July  
**Hour:** 20:00 h.  
**Location:** Pazo Quiñones de León. Parque de Castrelos. Av. Castrelos, s/n

**How to get to Castrelos by bus?**

**Available public bus:**  
• Line 8

**Bus stops closest to Castrelos Manor House:**  
• Corredoura  
• Castrelos Costa

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**Conference Dinner**  
**Wednesday 12**

The Conference Dinner will take place at the Hotel Pazo Los Escudos, located at the neighborhood of Alcabre. The hotel was built around an ancient “pazo”, the typical Galician manor house. We will enjoy a spectacular environment, as the hotel is by the sea and possesses splendid gardens. Weather permitting, starters will be served in the gardens. The dining room offers great views of the sunset. The beach of Samil and the Museo do Mar de Galicia are at a walking distance from the Hotel Pazo Los Escudos.

**Hour:** 20:00 h.  
**Location:** Hotel Pazo Los Escudos. Avda. Atlántida, 106

**How to get to Pazo Los Escudos by bus?**

**Available public buses:**  
• Line 10  
• Line 15B  
• Line 15C  
• Line N1

**Bus stops closest to Pazo Los Escudos:**  
• Avda. Atlántida- 84  
• Avda. Atlántida- 114 (Igrexa Alcabre)

Private bus services will be available to return to the city centre after dinner.
Students’ Gathering
Sunday 9

The gathering will take place at the Cervecería Estrella Galicia (Praza de Compostela, 17. Vigo). This restaurant and bar combines tradition and design in a very pleasant environment. It belongs to Estrella Galicia, a very popular Galician brewery.

How to get there? The Cervecería Estrella Galicia is located at Praza de Compostela, in the heart of Vigo. It can be easily reached by walking from most hotels, or by any bus going downtown.

Date: Sunday, 9th July

Hour: 19:30 h.

Location: Cervecería Estrella Galicia. Praza de Compostela, 17. Vigo

How to get to Cervecería Estrella Galicia by bus?

Available public bus:
• Line 8
• Line C1

Bus stops closest to Cervecería Estrella Galicia:
• Areal
• Praza Compostela
Cíes Islands, Atlantic Islands National Park

Cíes Islands is one of the archipelagos that together with the Ons, Sálvora and Cortegada islands make up the Galician Atlantic Islands Maritime-Terrestrial National Park. Their wealth of plant and animal life, combined with a spectacular landscape, make these islands a major and valuable cultural and environmental asset.

This archipelago consists of three islands, measuring between 1.5 and 3 km long: the Faro Island and Monteagudo Island joined by the Rodas beach, and the San Martiño Island.

The ferryboat will leave the Marina in Vigo and sail for approximately 45 minutes, offering spectacular views of the Ría de Vigo. Once in the island, you can walk upto the Alto do Príncipe (optional hiking trial and free guided visit), which goes through Monteagudo Island, crossing a forest area. The trial is 3.5 kilometres long and offers wonderful views to admire the contrast between both sides of the island from Alto do Príncipe. Furthermore, you will find other interesting places along this trail, such as Figueirais Muxieiro dune system, the remains of the old Cuncheiro (shell deposit) or the peculiar rock formation called Cadeira da Raíña (the Queen’s Chair).

You can also enjoy beaches with clear waters and fine golden sand. In particular, Rodas beach, with its suggestive crescent shape, was chosen as “the best beach in the world” by the British newspaper The Guardian in 2007.

Duration: 5 h.
Departure: 15:15 h.
From the Port of Vigo
Return: 20:00 h.

Santiago de Compostela

Santiago de Compostela, capital of Galicia, was declared a World Heritage City by UNESCO thanks to its multicultural nature and as the final destination of a thousand-year-old pilgrims’ route: the St. James Way. It is one of the most important Christian cities in the world, together with Jerusalem and Rome. About 2.5 million people visit Santiago de Compostela every year.

Once we will arrive in Santiago, we will start a walking tour around the Cathedral and its amazing four squares: Obradoiro, Praterias, Quintana and Azabachería. There, you will find the most emblematic buildings of the city: the pilgrims’ hospital (nowadays transformed in the prestigious tourism parador Hostal dos Reis Católicos), the Pazo de Raíña (headquarters of both the City Council and the Presidency of the Regional Government), the San Martiño Pinario monastery, the Casa do Cabildo and the Rectorate of the University. Santiago hosts the University of Santiago de Compostela, which was founded in 1495 and is the fourth oldest in Spain.

Before we return Vigo, attendants will enjoy free time (approximately forty-five minutes) for visit the “tastier” streets of Santiago. The Rúa do Vilar (Vilar Street) and its popular Tarta de Santiago (Santiago´s cake); the Rúa da Raíña with old bars, where you can enjoy traditional Galician cuisine and wines; or Rúa do Franco, with restaurants and bars that offer a wide selection of seafood and fish.

Duration: 5 h.
Departure: 14:30 h.
From Mar de Vigo Auditorium
Return: 19:30 h.
Baiona, O Rosal (Albariño Wine Valley)

On this trip, we will first visit Baiona, located in the south of the Rias Baixas region and protected from the open sea by a breathtakingly beautiful bay.

