Gold Supporters

Silver Supporters

Bronze Supporters

Additional support for IBC2018 is provided by:
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELCOME MESSAGE</td>
<td>7</td>
</tr>
<tr>
<td>IBC 2018 ORGANIZING COMMITTEE</td>
<td>10</td>
</tr>
<tr>
<td>EVENT VENUE</td>
<td>11</td>
</tr>
<tr>
<td>SCHEDULE AT A GLANCE</td>
<td>12</td>
</tr>
<tr>
<td>PIONEER WOMEN IN STATISTICS AND BIOMETRY</td>
<td>22</td>
</tr>
<tr>
<td>SC. SHORT COURSES</td>
<td>24</td>
</tr>
<tr>
<td>IS. INVITED SESSIONS</td>
<td>25</td>
</tr>
<tr>
<td>CS. CONTRIBUTED SESSIONS</td>
<td>35</td>
</tr>
<tr>
<td>SHOWCASES</td>
<td>65</td>
</tr>
<tr>
<td>POSTERS SESSIONS</td>
<td>69</td>
</tr>
<tr>
<td>BUSINESS MEETINGS</td>
<td>94</td>
</tr>
<tr>
<td>AWARDS IBS &amp; SOCIAL PROGRAMME</td>
<td>96</td>
</tr>
<tr>
<td>EXHIBITORS</td>
<td>97</td>
</tr>
<tr>
<td>GENERAL INFORMATION</td>
<td>98</td>
</tr>
</tbody>
</table>
Message from the IBS President and the IBC 2018 Organizing President

Dear IBC attendees,

We are delighted to welcome you, your families and friends to Barcelona for the XXIXth International Biometric Conference (IBC 2018) being hosted by the Spanish Region (REsp) of the IBS. Pere Puig and Lupe Gómez, together with their Local Organising Committee (LOC), have done a wonderful job in providing a socially and scientifically inviting programme at an outstanding venue. The Barcelona International Convention Centre provides excellent spaces for formal meetings/scientific sessions and informal conversations/networking activities that are an essential part of every IBC. We are also grateful to Sara di Martino and her colleagues at Grupo Pacifico for their work in organising the meeting.

Charmaine Dean (WNAR) and her International Program Committee (IPC) have built the core of the scientific programme by selecting 18 invited sessions from across many different areas of biometry. We have also scheduled some special sessions, including Biometrics and JABES Showcases, an Invited Session from the ISI, an Invited Session from the Host Region (REsp) and a Statistics in Practice session that has been organized by the IBS Education Committee and is sponsored by Wiley. Also, please note the Young Statisticians Showcase on Tuesday afternoon, where the 5 awardees of the international competition for funding to attend the IBC will have the opportunity to present their work. Alongside these, we have an extensive Contributed Programme with 51 sessions of oral presentations and Poster Sessions. We would like to thank IPC for all of their work in reviewing abstracts and for, together with the LOC, assembling this extensive programme for the week. Thanks also to all of those who submitted abstracts and who will present their work to make this meeting an interesting and successful scientific event. In addition, we thank Pascale Tubert-Bitter (FR) and Annette Kopp-Schneider (DR) and their colleagues from the Education Committee who organised the Short Course Programme.

As ever, we are grateful to the continued support of our Executive Director Peter Doherty and his colleagues at the IBS International Business Office for helping us to manage much of the IBC organisation, including handling the submission of abstracts and registrations, in addition to planning for the many IBS governance meetings that will take place over the coming week. We are looking forward to renewing international friendships and professional contacts and making new ones during the next week. Hopefully, many of you will also join us in Seoul, Korea, for the XXXth International Biometric Conference in 2020.

We wish you all an enjoyable and productive time.

Louise Ryan
President
International Biometric Society

Elizabeth Thompson
Organizing President
IBC 2018 Barcelona
Message from the Chair of the International Program Committee

Welcome to the XXIXth International Biometric Conference, the biennial meeting of the International Biometric Society. We have a superb program of talks and activities for you with a diverse scientific program including emerging topics of interest to the society. So many volunteers have been working hard over the last year to produce a stellar scientific program that will be sure to command your interest. There was overwhelming enthusiasm for our Barcelona conference with the final program including 18 IBS invited sessions, 7 special sessions, and 51 contributed oral sessions. In addition, 5 short courses will be offered and hundreds of scientific posters will be on display throughout the conference.

With this wealth of activity, the meeting is sure to appeal to all participants. Please take time to talk with young investigators about their research. Our society prides itself in the attention we place in supporting students and those just starting their careers. Even if you reach out with a suggestion, or have a discussion with, one or two young investigators, the impact will be felt and you will make a difference to our community.

I would like to thank the members of the International Program Committee for reviewing a large number of abstracts, the IBC organizing president Elizabeth Thompson for her help on the coordination of the program, the members of the Local Organizing Committee for their immense work handling the logistics of the meeting, and Elizabeth Renouf and the International Business Office, particularly Kristina Wolford, for prompt assistance in many administrative and organizational matters.

I fully expect that you will enjoy the meeting, and I hope that you also take time to appreciate the unique culture and wonderful city, of Barcelona.

Charmaine Dean
International Program Committee Chair

Message from the Local Organizing Committee

Dear participants in the XXIXth International Biometric Conference (IBC2018), WELCOME to Barcelona!!

We are delighted that IBC2018 has attracted hundreds of participants from around the world, from academia, research centers and laboratories, industry and government and with a remarkable participation of young researchers. The meeting is being held at the Centre de Convenções Internacional de Barcelona (CCIB), in the newest section of Barcelona’s seafront in the heart of the technology and business district known as Barcelona 22@. The center of Barcelona is easily reached by subway from the CCIB. As you will discover, Barcelona, capital of Catalunya, is a very friendly and lively city that offers so much to discover that we bet you will come back soon. For those of you who can find some time outside our busy IBC schedule, we encourage you to discover the magic of Gaudi, to take a nice evening walk along Ramblas and to seek out the many charms that Barcelona has to offer. The IBC2018 brings together biostatisticians and biometricians eager to discuss and share their ideas, new results and accomplishments. The social program, including the welcome reception on Monday evening, the gathering for young people on Tuesday night, the excursions on Wednesday and the Gala Dinner on Thursday, provides plenty of opportunities to meet old friends and to make new ones. About the Gala Dinner, if you are not registered, you still can!! It will be a unique experience in the Reials Drassanes, a vestige of Barcelona’s medieval seafaring past, an astonishing place with superb food and wine and, more important, with a relaxed atmosphere, where we will all enjoy conversation, laughs, music and some live entertainment organized by our volunteers.

For the first time, in this IBC we are acknowledging six pioneering women in Statistics, from different countries and diverse biometric specialties. You will find Susie Bayarri, Gertrude Mary Cox, Florence Nightingale, Helen Newton Turner, Laura Pla and Aleyamma George have all been honored by naming session rooms in their honor.

We are grateful for the support from the Universitat Politècnica de Catalunya, Universitat Autònoma de Barcelona and from all the sponsors for their generous contributions. We would like to express our warmest gratitude to Elizabeth Thompson, IBC2018 Organizing President, and to Peter Doherty, IBO Executive Director, for putting up a great team who has made this journey so much to discover that we bet you will come back soon. For those of you who can find some time outside our busy IBC schedule, we encourage you to discover the magic of Gaudi, to take a nice evening walk along Ramblas and to seek out the many charms that Barcelona has to offer. As you will discover, Barcelona, capital of Catalunya, is a very friendly and lively city that offers so much to discover that we bet you will come back soon. For those of you who can find some time outside our busy IBC schedule, we encourage you to discover the magic of Gaudi, to take a nice evening walk along Ramblas and to seek out the many charms that Barcelona has to offer.

Guadalupe Gómez and Pere Puig
Chairs of the Local Organizing Committee
Local Organizing Committee

Lupe Gómez  Co-Chair, Past President SEB, Universitat Politècnica de Catalunya (RESP)
Pere Puig  Co-Chair, Universitat Autònoma de Barcelona (RESP)
Inma Aróstegui  Past President SEB, Universidad Pais Vasco (RESP)
Malu Calle  Past President SEB, Universitat de Vic (RESP)
Ramón Clèries  Institut Català d’Oncologia (RESP)
Maria Durbán  IP Biostatnet Universidad Carlos III (RESP)
Klaus Langohr  President SEB (RESP), Universitat Politècnica de Catalunya, IMIM
Monsue Rué  Universitat de Lleida (RESP)
Marc Sáez  Universitat de Girona (RESP)
Alex Sánchez  Past President SEB, Universitat de Barcelona (RESP)
Isabel Serra  Centre de Recerca Matemàtica
Charmaine Dean  IPC Chair (WNAR) ex-officio
Peter Doherty  Executive Director, ex-officio

International Program Committee

Charmaine Dean  Chair (WNAR)
Renato Assunção  (RBRAS)
Paolo Canas Rodrigues  (RBRAS)
Daniel Commenges  (RF)
Ross Darnell  (AR)
Legesse Kassa Debuso  (GSA)
Jeanine Duistermaat-Houwing  (ANED)
Mark Girolami  (BIR)
Timothy Gregoire  (ENAR)
Antje Hoering  (WNAR)
Ludwig Hothorn  (DR)
Shirley Pledger  (AR)
Lola Ugarte  (RESP)
Novie Younger  (RCAC)
Xiao-Hua A. Zhou  (CHINA)
Lupe Gómez  Co-Chair UPC (RESP)
Pere Puig  Co-Chair UAB (RESP)
Fred van Eeuwijk  2016 IPC Chair
SCHEDULE AT A GLANCE. SUNDAY 8\textsuperscript{th}

**MEETING ROOMS**

<table>
<thead>
<tr>
<th>ROOM</th>
<th>Hall P0 (Vestíbulo)</th>
<th>Gertrude Mary Cox</th>
<th>Florence Nightingale</th>
<th>Helen Newton Turner</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30</td>
<td>REGISTRATION OPENS FOR SHORT COURSES only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td>SHORT COURSE 1: Mediation Analysis Using R</td>
<td>SHORT COURSE 2: Multivariate Dimension Reduction for Biological Data Integration</td>
<td>SHORT COURSE 3: The Analysis of Interval-Censored Observations</td>
<td></td>
</tr>
<tr>
<td>8:30</td>
<td>COFFEE BREAK AM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>SHORT COURSE 1: Mediation Analysis Using R</td>
<td>SHORT COURSE 2: Multivariate Dimension Reduction for Biological Data Integration</td>
<td>SHORT COURSE 3: The Analysis of Interval-Censored Observations</td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td>LUNCH - Buffet banquet hall (P2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SHORT COURSES | BUSINESS MEETINGS | INVITED SESSIONS | SHOWCASES | C. SESSIONS | SOCIAL PROG. | POSTERS
<table>
<thead>
<tr>
<th>MONDAY</th>
<th>MEETING ROOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM</td>
<td></td>
</tr>
<tr>
<td>HALL P0 (Vestíbulo)</td>
<td>Susie Bayarri</td>
</tr>
<tr>
<td></td>
<td>Gertrude</td>
</tr>
<tr>
<td></td>
<td>Mary Cox</td>
</tr>
<tr>
<td></td>
<td>Florence</td>
</tr>
<tr>
<td></td>
<td>Nightingale</td>
</tr>
<tr>
<td></td>
<td>Helen Newton</td>
</tr>
<tr>
<td>Turner</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MONDAY</th>
<th>MEETING ROOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM</td>
<td></td>
</tr>
<tr>
<td>Laura Pla</td>
<td>Aleyamma</td>
</tr>
<tr>
<td></td>
<td>George</td>
</tr>
<tr>
<td></td>
<td>IBS committee</td>
</tr>
<tr>
<td></td>
<td>meetings room</td>
</tr>
<tr>
<td>POSTERS Room</td>
<td>Speakers'</td>
</tr>
<tr>
<td>room</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIME</th>
<th>EVENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30</td>
<td>REGISTRATION OPENS</td>
</tr>
<tr>
<td>8:00</td>
<td>Opening Session &amp; President’s Address</td>
</tr>
<tr>
<td>8:30</td>
<td>IS.02 The Bleeding Edge: advancing statistical methodology through blood sector applications</td>
</tr>
<tr>
<td>9:30</td>
<td>COFFEE BREAK AM</td>
</tr>
<tr>
<td>10:00</td>
<td>IS.01 Design-based and model-based inference in environmental and natural resources surveys</td>
</tr>
<tr>
<td>10:30</td>
<td>IS.03 Analysis methods using multiple type of omics measurements</td>
</tr>
<tr>
<td>11:00</td>
<td>LUNCH IN BANQUET HALL (P2)</td>
</tr>
<tr>
<td>11:30</td>
<td>IS.04 Modelling grouped environmental and forestry data</td>
</tr>
<tr>
<td>12:30</td>
<td>LUNCH IN BANQUET HALL (P2)</td>
</tr>
<tr>
<td>13:00</td>
<td>IS.05 Experimental Design as a Frame-work for Solving Challenging Problems in Clinical Drug Development</td>
</tr>
<tr>
<td>13:30</td>
<td>IS.06 Recent Biometrical Applications</td>
</tr>
<tr>
<td>14:00</td>
<td>IS.07 Multi-State models Methods and Applications</td>
</tr>
<tr>
<td>14:30</td>
<td>IS.08 Microarrays and Omics Data 1</td>
</tr>
<tr>
<td>15:00</td>
<td>IS.09 Novel Application in Pharmacokinetics and Epidemiology</td>
</tr>
<tr>
<td>15:15</td>
<td>COFFEE BREAK PM</td>
</tr>
<tr>
<td>15:30</td>
<td>IS.10 Recent Developments in Modeling with Applications to Agriculture and Environmental Research</td>
</tr>
<tr>
<td>15:45</td>
<td>IS.11 Advances in Spatial and Spatio-Temporal Modeling I</td>
</tr>
<tr>
<td>16:30</td>
<td>IS.12 Microarrays and Omics Data 2</td>
</tr>
<tr>
<td>17:00</td>
<td>WELCOME RECEPTION IN BANQUET HALL (20:00-21:30)</td>
</tr>
<tr>
<td>17:15</td>
<td>COFFEE BREAK PM</td>
</tr>
<tr>
<td>17:30</td>
<td>IS.13 Mixture Models and Their Applications</td>
</tr>
<tr>
<td>18:00</td>
<td>WELCOME RECEPTION IN BANQUET HALL (20:00-21:30)</td>
</tr>
<tr>
<td>16:30</td>
<td>EDUCATIONAL COMMITTEE MEETING</td>
</tr>
<tr>
<td>17:00</td>
<td>CONFERENCE ADVISORY COMMITTEE MEETING</td>
</tr>
<tr>
<td>17:15</td>
<td>COMMITTEE ON COMM.</td>
</tr>
<tr>
<td>17:30</td>
<td>EDUC. COMM. MEETING</td>
</tr>
<tr>
<td>18:00</td>
<td>SHOWCASE: STATISTICS IN PRACTICE SESSIONS (SESSION 1)</td>
</tr>
<tr>
<td>18:30</td>
<td>SHOWCASE: STATISTICS IN PRACTICE SESSIONS (SESSION 2)</td>
</tr>
<tr>
<td>20:00</td>
<td>WELCOME RECEPTION IN BANQUET HALL (20:00-21:30)</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>MEETING ROOMS</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
</tr>
<tr>
<td>ROOM</td>
<td>HALL P0 (Vestíbulo)</td>
</tr>
<tr>
<td>8:30</td>
<td>IS.06 Statistical methods and challenges in microbiome research</td>
</tr>
<tr>
<td>9:00</td>
<td>IS.07 Recent developments in the design and analysis of crop variety and breeding trials</td>
</tr>
<tr>
<td>10:00</td>
<td>COFFEE BREAK AM</td>
</tr>
<tr>
<td>10:30</td>
<td>LUNCH IN BANQUET HALL (P2)</td>
</tr>
<tr>
<td>11:00</td>
<td>IS.09 Multi-State Models With Interval-Censored Data</td>
</tr>
<tr>
<td>12:00</td>
<td>COFFEE BREAK PM</td>
</tr>
<tr>
<td>12:30</td>
<td>Young Statistician Student (YSS) Showcase</td>
</tr>
<tr>
<td>13:00</td>
<td>IBS Honors and Awards Ceremony</td>
</tr>
<tr>
<td>14:00</td>
<td>Regional Officers’ Reception (VIP ROOM M1)</td>
</tr>
<tr>
<td>15:30</td>
<td>Young Statisticians’ Reception (BOO Restaurant) (20:00 - LATE)</td>
</tr>
</tbody>
</table>
### SCHEDULE AT A GLANCE. THURSDAY 12TH

<table>
<thead>
<tr>
<th>THURSDAY</th>
<th>MEETING ROOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM</td>
<td>HALL (Vestíbulo)</td>
</tr>
<tr>
<td>8:30</td>
<td>Host Region Special Invited Session – Spanish Region</td>
</tr>
<tr>
<td>9:00</td>
<td>COFFEE BREAK AM</td>
</tr>
<tr>
<td>9:30</td>
<td>IS.11 Quantifying and Communicating Uncertainty in Agricultural Modelling</td>
</tr>
<tr>
<td>10:00</td>
<td>COFFEE BREAK AM</td>
</tr>
<tr>
<td>10:30</td>
<td>IS.37 Recent Advances in Survival and Longitudinal Data Analysis</td>
</tr>
<tr>
<td>11:00</td>
<td>Budget &amp; Finance Comm. Meeting</td>
</tr>
<tr>
<td>11:30</td>
<td>Regional Presidents &amp; Officers Meeting</td>
</tr>
<tr>
<td>12:30</td>
<td>LUNCH IN BANQUET HALL (P2)</td>
</tr>
<tr>
<td>13:00</td>
<td>IS.13 Statistical methods for high throughput phenotyping data in plant sciences</td>
</tr>
<tr>
<td>13:45</td>
<td>POSTERS Prep. Room</td>
</tr>
<tr>
<td>14:00</td>
<td>POSTERS SESSION 2 (presentation time from 13:00 to 14:00)</td>
</tr>
<tr>
<td>14:30</td>
<td>COFFEE BREAK PM</td>
</tr>
<tr>
<td>15:00</td>
<td>CS.34 Longitudinal Data Analysis in Epidemiology</td>
</tr>
<tr>
<td>15:15</td>
<td>ISI Special Invited Session</td>
</tr>
<tr>
<td>15:15</td>
<td>Editorial Advisory</td>
</tr>
<tr>
<td>15:30</td>
<td>16:30</td>
</tr>
<tr>
<td>16:30</td>
<td>17:00</td>
</tr>
<tr>
<td>17:00</td>
<td>17:00</td>
</tr>
<tr>
<td>17:15</td>
<td>17:00</td>
</tr>
<tr>
<td>17:30</td>
<td>18:00</td>
</tr>
<tr>
<td>18:00</td>
<td>18:30</td>
</tr>
<tr>
<td>18:30</td>
<td>20:00</td>
</tr>
<tr>
<td>20:00</td>
<td>GALA DINNER (20:00-00:45)</td>
</tr>
<tr>
<td>TIME</td>
<td>MEETING ROOMS</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
</tr>
<tr>
<td>8:30</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>9:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>10:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>11:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>12:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>13:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>14:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>15:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>16:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>17:00</td>
<td>HELLEN NEWTON</td>
</tr>
<tr>
<td>17:15</td>
<td>HELLEN NEWTON</td>
</tr>
</tbody>
</table>
For the first time, in this IBC we are acknowledging six pioneering women in Statistics and Biometry, from different countries and diverse biometric specialties. You will find Susie Bayarri, Gertrude Mary Cox, Florence Nightingale, Helen Newton Turner, Laura Pla and Aleyamma George have all been honored by naming a session room in their honor.

Susie Bayarri (1956-2014). Susie was a prominent Bayesian statistician born in Valencia (Spain) where she spent most of her life as a student and professor. She visited Purdue University often and was Adjunct Professor of Statistics at Duke University (USA). Susie was elected as a fellow of the American Statistical Association and the International Statistical Institute in 1997, of the Institute of Mathematical Statistics in 2008, and in the inaugural class of fellows of the International Society for Bayesian Analysis in 2014. Her publications won the Frank Wilcoxon Award in 2006, and the Jack Youden Prize in 2008. Susie was the president of the Sociedad Española de Biometría (Spanish Region of the IBS) (2001-2003), president of International Society for Bayesian Analysis (1998) and co-founder of the Biostatnet Spanish network of Biostatisticians.

Gertrude Mary Cox (1900-1978). Gertrude was a distinguished American statistician known for her contributions to psychological statistics and experimental design. She grew up in the small town of Perry, Iowa (USA). She majored in mathematics at Iowa State College where she obtained her B.S degree. She received the first Master’s degree given by Iowa State in statistics. Gertrude Cox became the head of North Carolina State’s Department of Experimental Statistics in 1940. In 1949 Cox became the first woman elected into the International Statistical Institute, in 1956 was President of the American Statistical Association and in 1975 was elected to the National Academy of Science. Gertrude Cox was a founding member of the International Biometric Society in 1947, served as editor of its journal, Biometrics, from 1947 to 1955, and as president from 1968 to 1969 and was one of the two very first Honorary Life Members of IBS in 1964.

Aleyamma George (??-1984). Aleyamma was an eminent statistician born in Kerala (India). She was instrumental in building the Department of Statistics at the University of Kerala and contributed much to the field of Demography and Vital Statistics in India. She applied the concepts of affinity and distance to live birth data and showed that the method may be of relevance in population problems. Aleyamma was the head of the Department of Statistics in Kerala, the second oldest post-graduate department of Statistics in India, in 1957. Its Alumni Association, in recognition for the love and affection they enjoyed while they were studying, have established the Prof. (Miss) Aleyamma George Best Paper Award for the best paper published in applied areas such as Biostatistics, Demography, among others, to be given to the best student in every new generation of this Department.

Florence Nightingale (1820-1910). Florence was a pioneer in information visualization and statistical graphics. She was born in Florence (Italy) and was brought up in the family’s homes at Hampshire and Derbyshire. Nightingale came to prominence while serving as a manager and trainer of nurses during the Crimean War, in which she organized care for wounded soldiers. She gave nursing a good reputation and became an icon of Victorian culture, especially in the persona of “The Lady with the Lamp” making rounds of wounded soldiers at night. Nightingale is described as “a true pioneer in the graphical representation of statistics”, and is credited with developing a form of the pie chart now known as the polar area diagram equivalent to a modern circular histogram, to illustrate seasonal sources of patient mortality in the military field hospital she managed. In 1859, Nightingale was elected the first female member of the Royal Statistical Society. In 1874 she became an honorary member of the American Statistical Association.

Laura Pla (1947-2014). Laura was an influential biometrician born in Argentina. She studied at the Universidad de Buenos Aires and at the Universidad Central de Venezuela, where she earned a PhD degree in agricultural sciences. She was Professor at the Universidad Nacional Experimental Francisco de Miranda in Venezuela and was one of the few persons in Latin America to introduce statistical methods in ecological studies. Laura was a founding member of the Central American and Caribbean region, of the Venezuela group, and helped to consolidate the Argentina region. She was a very active member of the International Biometric Society where she was member of the Council (1994-1996, 2002-2009) and served in the Awards Fund Committee (1993-1997) and Strategic Planning Committee (2000-2010).

Helen Alma Newton Turner (1908-1995). Helen was a leading Australian geneticist and statistician. She was born in Sydney (Australia) where she lived as a student. She graduated with honors and received her Doctoral Sciences Degree from the University of Sydney. She also studied in the United Kingdom with Frank Yates and Ronald Fisher. She went back to Australia to work at the Commonwealth Scientific and Industrial Research Organization (CSIRO) for 40 years. Helen formed the University Women’s Land Army in 1940. She was Officer of the Order of Australia and of the British Empire and received the Farrer Memorial Medal. The Association for the Advancement of Animal Breeding and Genetics established the Helen Newton Turner Medal in 1993.
Five Short Course proposals were selected for presentation just before the International Biometric Conference (IBC) begins. All Short Courses will take place on **Sunday 8th July 2018 from 09:00 – 17:30**, and are taught by experienced professionals who are experts in their fields. A separate fee is required to attend a Short Course.

For detailed descriptions of each short course, including aims and topics, please visit [http://2018.biometricconference.org/ibc-short-course-offerings/](http://2018.biometricconference.org/ibc-short-course-offerings/).

### Schedule at a Glance:

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>09:00 – 10:30</td>
</tr>
<tr>
<td>Coffee Break</td>
<td>10:30 – 11:00</td>
</tr>
<tr>
<td>Session 2</td>
<td>11:00 – 12:30</td>
</tr>
<tr>
<td>Lunch</td>
<td>12:30 – 14:00</td>
</tr>
<tr>
<td>Session 3</td>
<td>14:00 – 15:30</td>
</tr>
<tr>
<td>Coffee Break</td>
<td>15:30 – 16:00</td>
</tr>
<tr>
<td>Session 4</td>
<td>16:00 – 17:30</td>
</tr>
</tbody>
</table>

**SC.01: Mediation Analysis Using R**  
*Gertrude Mary Cox*  
*Presenters: Theis Lange & Stijn Vansteelandt*

**SC.02: Multivariate Dimension Reduction for Biological Data Integration**  
*Florence Nightingale*  
*Presenters: Kim-Anh Lê Cao & Sébastien Déjean*

**SC.03: The Analysis of Interval-Censored Observations**  
*Helen Newton Turner*  
*Presenters: Emmanuel Lesaffre & Arnošt Komárek*

**SC.04: Network Meta-Analysis with R**  
*Laura Pla*  
*Presenters: Gerta Rücker & Guido Schwarzer*

**SC.05: Compositional Data Analysis (CoDa Course)**  
*Aleyamma George*  
*Presenters: Josep-Antoni Martín-Fernández & Jan Graffelman*
For detailed descriptions of each Invited Session, including aims and topics, please visit http://2018.biometricconference.org/invited-sessions/.