We will make a short tour around this fishing and touristic village. The Galician Regional Government declared the town’s old quarter as ‘Area of Historical and Artistic interest’ in 1993 to commemorate the five hundredth anniversary of the arrival of La Pinta, a caravel-type vessel used by Christopher Columbus in his first journey to America. Baiona was the first town in Europe to have news from the discovery of America when La Pinta arrived on March 1st, 1493.

After visiting Baiona, we will travel to the area of O Rosal, known for its vineyards of the variety Rias Baixas. This area belongs to the Baixo Miño region that is located on the southwest corner of the province of Pontevedra. It owes its name to the Miño River, the most important river in Galicia that, in this area, serves as border with Portugal. We will have the opportunity to visit Terras Gauda winery (http://www.terrasgauda.com/). We will do a walking tour through the vineyards followed by a visit to the winery. The tour ends in the old distillery of the winery, where we will taste Terras Gauda and Abadía de San Campio wines and enjoy some traditional Galician “tapas”.

Duration: 5 h. 30 min.
Departure: 15:00 h.
From Mar de Vigo Auditorium
Return: 20:30 h.

Miño River Cycling Trail

This cycling trail goes along the Miño riverside and will allow you to take a full view of the valley of the Miño River. This 18 km-long trail is completely flat and links the Portuguese towns of Valença do Minho and Monção by using an old railway. You will enjoy sites of high ecological value included in the Nature 2000 network (cultivated fields and orchards, vineyards and forests), as well as fantastic views of monumental cities and medieval towers.

Starting point: Valença do Minho (Portugal).

Difficulty: very easy
Appropriate for all ages
Duration: 5 h. 30 min.
Departure: 15:00 h.
From Mar de Vigo Auditorium
Return: 20:30 h.
On Your Own

The best way to discover Vigo is to climb to the Castro hill to enjoy a great view of the whole city and its Ría. You can also take the turistic bus (http://www.turismodevigo.org/en/tourist-bus) to visit all the places that have made the city the main economic engine of Galicia: the harbour, the fishing port, shipyards, Citröen factory, etc. Wonderful beaches, like Samil, can be easily reached also by bus from the city center (Line N1/N2).

The narrow streets of the Casco Vello (Old Town) are full of restaurants and bars where you can enjoy typical Galician gastronomy. And don’t miss the oysters’ street.

Vigo is an ideal destination for cycling tourism in Spain due to its mild weather and spectacular location by the sea and its mild weather. This is the place to enjoy long biking routes.

You can rent a bike at www.turismodevigo.org/en/renting-bicycle

Hiking Routes

Ruta da Auga (Water path)

The Ruta da auga (Water path) is a nature trail in Vigo that runs along several access points and service roads to the channel that carries water from the Eiras reservoir, in Formelos de Montes, to Vigo. The last section, near the town of Redondela, runs through an area of outstanding beauty, with forests and streams. Along the route, you can enjoy wonderful views of Vigo’s estuary and the Rande Bridge.

The Portuguese Way

The St. James Way through Vigo is one of the most beautiful sections of the Portuguese version of the Way of St. James. This pilgrimage route is a coastal detour of the Portuguese Way that crosses the Miño river mouth in Caminha (Portugal) and then continues parallel to the ocean along A Guarda, Oia, Baiona, Nigrán and Vigo, before returning to the main road in Redondela. In April 2016, the regional Government declared the Portuguese Coast Way official.

Difficulty: Medium-low
In April 2016, the regional Government declared the Portuguese Coast Way official.

Beaches

Vigo’s beaches are regarded as some of the best in Galicia, and there are a lot of them. In addition to Rodas beach (Cíes Islands), Vigo has numerous beaches. The largest of these and very popular throughout the summer months is Samil beach, which runs for almost one mile and has the typical fine white sand of the region and a promenade behind it.

You can also find beaches smaller than Samil but very nice and popular too, such as As Fontes and O Vao. All of them are easily accessible by bus from the city center. Students’ Gathering Sunday 9th

On Sunday evening, students are encouraged to join the Students’ Gathering, an informal get-together to meet colleagues, exchange ideas and enjoy some typical Galician tapas.
OVERVIEW OF THE CONFERENCE VENUE
OVERVIEW OF THE CONFERENCE VENUE

MAR DE VIGO
LEVEL 2

ENTRANCE

STAIRS
ELEVATORS
EXHIBITION AREA POSTER

SALA MAR 2
SALA TERRA 2

SALA DE PRENSA

EXHIBITORS
TECHNICAL SECRETARIAT
SPEAKER READY-ZONE

MAR DE VIGO
LEVEL 3

STAIRS
ELEVATORS

SALA TERRA 3
SALA MAR 3

AUDITORIO
OVERVIEW OF THE CONFERENCE VENUE

MAR DE VIGO
LEVEL 4

STAIRS
ELEVATORS
SALA TERRA 4
SALA MAR 4

MAR DE VIGO
LEVEL 7

STAIRS
ELEVATORS
SALA MAR 4
SALA CONGRESOS