**MONDAY 9th JULY 2018**

### IS.01 Design-based and model-based inference in environmental and natural resources surveys

**Session Chair:**
Paul L. Patterson (Inventory and Monitoring, United States Department of Agriculture (USDA) Forest Service, USA)

Svetlana Saarela (Swedish University of Agricultural Sciences, Sweden)

Model-based interference in forest surveys: study area size requirements for applying large-area estimation procedures

**Mark J. Ducey** (University of New Hampshire, USA)

Design-based inference: is it still relevant in the 21st century?

**Annika Kangas** (Natural Resources Institute Finland, Finland)

Efficiency of stratification compared to balanced sampling in NFI design

**Discussant:**
Paul L. Patterson (Inventory and Monitoring, United States Department of Agriculture (USDA) Forest Service USA)

Svetlana Saarela (Swedish University of Agricultural Sciences, Sweden)

### IS.02 The Bleeding Edge: advancing statistical methodology through blood sector applications

**Session Chair:**
Louise M. Ryan (University of Technology Sydney, Australia)

Emmanuel Lesaffre (KU Leuven, Belgium)

Prediction of hemoglobin in blood donors using a latent class mixed effects transition model

**Martin Nieuwoudt** (Stellenbosch University, South Africa)

A Sample of Blood Statistics from South Africa

**Stephen Wright** (Australian Red Cross Blood Service & University of Technology Sydney, Australia)

With millions of donors giving blood, can we identify the optimal donor/donation type for a given immediate need

No Discussant

### IS.03 Analysis methods using multiple type of -omics measurements

**Session Chair:**
Charles Kooperberg (Fred Hutchinson Cancer Research Center, USA)

Nancy J. Cox (Vanderbilt University, USA)

Integrating genome with transcriptome for Electronic Health Records discovery

**Li Hsu** (Fred Hutchinson Cancer Research Center, USA)

A mixed-effects model for powerful association tests in integrative functional genomics: An application to a large-scale genome-wide association study of colorectal cancer

**Jian Yang** (University of Queensland, Australia)

Understanding the regulatory mechanisms underpinning complex trait variation

**Hongyu Zhao** (Yale University, USA)

Dissecting Genetic Architecture of Complex Diseases Through Integrated Genomic Analysis

No Discussant

### IS.04 Modelling grouped environmental and forestry data

**Session Chair:**
Lauri Mehtätalo (University of Eastern Finland, Finland)

Juha Laoppi (University Eastern Finland & University of Jyväskylä, Finland)

Some pitfalls of mixed models

**Arne Nøthdurft** (University of Natural Resources and Life Sciences Institute of Forest Growth, Austria)

Spatial and temporal modeling in forest monitoring

**Malcolm Itter** (University of Helsinki, USA)

Methods to model individual-scale variability in ecological processes

Discussant:
Lauri Mehtätalo (University of Eastern Finland, Finland & Michigan State University, USA) Bayesian modeling of grouped environmental data
17:30 – 19:00
Susie Bayarri

IS.05 Experimental Design as a Framework for Solving Challenging Problems in Clinical Drug Development
Session Chair: Jesús López-Fidalgo (University of Navarre, Spain)
Kathrin Möllenhoff (Ruhr-Universität Bochum, Germany)
Design and analysis of dose response studies
Nancy Flournoy (University of Missouri, USA)
Statistical implications of informative dose allocation in binary regression
Katrin Kettelhake (Bayer AG Development Pharmaceuticals, Germany)
An interactive tool to apply optimal experimental design in planning dose finding studies
Discussant: Vladimir Dragalin (Janssen Pharmaceuticals, USA)

Tuesday, 10th July 2018

08:30 – 10:00
Susie Bayarri

IS.06 Statistical methods and challenges in microbiome research
Session Chair: M. Luz Calle (University of Vic – Central University of Catalonia, Spain)
Hongzhe Li (University of Pennsylvania, USA)
Compositional Mediation Analysis in Microbiome Studies
Kim-Anh Lê Cao (University of Queensland, Australia)
Multivariate microbiome data analysis
Anna Plantinga (University of Washington, USA)
Community-Level Analysis of Microbiome Data in Complex Study Designs
Discussant: M. Luz Calle (University of Vic – Central University of Catalonia, Spain)

10:30 – 12:00
Susie Bayarri

IS.07 Recent developments in the design and analysis of crop variety and breeding trials
Session Chair: Hans-Peter Piepho (University of Hohenheim, Germany)
Johannes Forkman (SLU, Sweden)
Design and analysis of small complete block experiments when blocks are rows in a rectangle

13:45 – 15:15
Laura Pta

IS.08 Digital technologies and the impact in biometry
Session Chair: Renato Assunção (Universidade Federal de Minas Gerais, Brazil)
Maged N. Kamel Boulos (University of the Highlands and Islands, Scotland)
VRGIS and big data for smarter, healthier cities
Joanna Mills Flemming (Dalhousie University, Canada)
Robust and Consistent Estimation for General State-Space Models with Application to Problems in Fisheries Science and Movement Ecology
Gilberto Câmara (Instituto Nacional de Pesquisas Espaciais (INPE), Brazil)
Challenges in big Earth observation data mining
Discussant: Arthur Charpentier (Université de Rennes 1, Canada)

13:45 – 15:15
Susie Bayarri

IS.09 Multi-State Models With Interval-Censored Data
Session Chair: Klaus Langohr (Polytechnic University of Catalonia, Spain)
Ahmadou Alioum (Université de Bordeaux, France)
Inference in multi-state models for interval-censored data
Montserrat Rúe (Universitat de Lleida, Spain)
Factors associated with health resources utilization in Catalan patients with chronic diseases: A multi-state approach
Andrew Titman (Lancaster University, UK)
Joint models for multi-state models with informative observation processes
No Discussant
**IS.10 New developments in mediation analysis**

Session Chair: Stijn Vansteelandt (Ghent University & London School of Hygiene and Tropical Medicine, Belgium)

Mediation analysis with high-dimensional mediators

Rhian Daniel (London School of Hygiene and Tropical Medicine, UK)

Mediation analysis with high-dimensional mediators

Xi Luo (Brown University, USA)

Pathway Lasso: Estimate and Select Mediation Pathways with High Dimensional Mediators

Theis Lange (University of Copenhagen & Peking University, Denmark)

Mediation analysis acknowledging that the true mediator is a process, not a (collection) of variables

Discussant: Stijn Vansteelandt (Ghent University & London School of Hygiene and Tropical Medicine, Belgium)

**IS.12 Functions of variance components in mixed effects models: estimation, confidence intervals, hypothesis tests and boundary issues**

Session Chair: Nino Demetrashvili (National Center for Disease Control and Public Health, Georgia)

Alan Welsh (Australian National University, Australia)

Bootstrap Model Selection for Linear Mixed Models

Regev Schweiger (Tel Aviv University, Israel)

Using stochastic approximation techniques to efficiently construct confidence intervals for the intraclass correlation coefficient

Tamar Sofer (Harvard University, USA)

Properties of moment estimators of variance components and proportions of variance

Discussant: Geert Molenberghs (Hasselt University and KU Leuven, Belgium)

**IS.11 Quantifying and Communicating Uncertainty in Agricultural Modelling**

Session Chair: Petra Kühnert [Commonwealth Scientific and Industrial Research Organisation (CSIRO) Data61, Australia]

Dan Gladish [CSIRO Data61, Australia]

Using statistical emulation for understanding uncertainty in multivariate output from agricultural simulators

Ky Mathews [University of Wollongong, Australia]

Improving accuracy in genomic selection: a comparison of 1-stage versus 2-stage linear mixed models for plant breeding multi-environment datasets

Daniela Bustos Korts [Wageningen University, the Netherlands]

Combining crop growth modeling and statistical genetic modelling to evaluate phenotyping strategies

Discussant: Fred van Eeuwijk (Wageningen University, the Netherlands)

**IS.13 Statistical methods for high throughput phenotyping data in plant sciences**

Session Chair: Fred van Eeuwijk (Wageningen University, the Netherlands)

Scott Chapman [University of Queensland, Australia]

Challenges and Opportunities for Statistical Applications in High-Throughput Phenomics

Maria Xosé Rodríguez-Álvarez [Basque Center for Applied Mathematics, Spain]

Spatio-temporal modeling of high-throughput phenotypic data

Hiroyoshi Iwata [University of Tokyo, Japan]

Modelling response of plants to environment via high-throughput phenotyping and machine learning

Discussant: Fred van Eeuwijk (Wageningen University, the Netherlands)
IS.14 Statistical analysis of self-reported outcomes that are subject to measurement error
Session Chair:
Richard J. Cook (University of Waterloo, Canada)

Ruth Keogh (London School of Hygiene and Tropical Medicine, UK)
Statistical issues related to dietary intake as the response variable in intervention trials

David Steinberg (Tel Aviv University, Israel)
Measurement error in calibration sub-studies

Raji Balasubramanian (University of Massachusetts – Amherst, USA)
Variable selection in high dimensional datasets in the presence of error-prone, self-reported outcomes

Juned Siddique (Northwestern University, USA)
Addressing Differential Measurement Error in Self-Reported Dietary Data Using an External Validation Study: Application to a Longitudinal Lifestyle Intervention Trial

No Discussant

IS.15 Dynamic individualized risk prediction: Recent developments and real world applications
Session Chair:
Ruth Keogh (London School of Hygiene and Tropical Medicine, UK)
Session Co-Chair:
Rhonda Szczesniak (Cincinnati Children’s Hospital Medical Center, USA)

Peter Diggle (Lancaster University, UK)
Real-time monitoring of health outcomes using routine clinical data

Angela Wood (University of Cambridge, UK)
Estimating cardiovascular disease risk in electronic health records with incomplete records and repeated measurements of risk predictors

Cecile Proust-Lima (University of Bordeaux, France)
Individual dynamic predictions using landmarking and joint modelling: validation of estimators and robustness assessment

Discussant:
Jeremy Taylor (University of Michigan, USA)

IS.16 Adaptive designs with multiple objectives
Session Chair:
Martin Posch (Medical University of Vienna, Austria)

Cyrus Mehta (Cytel & Harvard T.H. Chan School of Public Health, USA)
Design and Monitoring of Multi-Arm Multi-Stage Clinical Trials

Toshimitsu Hamasaki (National Cerebral and Cardiovascular Center, Japan)
Designing complex survival clinical trials with multi-stage and multiple endpoints

Lisa Hampson (AstraZeneca & Lancaster University, UK)
Optimising the data combination rule for seamless Phase II/III clinical trials

Franz König (Medical University of Vienna, Austria)
Decision Theoretic Approaches for Adaptive Enrichment Designs in Personalized Medicine

Discussant:
Hans Ulrich Burger (F. Hoffmann – La Roche Ltd., Switzerland)

IS.17 Challenges in the Analysis of Observational Cohort Data
Session Chair:
Thomas Scheike (University of Copenhagen, Denmark)

Richard J. Cook (University of Waterloo, Canada)
Response-dependent sampling and tracing in cohort studies of chronic diseases: methods for design and analysis

Niels Keiding (University of Copenhagen, Denmark)
Observational cohort studies and register data – experiences from Denmark

Daniela De Angelis (University of Cambridge, UK)
Challenges in estimating HIV testing behaviour from observational cohort data

No Discussant
IS.18 Statistical challenges in family studies: from design to risk prediction
Session Chair:
Mar Rodríguez-Girondo (Leiden University Medical Centre, the Netherlands)

Thomas Scheike (University of Copenhagen, Denmark)
Dependence in risk-level and age-of-onset for competing risks data

Malka Gorfine (Tel Aviv University, Israel)
A fully nonparametric estimator of the marginal survival function based on case-control clustered age-at-onset data

Antonis Antoniou (University of Cambridge, UK)
Developing comprehensive risk prediction models for familial breast and ovarian cancer

Jeanine Houwing-Duistermaat (Leeds University, UK)
Statistical methods for the analysis of secondary phenotypes in the proband family design

Discussant:
Mar Rodríguez-Girondo (Leiden University Medical Centre, the Netherlands)
For detailed descriptions of each Contributed Session, please visit the IBC2018 Mobile App or the IBC Conference website.

**MONDAY, 9TH JULY 2018**

**10:30 – 11:45**

**CS.02 Functional Data Analysis Methods and Applications**

*Session Chair:* Vanda Inacio de Carvalho

**Gertrude**

*Mary Cox*

**Multivariate functional principal component analysis as a statistical tool for assessment of two varieties of wheat straw mineralization effect on soil properties improvement**

*Marco Geraci*

**Modelling longitudinal accelerometer measurements using additive mixed-effects quantile regression**

*Jeanine Houwing-Duistermaat*

**Functional data analysis methods for predicting the progression of scleroderma disease using patient’s historical data**

*Mariana Rodrigues Motta*

**Identification of early respondents based on EEG signals**

*Aaron Wolfe Scheffler*

**Hybrid Principal Components Analysis for Region-Referenced Longitudinal Functional EEG Data**

*Carmen D Tekwe*

**Sparse conditional functional quantile regression with measurement error with an application to physical activity assessments and obesity among children**

**10:30 – 11:45**

**CS.03 Signal and Image Methods and Application**

*Session Chair:* Inyoung Kim

**Helen Newton**

*Turner*

**Regularization based on wavelet and spline representations of signals: modelling of the greyscale from CT-scan images of rooted soil**

*Mario Martínez*

**Discrimination Power of Human Body Parts for Person Re-Identification Using Dynamic Time Warping and Histogram-Based Features**

*Tamanna Howlader*

**13:45 – 15:15**

**CS.04 Advanced Methods in Survival Analysis**

*Session Chair:* Marianne Jonker

**Gertrude**

*Mary Cox*

**Flexible Accelerated Failure Time Model in Survival Analysis**

*Menglan Pang*

**Nonidentifiability in the presence of factorization for truncated data**

*Rebecca A. Betensky*

**Application of advanced statistical methods to clinical administrative databases for analyzing patients’ survival adjusting for pharmacological treatments**

*Francesca Gasperoni*

**CompARE: Sample Size Calculation for Time-To-Event Composite Endpoints**

*Jordi Cortés*

**Sample Size Derivation for Composite Binary Endpoints Accounting for Departures of the Anticipated Values**

*Marta Bofill Roig*

**Defective models induced by gamma frailty term for survival data with cured fraction**

*Vera Lucia Damasceno Tomazella*

**13:45 – 15:15**

**CS.05 - Recent Developments in Modeling with Applications to Agriculture and Environmental Research**

*Session Chair:* Petra Kuhnert

**Florence**

*Nightingale*

**Semi-Parametric mixed beta regression models for disease severity in plants**

*Pedro A Torres-Saavedra*
Gordana Popovic  
Modelling interactions from multi species data with Gaussian copulas

Emi Tanaka  
Order selection of factor analytic models for genotype x environment interaction

Saheed Abiodun Afolabi  
Statistical safety assessment of water supply in OYO State, Nigeria: Application of Goodness of Fit

Eva Cantoni  
Predicting bycatch of endangered marine species with a hurdle mixed model

13:45 – 15:15  
CS.06 - Recent Biometrical Applications  
Session Chair:  
Hongzhe Lee

Gregory Nuel  
Clustering of Directed Acyclic Graphs in Systems Biology

Georgios Bartzis  
Estimating metabolite networks using a multi-step network approach that integrates information from lower levelled omic graphical structures

Sophie Vanbelle  
Modeling agreement for binary intensive longitudinal data

Jeno Reiczigel  
Inference of the association between two diseases with imperfect diagnostic tests

Elena Nardi  
VUS-based approaches for multicategory classification

Jeremy Michael George Taylor  
Using synthetic data to incorporate external information into regression model estimation

15:45 – 17:15  
CS.07 - Multi-State models Methods and Applications  
Session Chair:  
Juned Siddique

Maja Katharina von Cube  
Estimation Of The Population-Attributable Fraction For Cohort Studies With Time-Dependent Exposures And Competing Risks

Hein Putter  
Integrating population mortality into multi-state models

Robson Machado  
Multi-state models with splines for disease progression

Lore Zumeta-OLaskoaga  
A multi-state model for the prognosis of non-mild acute pancreatitis

Neal Alexander  
Estimating the Risk of Microcephaly After Zika Infection in Pregnancy in Pernambuco, Brazil, via a Compartmental Model

Albert Santiago Boil  
Cost-effectiveness analysis of lung cancer prevention strategies

13:45 – 15:15  
CS.08 - Microarrays and Omics Data 1  
Session Chair:  
Krista Fischer

Federico Ambrogi  
Penalised competing risks regression with high-dimensional covariates

Angga Muhamad Fuady  
Statistical Method for Modelling Glycomics Data from Different Platforms

Magnus Münch  
Group-regularized logistic elastic net regression: improved omics-based classification

Shili Lin  
Statistical Modeling of Whole Genome 3D Structure of Chromatins

Monnie McGee  
Metagenomic Classification Using an Abstraction Augmented Markov Model

Marijke Van Moerbeke  
A Random Effects Model for the Identification of Differential Splicing (REIDS) Using Exon and HTA Arrays

15:45 – 17:15  
CS.09 - Novel Applications in Pharmacokinetics and Epidemiology  
Session Chair:  
Ekkhard Glimm

Marius Thomas  
Bayesian approaches to subgroup identification in dose-finding trials
Christian Ritz
Some recent developments in dose-response methodology

Daniel Gerhard
A unified framework for dose-response analysis using nonlinear mixed-effects Models

Marko Raseta
Integrated testing strategies can be optimal for chemical risk classification

Melanie Prague
Fitting pharmacokinetics data with a Population-based Kalman filters

Kathrin Möllenhoff
Regulatory Assessment of Drug Dissolutions Profiles Comparability via Maximum Deviation

17:30 – 19:00
CS.10 - Recent Developments in Time Series
Session Chair: Masataka Taguri

Gertrude
Mary Cox

Timothy NeCamp
Predicting Mood Using Multivariate Mobile Sensor Data Streams for Medical Interns

Ivor Cribben
Non-stationary high dimensional time series methods with application to brain imaging

Geert Molenaerghs
Prediction of time to remission from a repeatedly measured ordinal marker of schizophrenia symptom severity

Pariya Behrouzi
Dynamic Chain Graph Models for Ordinal Time Series Data

Robert Mathenge Mutwiri
Modelling the heavy tailed and skewed animal movement metrics of the GPS telemetry time series data

Lauri Mehtätalo
Stochastic geometry in forest remote sensing

Ronald Gangnon
Space and Space-Time Cluster Detection Using the LASSO

Olatunji Olugoke Johnson
ASpatially Discrete Approximation to Log-Gaussian Cox Processes for Modelling Aggregated Disease Counts Data

Kunihiko Takahashi
Detecting multiple spatial-clusters by scan statistics

17:30 – 19:00
CS.12 - Microarrays and Omics Data 2
Session Chair: Fred van Eeuwijk

Timothy Peter Bilton
Modelling errors in the construction of genetic linkage maps using high-throughput sequencing data

Cristian Andrés González Prieto
Construction of gene regulatory network using RNA-Seq data based on similarity measures

Jordi Ocaña
Integrative analysis of gene lists based on equivalence testing on functional profiles

Alex Sánchez-Pla
A heuristic algorithm to select genes potentially regulated by methylation

Sean Doyle McCabe
Examination of Methods for Gene Expression Normalization in EQTL Studies

Dongdong Pan
Efficient estimation of disease odds ratios for follow-up genetic association studies

17:30 – 19:00
CS.13 - Mixture Models and Their Applications
Session Chair: Richard Barker

Laura Pla
Generalized mixture models

Marina Jimenez Munoz
Integrated Population Modelling incorporating Spatial Information

Florence
Nightingale

Shirley Pledger
Generalized mixture models
TUESDAY 10TH

Julio Cesar Pereira
A Model for Zero Inflated Biomass Data from Fisheries in the Lower Amazon River

Elena Lázaro
Estimating mixture cure models using r-inla

Silvia Liverani
Modelling collinear survival data: profile regression for censored survival data with an application to sleep data

Ivonne Martin
Joint Mixture Modelling of Longitudinal Data: Application to the Human-Gut Microbiome Composition and the Immune System

CS.14 - Microarrays and Omics Data 3
Session Chair:
Tamar Sofer

Li-yu Daisy Liu
Microarray Meta-Analysis to Explore Synergy and Specificity of Gene Modules

Mayte Suarez-Farinas
Measuring drug efficacy in early phase clinical trials using skin gene expression profiles

Said El Bouhaddani
Latent variable data integration with Probabilistic Partial Least Squares

Olivier Thas
A semiparametric model for compositional data with applications to RNASeq and microbiome studies

Mirrelijn van Nee
Improving prediction by using co-data: an Empirical Bayes approach to generalised ridge regression

Hae-Won Uh
Super-Meta-Analysis (SMA) of multi-omic measurements using molecular profiles

08:30 – 10:00
Florence Nightingale

CS.15 - Modeling and Analysis of Longitudinal Data
Session Chair:
Claire McDonald

Daniel John Tolhurst
Pseudo-replication in Canola Chemistry Trials

Luzia Aparecida Trinca
Methods for constructing multi-stratum experiments

Clayton Forknall
Modelling grain yield against disease progression across leaf layers and time using a one stage random coefficients regression approach

Izabela Oliveira
Censored Regression Models For Complex Longitudinal Data On Animal Welfare

Xavier Piulachs
Assessing the Mortality Risk among Elderly Health Insurance Policyholders: A Joint Model with a Time-Varying Association Structure

Girma Taye Aweke
Modeling effect of climate variability on malaria in Ethiopia

08:30 – 10:00
Helen Newton

CS.16 - Count Data Methods
Session Chair:
Audrey Beliveau

Gregory Nuel
Laplace approximation for inferring causal directed acyclic structures in gene regulatory networks

Thomas Neyens
Integrated nested Laplace approximation for the analysis of count data via the combined model

Richard Barker
On the reliability of N-mixture models for count data

Maira Blumer Fatoreto
Statistical analysis of overdispersed fungus germination data

Charlotte Vogel
A Multiple Comparison Procedure for Overdispersed Multinomial Data

Linda Haines
Multinomial N-mixture Models in Ecology
08:30 – 10:00
Laura Pla

**CS.17 - Advances in Spatial and Spatio-Temporal Modeling II**

Session Chair:
Giovani Silva

Jaione Etxeberria
Share component models as a tool to predict cancer incidence when mortality is known

Renato Assuncao
Bayesian spatial partitioning by sampling and pruning spanning trees

Samuel Manda

Francisco Palmí-Perales
Bayesian analysis of multivariate point patterns in spatial epidemiology

Joaquín Martínez-Minaya
Effects of geographic genetic structure and spatial autocorrelation on models of distribution range shifts in the annual plant Arabidopsis thaliana

Gabriel Riutort-Mayol
Spatio-temporal modelling of MFS measurements using Gaussian processes with derivative information

10:30 – 12:00

Gertrude
Mary Cox

**CS.18 - Special Methods in Genetics**

Session Chair:
Leandro Garcia Barrado

Nino Demetrashvili
Variance components models for analysis of big family data in Lifelines study

Wagner Hugo Bonat
Multivariate marginal models for twin data

Deisy Gysi
Co-expression Differential Network Analysis: CoDiNA

Agnieszka Krol
Correlated frailty model for analysis of genetic association in family studies

10:30 – 12:00

Florence
Nightingale

**CS.19 - Big Data Analytics**

Session Chair:
Joanna Mills Flemming

David Arango Londoño
Closing yield gaps in Colombian direct seeding rice systems: a stochastic frontier analysis

Andriy Rekalo
Knowledge Extraction with Topology-based Clinical Data Mining

Ling Li
Analysing big data from electronic health record (EHR) systems for early real-time detection of patient conditions and potential harms: challenges and opportunities

Cornelia Dunger-Baldauf
On the influence of bias in machine learning

Ziv Shkedy
High dimensional surrogacy in drug discovery studies

Guosheng Yin
The Delaunay Triangulation Learner

10:30 – 12:00

Helen Newton
Turner

**CS.20 - Advances in Join and Regression Modeling**

Session Chair:
Claire Levek

Alvaro José Flórez
Closed-form estimator based on split-sample methodology for multivariate hierarchical data

Ozlem Ilk
A marginalized random effects model with probit link function for bivariate longitudinal binary data

Casimir Ledoux Sofeu
One step validation method of surrogate endpoints in multiple randomized cancer clinical trials with failure time endpoints
Michael Sweeting
Personalised surveillance intervals to monitor continuous biomarker disease progression

Tom Duchemin
Analysing sickness absence data using semi-Markov models

Anirudh Tomer
Personalized Schedules for Surveillance of Low Risk Prostate Cancer Patients

CS.21 - Recent Topics in Growth and Longitudinal Models
Session Chair: Julio Singer

Gustavo Nestor Gimenez
Comparison between Mixed Non-Linear Models and Support Vector Regression in growth curves of pears

Oluwafemi Samuel Oyamakin
A nonlinear growth models with hyperbolic restrictions for tree growth modeling

Hyunkeun Cho
Statistical inference in a growth curve quantile regression model for longitudinal data

Camille Sabathé
A pseudo-values approach to model covariates effects on dementia health indicators

CS.22 - Recent Developments in Modeling with Applications to Agriculture and Environmental Research
Session Chair: Svetlana Saarela

John Addy
How weather variation changes the functional response of wheat to nitrogen on Broadbalk

Alan Ker
Innovation and Climate Induced Yield Volatility in Agriculture

CS.23 - Bayesian Methods in Medical Research
Session Chair: Joel Greenhouse

Atinuke Olusola Adebani
Statistical Models for Healthcare Intervention Assessment

Erin E Gabriel
Optimizing and Evaluating Biomarker Combinations as Trial Level General Surrogates

Massimiliano Russo
Multivariate mixed membership: Application to malaria risk assessment

Sally Paganin
Centering exchangeable partition models

CS.24 - Current Trends in Categorical Data Analysis
Session Chair: Joshua M. Tebbs

Amanda Fernández-Fontelo
Modelling count time series under a state-dependent under reporting scheme

Lisa Hermans
Optimal Weighted Estimation as Alternative to Cochran-Mantel-Haenszel

Adriana Perez
Secondhand Smoke Exposure and Mental Health Outcomes Among Adolescents, Young Adults, and Older Adults in the USA
**TUESDAY 10TH**

Daniel Fernandez
A goodness-of-fit test for the ordered stereotype model

Idemauro Antonio Rodrigues de Lara
Transition models for grouped longitudinal categorical data applied to Entomology

15:45 – 17:15
Florence
Nightingle

CS.25 - Special Methods in Clinical Research
Session Chair: Nancy Flournoy

Shirin Golchi
Sequential Monte Carlo for Response Adaptive Randomized Trials

Laura Villain
Adaptive protocols based on predictions from a mechanistic model of the effect of IL7 on CD4 counts

Daniel Commenges
Effects of simple and adaptive interventions in the stochastic system approach to causality

Ayan Mukherjee
Covariate-Adjusted Response-Adaptive Designs for Semi-Parametric Survival Responses

Giulia Capitoli
Methods for the validation of a highly skewed continuous surrogate endpoint for a time to event endpoint

Jan van de Kassteele
Nowcasting infectious disease outbreaks using constrained P-spline smoothing

**THURSDAY, JULY 12TH 2018**

08:30 - 10:00
Gertrude
Mary Cox

CS.27 Random Forest and High-Dimensional Data Analysis
Session Chair: Magne Thoresen

Philipp Probst
Hyperparameters and Tuning Strategies for Random Forest

Giorgos Minas
Inferring Mechanisms of Gene Regulation across Multiple Experimental Conditions

Louis Capitaine
Random Forests for High Dimensional Longitudinal Data, Application to Repeated Omics Data

Marcel Wolbers
More Efficient Treatment Effect Estimation in Pre-Specified Subgroups Displayed in Forest Plots for Time-To-Event Outcomes

Emeka Calistus Uzochukwu
Partial Least Squares to Model the Relationship between High Dimensional Proteomics Data and Multivariate Outcomes

08:30 - 10:00
Florence
Nightingle

CS.28 Multilevel Methods and Hierarchical Models
Session Chair: Bruce A. Craig

Simone Tiberi
Bayesian Hierarchical Modelling of Alternative Splicing Accounting for Mapping Uncertainty

**THURSDAY 12TH**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems

**Contributed Sessions**

Milada Cvancarova Småstuen
Challenges and advantages when using large registry based data- longitudinal analysis of associations between type of treatment and medication use in patients with severe obesity in Norway

Clelia Di Serio
Novel Statistical approaches to evaluate heterogeneity in high throughput data in biological studies

Gabriela Cybis
Assessing significance in clustering through U-Statistics for high dimension small sample size problems
Haiyan Zheng  
A Bayesian Hierarchical Model to Incorporate Pre-Clinical Data from Multiple Species into a Phase I First-In-Man Trial

Matthew Schofield  
Not All Models Are Created Equal: Robustness in Hierarchical Modeling

John Neuhaus  
Improving the Identification of Extreme Clusters Using Multilevel Data

Gül İnan  
Analysis of Longitudinal Semi-Continuous Data: A Marginalized Multilevel Model Approach

Jesca Mercy Batidzirai  
Multilevel Discrete Time-To-Event Modelling of Family Formation Data in Rural South Africa

08:30 - 10:00

CS.29 Bayesian and Regression Modeling

Session Chair:  
Chris McMahan

Joy Leahy  
Assessing the Impact of a Matching Adjusted Indirect Comparison in a Bayesian Network Meta Analysis

Alexandra Jauhiainen  
Bayesian Analysis Linked To Global Sensitivity Analysis to Quantify Uncertainty and Characterize Dynamical Intracellular Pathway Models

Derbachew Aslaw Teni  
Time-Varying Rankings with the Bayesian Mallows Model

Elvira Maria Erhardt  
Bayesian Knowledge Integration for an In Vitro–In Vivo Correlation (IVIVC) Model

Fabiola La Gamba  
Challenges and Opportunities for Sequential Knowledge Integration within A Bayesian PK/PD Modeling Framework

Emeline Courtois  
Propensity Score-Based Approaches in High Dimension For Pharmacovigilance Signal Detection

10:30 - 12:00

CS.30 Statistical Models in Agriculture and Ecology

Session Chair:  
Alan Ker

Gertrude Mary Cox

Stijn Hawinkel  
Log-Linear Row-Column Interaction Models Improve the Visualization of Microbiome Data

Theo Pepler  
A Spatial Network Model of Deer Populations in Great Britain to Inform Surveillance and Control Strategies for Chronic Wasting Disease

Ana Gabriela Pereira Vasconcelos  
Application of Prediction and Classification Methods to Genomic Selection

Rute Quelvia De Faria  
Use of the Probit Binding Function and Its Limitations in the Prediction of P50 in Soybean Seeds

Dolores Catelan  
Shared Bayesian models to estimate environmental and occupational components in the spatial distribution of mesothelioma incidence in Lombardy (Italy)

Luiz Alexandre Peterelli  
Alternative Multivariate Models for Phenotyping and Classification of Bioenergy Crops

10:30 - 12:00

CS.31 Recent Variable Selection Approaches

Session Chair:  
Angela Wood

Carmen Armero  
BayesianVariable Selection for Genome-Wide Association Studies with Known Genealogy

Jacob Cancino-Romero  
Improved Prediction and Variable Selection in Joint Modelling of Longitudinal and Time-To-Event Data, With Application to a Study of Ageing Population

Md Hasinur Rahman Khan  
Variable Selection for AFT Models Using Generalized Linear Mixed Modeling Approach
Christine Wallisch
Stability Investigations after Variable Selection: Subsampling or Bootstrap?

Jianwen Cai
A Regularized Variable Selection Procedure in Additive Hazards Model with Stratified Case-Cohort Design

Willi Sauerbrei
Guidance for the Selection of Variables and Functional Form for Continuous Variables – Why and for Whom?

10:30 - 12:00
CS.32 Advanced Methods in Biostatistics
Helen Newton
Session Chair:
David Steinberg

Eleni-Rosalina Andrinopoulou
Dynamic Predictions of Visual Acuity in Uveitis Using Latent Class Multivariate Mixed Models: A Comparison between Bayesian Shrinkage and Bayesian Model Averaging

Federica Cugnata
Enhancing the Evaluation of Diagnostic Tests from Spatially Clustered Data

Huong Thi Phan
Spatial Survival Models for Analysis of Exocytosis Events on Human Beta-Cells, Recorded By TIRF Imaging

Jérémie Riou
Multiple Comparisons of Areas under the ROC Curve

Bethany Macdonald
How Low Can You Go? Performance of Factor Analytic Models when Variety Numbers are Small

10:30 - 12:00
CS.33 New Developments in Casual Inference
Laura Pla
Session Chair:
Daniel Commenges

Elisavet Syriopoulou
Causal Inference in the Relative Survival Framework

Xiaochun Li
Causal Estimation in Observational Data Subject To Missing By a Machine Learning Approach

13:45 - 15:15
CS.34 Longitudinal Data Analysis in Epidemiology
Gertrude
Session Chair:
Mary Cox

John Neuhaus
Fitting Mixed Models to Messy Longitudinal Data: A Case Study Involving Estimation of Post Mortem Intervals

Victor Kipnis
New Insights into the Effects of Time-Varying Error-Prone Exposure in the Analysis of Longitudinal Data with Mixed Models

Eric Houngla Adjakossa
Numerical Consistent Estimates in the Multivariate Linear Mixed-Effects Model

Lisanne A Gitsels
The Ideal Blood Pressure: Assessment of Fixed and Variant Targets over Time in Clinical Trial and Routine Clinical Practice

Reshma Kassanjee
Translating Diagnostic Histories into Infection Dates: A Framework and Tool Arising From Needs in HIV Incidence Surveillance

Ayano Takeuchi
Effect of ‘Start Time of Baby Food’ On Childhood Allergy with Repeatedly Measured Confounder and Intermediator Using Joint and Marginal Models

13:45 - 15:15
CS.35 Advances in Joint Modeling
Florence
Session Chair:
Laura Martino

Yunhee Choi
Trivariate Joint Modeling For Cancer Screening Evaluation and Dynamic Risk Predictions in Cancer Family Studies
Sten Paul Willemsen
Using Joint Models for Predicting Longitudinal Outcomes Using Past Measurements

Christos Thomadakis
Serious Bias in Competing Risks Shared Parameter Joint Models when at Least One of the Failure Types is at Random

Sebastian Haneuse
Measuring Performance for End-Of-Life Care

Dimitris Rizopoulos
Joint Models with Multiple Longitudinal Outcomes and a Time-To-Event

Claire Levek
Modeling Multiple Longitudinal Antigen-Response Outcomes in Infants Born To HIV-Positive Mothers

13:45 - 15:15
CS.36 Bayesian Methods in Ecology and Environmental Research
Session Chair: Renato Assunção

Stephen E Lane
Risk Factors for Fouling Biomass: Evidence from Small Vessels in Australia

Kirsty Hassall
Facilitating the Development of a Bayesian Belief Network to Describe Soil Health

Michela Eugenia Pasetto
Inference for the Sunspot Numbers Modelled with the Duffing Oscillator and Bayesian Changepoint Detection Method

Cristian Meza
A Bayesian Approach for the Segmentation of Series with a Functional Effect

Darfiana Nur
Modelling Of River Flows Using a Bayesian Multivariate Smooth Transition Autoregressive (M-STAR) Model

Perry de Valpine
Building Efficient MCMC Methods with NIMBLE

15:45 - 17:15
CS.38 Methods and Applications in Missing Data, Informative Censoring and Meta-Analysis
Session Chair: Nuria Perez Alvarez

Rebecca Graziani
Network Meta-Analysis for Adverse Events: A Discrete Multivariate Bayesian Approach with Gaussian Copulas

Chun-Huo Chiu
Estimating Microbial Diversity in the Presence of Sequencing Error

Francesca Little
Joint Models for Nonlinear Longitudinal Profiles in the Presence Of Informative Censoring with Application to Malaria Data

Shahab Jolani
Multiple Imputation of Missing Data Using Copulas

Giorgos Bakoyannis
Nonparametric Inference for Markov Processes with Missing Absorbing State

Tugba Akkaya Hocagil
Multiple Imputation Inference for Ordinal Clustered Data Using the Computationally Efficient Sequential Regression Imputation Method
THURSDAY 12TH

15:45 - 17:15

Florence
Nightingle

**CS.39 Recent Topics in Joint Outcome Models**

Session Chair:
Cécile Proust-Lima

Kessinee Chitakasemprorkul
Hierarchical Bayesian Structural Equation Modeling of Heterogeneous Relationships between Performance Outcomes in Animal Production Systems

Minsun Song
Using Imputed Genotype Data in the Joint Score Tests for Genetic Association and Gene-Environment Interactions in Case-Control Studies

Giovani L. Silva
A Joint Analysis of Counts and Severity with Zero-Inflated Longitudinal Data

Katya Mauff
Pairwise Estimation of Multivariate Longitudinal Outcomes in a Bayesian Joint Modelling Framework

Grigorios Papageorgiou
Feature Selection of Longitudinal Biomarkers in Multivariate Joint Models for Longitudinal and Multi-State-Processes

Mizanur Khondoker
Dynamic Risk Prediction of Dementia Using Joint Models and Landmark Analysis

17:30 - 19:00

Gertrude
Mary Cox

**CS.41 Casual Inference in Health Research**

Session Chair:
Theis Lange

Yasuhiro Hagiwara
G-Estimation of Structural Nested Restricted Mean Time Lost Models to Estimate Causal Effect of Treatment on Survival Outcome

Adèle Helena Ribeiro
Learning Genetic and Environmental Graphical Models in Family-Based Studies

Stijn Vansteelandt
Novel Perspectives of Confounder Selection

Pablo Martínez-Camblor
Instrumental Variable Procedure for Estimating Cox Models with Non-Proportional Hazard in Presence of Unmeasured Confounding

Karla DiazOrdaz
Doubly Robust Instrumental Variable Methods with Machine Learning Estimation

17:45 - 19:00

Florence
Nightingle

**CS.42 New Trends in Survival Modeling**

Session Chair:
Lisanne Gitsels

Cornelia Ursula Kunz
Blinded Sample Size Re-Assessment Using Binary Endpoints - Is It Worth It?

Fernando Colchero
Beyond The Proportional Frailty Models: Bayesian Estimation of Individual Heterogeneity in Mortality Parameters

Negera Wakgari Deresa
Flexible Parametric Model for Survival Data Subject to Dependent Censoring

Sangwook Kang
Accelerated Failure Time Modeling via Nonparametric Infinite Scale Mixtures
### THURSDAY 12TH

<table>
<thead>
<tr>
<th>Session Chair</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelley Bull</td>
<td>CS.43 DNA and RNA-Sequencial Data Analysis</td>
</tr>
<tr>
<td>Laura Pla</td>
<td>CS.44 New Developments in Longitudinal Data Analysis</td>
</tr>
<tr>
<td>Mary Cox</td>
<td>CS.45 Novel Models and Tools in Biometry</td>
</tr>
<tr>
<td>Ruth Keough</td>
<td>CS.46 Flexible Modeling in Survival Analysis</td>
</tr>
</tbody>
</table>

### CONTRIBUTED SESSIONS

- **Junji Moriya**
  Parameter Estimation by Stratified Cox Model under Existence of Small Strata and Its Application to Missing Data in Stratified Factors

- **Enrico A Colosimo**
  Prior Specifications to Handle the Monotone Likelihood Problem in the Cox Regression Model

- **Alicja Szabelska-Beresewicz**
  The Difficult Genes and Their Impact on RNA-Seq Data Analysis

- **Mirko Signorelli**
  On A Flexible Model for Longitudinal RNA-Seq Data: The Poisson-Tweedie Mixed Effects Model

- **Boris Hejblum**
  A Variance Component Score Test for RNA-Seq Differential Analysis in Vaccine Trials

- **Samara Flamini kiihl**
  MLML2R: An R Package for Maximum Likelihood Estimation of DNA Methylation and Hydroxymethylation Proportions

- **Alemu Takele Assefa**
  Differential gene expression analysis tools exhibit substandard performance for long non-coding RNA-sequencing data

- **Gertrude**
  Shared and Study-Specific Dietary Patterns

- **Paulo C Rodrigues**
  A Robust DF-REML Framework for Genetic Association Studies

- **Eisuke Hida**
  Incorporating Genetic Networks into Case-Control Association Studies with High-Dimensional DNA Methylation Data

### FRIDAY 13TH

<table>
<thead>
<tr>
<th>Session Chair</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rakul Narve</td>
<td>CS.47 Novel Models and Tools in Biometry</td>
</tr>
<tr>
<td>Mary Cox</td>
<td>CS.48 Flexible Modeling in Survival Analysis</td>
</tr>
</tbody>
</table>

### CONTRIBUTED SESSIONS

- **Tsung-Shan Tsou**
  A Robust Likelihood Approach to Inference about the Kappa Coefficient for Correlated Binary Data

- **Zakir Hossain**
  A Randomization-Based Approach to Semi-Parametric Estimation in Generalized Linear Mixed Models

- **Joost van Rosmalen**
  Prediction of Hemoglobin Decline in Regular Blood Donors Using Zinc Protoporphyrin Measurements with Bayesian Multivariate Autoregressive Mixed Models

- **Laura Boyle**
  Time-Varying Outlier Impacts on Robust Mixed Models with an Application in Renal Research

- **Corentin Segalas**
  Testing the Existence of a Random Changepoint in a Mixed Model
Vera Tomazella
Incorporation of Frailties into a Cure Rate Regression Model and Its Diagnostics and Application to Melanoma Data

Bryan McNair
Correlated Discrete Survival Analysis: A Novel Model for Including Random Effects in Continuation Ratio Logit Models

Ian Marschner
Assessment of Progression-Free Survival as a Surrogate Endpoint for Overall Survival in Cancer Trials with Treatment Switching

CS.47 Recent Developments in Biometrical Methods
Session Chair: Shirley Pledger

Waqas Malik
Non-Parametric Resampling Methods for Testing Multiplicative Terms in AMMI and GGE Models for Multi-Environment Trials

Paul Schmidt
Estimating Heritability in Agricultural Cultivar Trials with Unbalanced Data

Claire McDonald
Developing a Regulatory Definition for Authenticating Manuka Honey

Betty Mawire
Correct Use of Non Parametric Tests in the Analysis of Skewed Data

Hideyasu Shimadzu
Modelling Life History under Varying Environmental Conditions

Byron John Treharne Morgan
Hidden Markov Modelling For A Multi-Species Index

CS.48 New Challenges in Experimental Design
Session Chair: Andrew Mead

Cornelia Kunz
Adaptive Dose-selection in Equivalence Trials

Nha Vo-Thanh
More on Computer-Generated Augmented Designs

Joao Gilberto Correa da Silva
Generation of the Experimental Design

CS.49 Recent Developments in Geostatistics
Session Chair: Stephen T. Buckland

Natalia Madelaine Berberian
Model Comparison And Experimental Design Simulation Including Natural Field Variability in Rice Crop (Oryza Sativa L.)

Annibale Biggeri
Spatio-temporal Geostatistical Modelling to Predict Children Exposure to Gaseous Air Pollutants in a High Risk Area in Italy

Paul L. Patterson
Hybrid Estimators of Biomass That Use the Global Ecosystem Dynamics Investigation Lidar Mission Waveform Data

Fernanda De Bastiani
Local Influence on Generalized Linear Models for Geostatistical Data

Gabrielle E. Kelly
A Simulation Comparison of Estimators of Spatial Covariance Parameters and Associated Bootstrap Percentiles with an Application to Environmental Monitoring

Franca Giannini Kurina
Predictive Modeling of Glyphosate Adsorption Index in Agricultural Soils

CS.50 Novel Methods in Genetics 1
Session Chair: Paulo Rodrigues

Laurent Briollais
A Novel Bayesian Region-Based Analysis for Next Generation Sequencing Data

Benjamin Heuclin
Bayesian Selection of Variance Components in Linear Mixed Models
Alina Bazarova
Bayesian Inference of DNA Replication Origin Firing Statistics from NGS Data

Wei Sun
Association Analysis Using Somatic Mutations

Mariza de Andrade
Bivariate Traits Association Analysis Using Generalized Estimating Equations in Family Data

11:00 – 12:30
CS.51 Different Approaches in Risk Analysis
Session Chair:
David Conesa

Yenifer Orobio
Does The Pareto Principle Describe Parasite Counts In Humans? The Case of Hookworm in Pregnant Women

Laura Martino
Risk of Avian Influenza in EU: A Quantitative Approach for Uncertainty Analysis

Elmabrok Masaoud
Quantitative Risk-Based Sampling Approach for Listeria Monocytogenes in Ready-To-Eat Meat and Poultry Products

Brad Biggerstaff
Attributable Risk Estimation for Microcephaly Due To Zika Virus Infection in a Case-Control Study in Brazil, 2015-2016

Zi Zhou
The Controlled Direct Effect of Social Isolation on the Risk of Stroke among Middle-Aged and Older Adults in China

14:15 - 15:45
CS.53 Regression Modeling in Medical Research
Session Chair:
Michal Abrahamowicz

Gustavo Amorim
MCP-Mod for Exposure-Response Information

Jonathan Bartlett
Covariate Adjustment and Estimation of Mean Outcome in Randomised Trials

Vivian Viallon
Sparse Estimation for Case-Control Studies with Multiple Types of Cases

Manuel Higueras
New Simply Methods and R Programming For Poisson Linear Excess Relative Risk Models

Jeff Goldsmith
Non-Negative Decomposition of Functional Count Data

Jared Davis Huling
Semiparametric Sufficient Dimension Reduction for Heterogeneous Populations with Application to Health System Risk Modeling
### Monday, 9th July 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Organizer/Moderator</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:45 – 15:15</td>
<td>Statistics in Practice Session 1</td>
<td>Susie Bayarri</td>
</tr>
<tr>
<td>15:45 – 17:15</td>
<td>Statistics in Practice Session 2</td>
<td>Susie Bayarri, Annette Kopp-Schneider (for Education Committee)</td>
</tr>
</tbody>
</table>

**Frailty models: theory and practice**
- Theodor Balan, Leiden University Medical Center, Netherlands
- Hein Putter, Leiden University Medical Center, Netherlands

### Tuesday, 10th July 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Organizer/Chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 – 12:00</td>
<td>Biometrics Showcase Session</td>
<td>Laura Pla, Geert Molenberghs, Best Papers by an IBS member in Biometrics, 2016 and 2017</td>
</tr>
<tr>
<td>15:45 – 17:15</td>
<td>Young Statistician Student (YSS) Showcase</td>
<td>Susie Bayarri, Pamela Shaw, Iris Pigeot [DR]</td>
</tr>
</tbody>
</table>

**Modeling Evolution of HIV/AIDS Disease Progression: A Parametric Semi-Markov Model with Interval Censoring**
- Tilahun F. Asena, Hawassa University & Arba Minch University, Ethiopia

**Genetic Fine Mapping Incorporating Functional Annotation: A Random Effects Approach**
- Virginia Fisher, Boston University School of Public Health, United States

### Thursday, 12th July 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Organizer/Moderator</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 – 10:00</td>
<td>Host Region Special Invited Session – Spanish Region</td>
<td>Susie Bayarri, Klaus Langohr and Immaculada Arostegui</td>
</tr>
<tr>
<td>15:45 – 17:15</td>
<td>ISI Special Invited Session</td>
<td>Laura Pla, Peter Guttorp, Kaye Basford (ISI liaison to IBS)</td>
</tr>
</tbody>
</table>

**Current impacts and future risks of climate change for health**
- Erin Peterson, Queensland University of Technology, Australia

**The fish data analysis tool: River–Network scaled modeling and visualisation of juvenile fish abundance from multiple agencies**

---

**Rafael de Andrade Moral**, University of São Paulo, Brazil
- Conditional and Marginal Models for Analysing Light Interception Data

**Tea Kristiane E. Uggen**, University of Technology Sydney, Australia
- Automated Classification of Post-Stroke Aphasia by Severity

**Yuejia Xu**, MRC Biostatistics Unit, University of Cambridge, United Kingdom
- Cross-selection HIV Incidence Estimation Accounting for Heterogeneity Across Communities
Guy F. Midgley, Stellenbosch University, South Africa
Opportunities for attributing ecological responses of species and ecosystems to climate change drivers

JABES Showcase Session
Competition Chair:
JABES Editor, Steve Buckland

2016 winner:
Raphael Huser, King Abdullah University and Technology (KAUST), Saudi Arabia
Non-stationary dependence structures for spatial extremes

2017 winner:
Jenni Niku, University of Jyväskylä, Finland
Generalized linear latent variable models for multivariate count and biomass data in ecology
Poster presenters have been asked to stand by during the following times to either present or answer any questions regarding their poster. Outside of these times, posters will be up for individual viewing.

Group 1
Display date: Monday July 9 - Tuesday July 10
Display time: 08:00 - 16:30
Standby Presentation: Tuesday, July 10th
Standby Presentation Time: 13:00 – 14:00

Group 2
Display date: Thursday July 12 - Friday July 13
Display time: 08:00 - 16:30
Standby Presentation: Thursday, 12th July
Standby Presentation Time: 13:00 – 14:00
Room: Posters Room P1 floor

GROUP 1
P1 Bayesian analysis of partial cladograms resulting from free-sorting tasks
Presenter: Bruce Craig

P2 Network Meta-Analysis: On the Use of the Standard Contrast-Based Approach in Disconnected Networks
Presenter: Audrey Béliveau

P3 Incorporating historical information in biosimilar trials: challenges and a hybrid Bayesian-frequentist approach
Presenter: Johanna Mielke

P4 Guiding phase I dose-escalation trials with more than one dose regimen
Presenter: Burak Kürsad Günhan

P5 Deep nonlinear regression models in a Bayesian framework
Presenter: Aliaksandr Hubin

P6 Early Phase Oncology Trials with Binary Endpoints: Single Arm or Randomized Controlled Bayesian Designs?
Presenter: Elias Meyer

P9 Evaluating the statistical properties of Bayesian basket trial designs
Presenter: Kristen Cunanan

P10 Spatio-temporal quantile interval regression using R-INLA with applications to childhood overweight and obesity in sub-Saharan Africa
Presenter: Legesse Kassa Debusho

P11 Tracking P. aeruginosa transmission routes in ICUs using mathematical models
Presenter: Thi Mui Pham

P13 Escalation with overdose control (EWOC) and adaptive randomization in cancer phase I/II trials with drug combinations
Presenter: Jose Jimenez

P14 Bayesian inference for stochastic diffusion model of HIV dynamics
Presenter: Abdellah Abou-Bakr

P16 Bayesian Inference for Stochastic SIR Epidemic Model with Random Environment
Presenter: Hamid El Maroufy

P17 Permutation based approach to identify possible extremeness in multivariate data

P20 Ridge logistic regression in case of separation
Presenter: Hana Sinkovec

P24 A fusion penalized logistic threshold regression model with application to diabetes prediction
Presenter: Jianxin Yin

P25 The estimation of neighborhood effects on elderly health through propensity score techniques
Presenter: Margherita Silan

P27 Estimation of causal effects with longitudinal data in a Bayesian framework
Presenter: Kuan Liu

P28 Estimating treatment effects when everyone receives treatment: Investigating the effects of Ivacaftor with the UK Cystic Fibrosis Registry
Presenter: Simon Newsome

P30 Inference following selection and testing designs
Presenter: Ashna Mohammad
P31 Structural Equation Modeling of the Associations between Metabolic Syndromes Distal Risk Factors and Proximal Risk Factors in a Prospective Cohort  
Presenter: Zhimin Ma

P32 Causal Effects For Child And Maternal Health Outcomes In The Prevention Of Mother To Child Transmission Of Hiv Using Cross-Sectional Data In Malawi  
Presenter: Halima Twabi

P34 Some Effects of Exposure Misclassification on Epidemiological Studies  
Presenter: Jun Zou

P35 Strong orthogonal arrays and orthogonal array-based latin hypercube designs for computer experiments  
Presenter: Kazeem Osuolale

P36 The Use of Boosted Multivariate Trees in Medical Decision-Making for Repeated Measurements  
Presenter: Ebru Turgal

P37 New procedures for comparing diagnostic parameters in clinical trials with multiple endpoints  
Presenter: Kouji Yamamoto

P38 On Exact Inferences Using Binary Data in Two or Multi-stage Designs  
Presenter: Huan Yin

P39 A Bayesian model to estimate the cutoff and the clinical utility of a biomarker assay  
Presenter: Eleni Vradi

P41 Partitioning of functional gene expression data using principal points  
Presenter: Jaehee Kim

P42 An anova test for functional data applied to fine particulate matter measurements on air  
Presenter: Diana Paola Ovalle

P43 Hypothesis testing for mean comparison of two non-independent functional populations  
Presenter: Cristhian Leonardo Urbano

P45 Public Spaces As Support For The Practice Of Physical Activity: A Case Study In The City Of Cambé-Paraná  
Presenter: Mariana Urbano

P46 Local influence on reparameterized t-student spatial linear models  
Presenter: Miguel Uribe Opazo

P48 Evaluation of multiple prediction models  
Presenter: Max Westphal

P49 Test for dependence on extreme values, using copulas  
Presenter: Danielle Prado

P51 Maximum Entropy Approach in Dynamic Contrast-Enhanced Magnetic Resonance Imaging  
Presenter: Zahra Amini Farsani

P53 Evaluating single-value summary measures for functional regions of interest in Fmri  
Presenter: Jasper Degryse

P54 Evaluating statistical hierarchical models to pool fmri results across studies  
Presenter: Han Bossier

P56 A robust ear biometric system under uncontrolled environments with varying occlusion  
Presenter: Zineb Youbi

P57 A marginal estimate for the overall treatment effect on a survival outcome within the joint modeling framework  
Presenter: Floor Van Oudenhoven

P58 Estimating treatment importance in multidrug-resistant tuberculosis using Targeted Learning: an observational individual patient data network meta-analysis  
Presenter: Guanbo Wang

P59 Joint models for longitudinal and time-to-event data in a case-cohort design  
Presenter: Sara Baart

P62 Bayesian joint modeling of longitudinal and semi-competing risks data  
Presenter: Danilo Alvares

P63 A Joint Modelling Approach in SAS to Assess Association between Adult and Child HIV infections in Kenya  
Presenter: Elvis Muchene
<table>
<thead>
<tr>
<th>Posters Group 1</th>
<th>Posters Group 1</th>
</tr>
</thead>
</table>
| **P66** Wild bootstrap for linear mixed models: an application to estimate variance components in a chemiluminescent immunoassay  
Presenter: Susana Perez-Alvarez | **P85** Addition of biological knowledge to the integrative analysis of multi-omics data in the characterization of brain tissue after ischemic stroke  
Presenter: Ferran Briansó |
| **P67** Linear Mixed Models with Flexible Random Effects and Error Distributions  
Presenter: Tom Chen | **P87** Accounting for pathways or grouped biomarkers in the development of high-dimensional prognostic survival models  
Presenter: Bel Hechmi Shaima |
| **P69** Comparing and contrasting the Alzheimer’s Disease Neuroimaging Initiative and the Australian, Imaging, Biomarker and Lifestyle Flagship Study of Ageing  
Presenter: Charley Budgeon | **P88** Predictive modeling of gene expression in ethnic minority children  
Presenter: Kevin Keys |
| **P72** Mixed Assessor Model for sensory profiling using the r-package sensmixed  
Presenter: Renato De Lima | **P91** Total cost estimation for the Brazilian immunization program using calibration sampling methods  
Presenter: Claudia Rivera-Rodriguez |
| **P74** Interim monitoring of incompletely observed long-term longitudinal endpoints in clinical trials  
Presenter: Laura Pyle | **P92** A new composite estimand for regulatory clinical trials with dropouts  
Presenter: Masataka Taguri |
| **P78** Prediction performance in logistic mixed models  
Presenter: Marcela D’urso Villar | **P93** A questionnaire score based on Multiple Correspondence Analysis. A simulation study to analyse the behaviour under patterns of missingness  
Presenter: Maider Mateo-Abad |
| **P79** Multilevel model application for a study of repeated measures in health  
Presenter: Natalia Sanchez Roja | **P95** On comparison of four different methods for estimating missing Values in analysis of covariance  
Presenter: Ikechukwu Mba |
| **P80** Using mathematical models for study design: an example from infectious disease epidemiology  
Presenter: Sereina Herzog | **P96** A Semiparametric Maximum Likelihood Approach for X-chromosome Genetic Association in Microbiome Data  
Presenter: Osvaldo Espin-Garcia |
| **P81** Integration of multiple ‘omic data types for screening disease-related gene sets with applications in lung cancer  
Presenter: Su Chu | **P99** Handling missing time-to-event outcomes in cluster randomised trials  
Presenter: Md Anower Hossain |
| **P82** MicroRNAs circulating in plasma: a new signature for prostate cancer detection  
Presenter: Lidia Sacchetto | **P100** Assessment of cross-over designs against missing values - procedure to rank designs by robustness  
Presenter: Peter Godolphin |
| **P83** Random forests & telling smells: Exploring interactions of volatile metabolites in order to uncover disease-associated patterns  
Presenter: Elisa Kasbohm | **P102** Statistical methods of correcting bias in the analysis of disease incidence from selection bias and informative censoring using auxiliary information  
Presenter: Cuiling Wang |
| **P84** A simulation framework of high-dimensional phylogenetic microbiota data  
Presenter: Perrine Soret | **P103** Bayesian profile regression for clustering analysis from longitudinal outcome, survival data and correlated covariates  
Presenter: Anaïs Rouanet |
<table>
<thead>
<tr>
<th>Posters Group 1</th>
<th>Posters Group 1</th>
</tr>
</thead>
</table>
| **P104** Two-part models for the analysis of longitudinal semi-continuous data in health economy  
Presenter: Iris Reinhard | **P122** Multivariate Heritability Test in Family Data  
Presenter: Júlia Soler |
| **P105** Unified testing for feature-sets in genomics  
Presenter: Mitra Ebrahimpoor | **P125** A friendly application for meta-analysis of genetic data in info-gen  
Presenter: Cecilia Bruno |
| **P106** Scott-Knott method in multiple comparisons of means from experiments with spatial dependence  
Presenter: Renato De Lima | **P129** One-stage random effects meta-analysis using linear mixed models for aggregate continuous outcome data  
Presenter: Katerina Papadimitropoulou |
| **P108** Multistate markov modelling for disease progression of breast cancer patients based on ca 15-3 marker  
Presenter: Prafulla Swain | **P130** Analysis of Anthropometric Factors in a Nested Design  
Presenter: Uchenna Ogoke |
| **P109** Optimum allocation in split plot design  
Presenter: Abimibola Oladugba | **P135** Effects of imbalances entered by stratified blockrandomisation on the power / sample size of the t-test  
Presenter: Rainer Muche |
| **P111** Balances: a new perspective for microbiome analysis  
Presenter: Javier Rivera-Pinto | **P136** Using bolasso to build a prognostic tool to identify adolescents at high risk of cigarette smoking initiation  
Presenter: Marie-Pierre Sylvestre |
| **P112** Summarizing dietary patterns with k-means clustering: how to choose the k?  
Presenter: Nele Taba | **P137** Extending the c-index to the beta-binomial regression model: comparison of different estimation approaches  
Presenter: Irantzu Barrio |
| **P114** Comparative evolution of people with and without disabilities in Brazil  
Presenter: Paulo De Oliveira | **P138** Estimation and correction of the auc with separated data sets: a Comparative study  
Presenter: Amaia Iparragirre |
| **P117** Clustering of massive genomic data  
Presenter: María Videla | **P139** Logit, probit or complementary log log model to evaluate the viability of soybean seeds?  
Presenter: Maria Márcia Sartori |
| **P118** An approach to account for genotype—environment interaction in gwas  
Presenter: Maria Angélica Rueda Calderón | **P140** A risk adjustment capitation regime for community based social health insurance programme  
Presenter: Lukman Ajijola |
| **P119** A novel measure of drug benefit-risk assessment based on a Scale Loss Score (SLoS)  
Presenter: Gaelle Saint-Hillary | **P141** Modeling and evaluating Genomic Prediction in polyploid species: an application using strawberry data  
Presenter: María Zingaretti |
| **P120** An application of covariate-based constrained randomisation in livestock research  
Presenter: Andrew Mead | **P142** A new framework for prediction and variable selection for uncommon events in a large prospective cohort study  
Presenter: Hye-Seung Lee |
| **P121** Software QEco: A new version for analysis of ecological data  
Presenter: Julio Alejandro Di Rienzo |                    |
P143 Adjustment for the length of the follow-up period while assessing the performance of a clinical risk score  
Presenter: Kristi Läll

P144 Evolutionary dynamics models in biometrical genetics supports QTL—environment interactions  
Presenter: Farshad Fattahi

P147 Statistical issues in the development of prognostic models for musculoskeletal medicine  
Presenter: Lucy Bull

P148 Subgroup discovery analysis by new individual treatment effect in randomized trials  
Presenter: Eiji Nakatani

P149 An Interactive Application for the Implementation of Statistical Models for Recruitment Prediction  
Presenter: Efstathia Gkioni

P150 Implementation of elastic net regression  
Presenter: Anastasia Ushakova

P151 Tuning parameter selection for ridge regression by a confidence region approach in high dimensions  
Presenter: Ningning Xu

P152 Chanter nonlinear model: description of the growth curve of cocoa fruits  
Presenter: Pollyane Vieira Da Silva

P156 A two step procedure for hierarchical variable selection in a time dependent context  
Presenter: Chi Zhang

P157 Residential fertility differences among women in Uganda: application of non-linear Oaxaca Blinder decomposition  
Presenter: Maria Nabaggala

P159 Obtaining Yield probabilities by using different CV% for row/col and randomized block designs (RBD) for different crops in cultivar selection as well as progression on the app invention  
Presenter: Nicole Cochrane

P162 Statistical Process Control in Quality Assurance of Inpatient Care  
Presenter: Lena Schneiderheinze

P164 Statistical Process Control in Quality Assurance of Inpatient Care  
Presenter: Jan van de Kassteene

P166 Small area estimation using structured additive regression  
Presenter: Melkamu Dedefo Gishu

P167 Flexible time trend models in spatiotemporal disease mapping: Application for detection of cluster of mortality due to cardiovascular diseases in population based surveillance using integrated nested Laplace approximation  
Presenter: Lucia Bull

P169 Tracing the Origin of Food-Borne Disease Outbreaks: A Network Model Approach  
Presenter: Rianne Jacobs

P170 Graphical tools for earthquake analysis: derivation of b value  
Presenter: Jenny Paredes

P171 Land cover dynamic indexes applied to crop sequence monitoring in the Argentine Pampas  
Presenter: Miguel Nolasco

P173 Spatial variation and secular Trends in the Prevalence of Female Genital Mutilation: A global Review  
Presenter: Ngianga-Bakwin Kandala

P175 Graphical Principles Cheat Sheet  
Presenter: Marc Vandemeulebroecke

P176 Visualisation of clinical outcomes derived from medical records: Analysis of a 2-year impact study of capacity building with the Malnutrition eLearning in the management of SAM  
Presenter: Ho Ming Yuen

P178 Inverse Probability of Censoring Weighted (IPCW) Estimator for the Net Benefit in Survival Analysis  
Presenter: Musashi Fukuda
### POSTERS GROUP 1

<table>
<thead>
<tr>
<th>Posters</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>P179</td>
<td>A probabilistic record linkage model for time-to-event data with competing risks</td>
<td>Michel Hof</td>
</tr>
<tr>
<td>P180</td>
<td>A new method for identifying the optimal cut-point for continuous covariates in survival analysis</td>
<td>Paola Rancoita</td>
</tr>
<tr>
<td>P181</td>
<td>Three joint modeling approaches of meat and fish consumption and the risk of islet autoimmunity (pre-T1D) discover different features</td>
<td>Essi Syrjälä</td>
</tr>
<tr>
<td>P182</td>
<td>A mixed effects Cox model considering interval-censored times to HIV RNA viral rebound</td>
<td>Yovaninna Alarcón Soto</td>
</tr>
<tr>
<td>P183</td>
<td>Integrative Model for MSI Cancer and Lynch Syndrome: Variant Classification, Predisposition Carrier Probability, and Tumoral Risk</td>
<td>Alexandra Lefebvre</td>
</tr>
<tr>
<td>P184</td>
<td>Regularized hazard estimation for age-period-cohort analysis of cancer inference</td>
<td>Vivien Goepp</td>
</tr>
<tr>
<td>P185</td>
<td>Analysis of recurrent events: A study of return behaviour in the blood donor population of England and North Wales</td>
<td>Thomas Bolton</td>
</tr>
<tr>
<td>P186</td>
<td>Analysis of cause-specific hazards for discharge of hospitalized patients in acute phase hospitals in Japan using intensity of nursing care needs indexes as time-dependent variables</td>
<td>Masaaki Otaga</td>
</tr>
<tr>
<td>P187</td>
<td>Modelling Cure Fractions for Complex Hazard Functions in a Cancer Study: A Simulation Study</td>
<td>Peter Koleoso</td>
</tr>
<tr>
<td>P188</td>
<td>Measuring Inequality from Incomplete Income and Survival Data</td>
<td>Marco Bonetti</td>
</tr>
<tr>
<td>P189</td>
<td>Comparing two crossing cumulative incidence curves</td>
<td>Zheng Chen</td>
</tr>
<tr>
<td>P190</td>
<td>Rough set based rule induction approach for survival analysis</td>
<td>Perumal Venkatesan</td>
</tr>
</tbody>
</table>

### POSTERS GROUP 2

<table>
<thead>
<tr>
<th>Posters</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>P199</td>
<td>Estimating the proportion of repaired cells in carcinogenesis studies using the zero-inflated power series cure rate models</td>
<td>Rodrigo Pescim</td>
</tr>
<tr>
<td>P202</td>
<td>Accuracy Measures (Precision + Trueness) on Assay Qualification and Automated Report Generation Based on R Service Bus (RSB)</td>
<td>Dan Lin</td>
</tr>
<tr>
<td>P203</td>
<td>Extension of the EM-algorithm using PLS to fit linear mixed effects models for high dimensional repeated data</td>
<td>Caroline Bazzoli</td>
</tr>
<tr>
<td>P204</td>
<td>IDEAS: Improving Design, Evaluation and Analysis of early drug development studies</td>
<td>Thomas Jaki</td>
</tr>
</tbody>
</table>

### GROUP 2

<table>
<thead>
<tr>
<th>Posters</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>A Bayesian screening approach for hepatocellular carcinoma using two longitudinal biomarkers</td>
<td>Nabihah Tayob</td>
</tr>
<tr>
<td>P3</td>
<td>A bayesian approach of drug combinations for phase i/ii trials in oncology to shorten trial durations</td>
<td>Shinjo Yada</td>
</tr>
<tr>
<td>P4</td>
<td>Determining sample size for testing a specific hypothesis in population pharmacokinetic analysis when using Bayesian approach with prior information</td>
<td>Asuka Nemoto</td>
</tr>
<tr>
<td>P5</td>
<td>A Bayesian cure rate model with dispersion induced by discrete frailty</td>
<td>Vicente Cancho</td>
</tr>
<tr>
<td>P6</td>
<td>Quantitative Risk Assessment Using Bayesian Network Analysis: A Case Study On The Risk Of Salmonellosis Caused By Poultry Meat Consumption</td>
<td>Michael Weiss</td>
</tr>
<tr>
<td>P8</td>
<td>Bayesian methods for evaluating the efficacy of a new treatment considering between-trial heterogeneity in clinical trials using historical data</td>
<td>Tomohiro Ohigashi</td>
</tr>
<tr>
<td>P9</td>
<td>Quantification of prior impact in bayesian clinical trials in terms of prior effective sample size</td>
<td>Manuel Wiesenfarth</td>
</tr>
</tbody>
</table>
P10 Bayesian Estimation of the Total Intake of Chemical Contaminants from Multiple Food Products
Presenter: Antti Mikkelä

P12 Dynamic borrowing of information using power priors in a pediatric setting
Presenter: Annette Kopp-Schneider

P14 Estimation of the probability of Transmitted Drug Resistance Mutations strains in the treatment of HIV using Beta-Binomial Hierarchical Model - a Bayesian approach
Presenter: Urban Haankuku

P15 A Bayesian model for the study endpoint incidence rate: an application to an HIV vaccine efficacy trial
Presenter: Sanne Roels

P16 Bayesian biomarker-driven outcome-adaptive randomization with an imperfect biomarker-assay
Presenter: Leandro Garcia Barrado

P17 Machine learning methods for the prediction of abnormal fat and/or lean mass distribution in HIV infected individuals
Presenter: Nuria Perez-Alvarez

P18 Data enriched generalized linear methods
Presenter: Sayan Dasgupta

P19 Clustering Analysis of Next-Generation Sequencing T cell Repertoire Data
Presenter: Li Zhang

P20 A new core cluster detection analysis method for big data
Presenter: Masaaki Matsuura

P22 Visualization of Gene Data Using Network Analysis
Presenter: Taerim Lee

P23 Socio-economic Determinants of Sexually Transmitted Infections in Uganda
Presenter: Godwin Anguzu

P24 On measures of two kinds of symmetry for square contingency tables
Presenter: Yusuke Saigusa

P25 Futility stopping based on exact conditional power
Presenter: Julia Singer

P27 Random effects modeling of the relationship between quantity and quality of in-patient care and nurse/health care assistant staffing levels
Presenter: Ruth Pickering

P28 Plackett models for longitudinal count data
Presenter: Manuela Cattelan

P30 Model-based Standardization Using an Outcome Model with Random Effects
Presenter: Babette Brumback

P32 Using inverse-probability weighting with regression adjustment to assess treatment effectiveness in non-randomized controlled observational studies
Presenter: Mathieu Bastard

P33 Analysing interrupted time series with a control
Presenter: Christian Bottomley

P34 Statistical Inference of Covariate-Adjusted Randomized Clinical Trials
Presenter: Feifang Hu

P35 Calibrated inverse probability of treatment weights by covariate balancing for marginal structural models
Presenter: Sean Yiu

P36 Bayesian inference of causal effects in randomized trials with a binary outcome
Presenter: Yasutaka Chiba

P37 A Four-Way Decomposition of Socioeconomic Status and Mortality After First Myocardial Infarction
Presenter: Ronnie Pingel

P38 Dynamic Modeling of Multivariate Latent Processes and Their Causal Relationships: Application to Alzheimer’s Disease
Presenter: Bachirou Taddé

P39 Statistical mediation analysis in cardiovascular epidemiology - challenges and case studies
Presenter: Josef Fritz

P40 On the use of electronic health records for confounder control in quality of care measures
Presenter: Els Goetghebeur
**Posters group 2**

**P41** Global test for high-dimensional mediation: testing groups of potential mediators  
Presenter: Vera Djordjilovic

**P42** Hypothesis Testing and Power for Partially-Paired, Fully-paired, and Unpaired Screening Trials  
Presenter: John Brinton

**P43** Selection of diagnostic cut-off points considering costs of false diagnoses in three-group classification applied to pre-disease condition screening  
Presenter: Kazue Yamaoka

**P44** Robust inference for ROC regression  
Presenter: Vanda Lourenço

**P45** Comparison of methods to estimate optimal cut-offs with right-censored data  
Presenter: Sara Perez-Jaume

**P46** Application of Kriging and IDW in mapping of crown cover and density of coppice oak stands in the Zagros forests of Iran  
Presenter: Reza Akhavan

**P47** The role of statistics in conducting on-farm experimentation with modern monitoring technology in agriculture  
Presenter: Mónica Balzarini

**P48** Spatial heterogeneity in factors associated with achievement education of high school students in Bogotá, Colombia  
Presenter: Beatriz Mira Rada

**P49** Evaluation of genome similarities: a wavelet-domain approach  
Presenter: Theima Safadi

**P50** Common Spatial Patterns based on distances  
Presenter: Itziar Irigoien

**P51** Study of neurodegenerative diseases using time series analysis  
Presenter: Natalia Bahamonde

**P52** Face recognition from low-quality images based on deep learning autoencoder model  
Presenter: Ali Khider

**P54** Radiological Image Traits Predictive of Non-small Cell Lung Carcinoma Subtypes  
Presenter: Xiuhua Guo

**P55** New approach for finger vein and finger knuckle-print recognition  
Presenter: Badreddine Griouz

**P56** Correlation between motor skills and language skills in children (Flemish, Ethiopian) with and without developmental problems  
Presenter: Jacqueline Materu

**P57** Modeling Longitudinal Marker and Time-to-Event Data: a Simulation Study  
Presenter: Laura Antolini

**P58** Using regression models in a potential outcome setting to disentangle counterfactual distributions in parallel group RCTs with the help of biomarkers  
Presenter: Ulrich Mansmann

**P59** Joint modelling donation after circulatory death donor characteristics in the treatment withdrawal period with kidney recipient transplant outcomes  
Presenter: Luke Day

**P60** Flexible Bayesian Additive Joint Models for Longitudinal and Time-to-Event Data: Application to Liver Transplantation Data  
Presenter: Carla Diaz-Louzao

**P61** Power and Sample Size for Hierarchical Cluster Randomized Trials with S:T Repeated Measures Design  
Presenter: Shin-Ichi Takayama

**P62** Power calculations for stepped wedge designs with binary outcomes  
Presenter: Donna Spiegelman

**P63** Population pharmacodynamics modeling for circannual rhythms of HbA1c, Blood pressure, Lipid parameters, Body weight and BMI in type 2 diabetic patients in steady state on drug treatment  
Presenter: Masako Nishikawa

**P64** Nonlinear mixed models in a Bayesian and frequentist framework for modelling disease progression with sparse data  
Presenter: Kevin Murray

**P65** Multilevel models assessing the impact of contextual and individual characteristics on obesity epidemic in Argentina  
Presenter: Julia Becaria Coquet
P70 Effect of missing values in longitudinal studies in older adults
Presenter: Franklin Massa

P71 Longitudinal Survey of health Inequality in a time of austerity: a case study of Stockton on Tees, England
Presenter: Nasima Akhter

P72 Tuning frequency of Type 1 error by breaking boundaries on variance components
Presenter: Razaw Al-Sarraj

P73 Multilevel Modeling for Spatial Epidemiology of Cancer in Argentina
Presenter: María Díaz

P74 Composite likelihood inference for Poisson mixed models with nonnormal crossed random effects
Presenter: Lizandra Fabio

P75 Confidence, Prediction and Tolerance in linear mixed models
Presenter: Bernard Francq

P76 A generalized additive mixed model to estimate trends in stunting in a longitudinal study of children covered by social inclusion programs in northeast Argentina
Presenter: Gerardo Cueto

P77 Identifying Faltering in Child Growth Studies
Presenter: Jarod Lee

P78 Two-Stage Analysis for Selecting Fixed Numbers of Features in Omics Association Studies
Presenter: Takanori Kawabata

P79 Bayesian Hierarchical Modeling of Clustered or Longitudinal RNA Sequencing Experiments
Presenter: Lizandra Fabio

P80 Global regression testing for region-based genetic association under genomic partitioning
Presenter: Shelley Bull

P81 Enhancing GlobalAncova for Generalized Linear Models, Mixed Data and Hierarchical Testing
Presenter: Manuela Hummel

P83 Statistical Experimental Designs for RNA-seq
Presenter: Byung Park

P84 Estimation and testing issues in next-generation sequencing experiments
Presenter: Norman Jiménez Otero

P85 Augmented pseudo-likelihood estimation for two-phase studies
Presenter: Claudia Rivera-Rodriguez

P86 An Algorithm and a Sensitivity Analysis Proposal for Dealing with Non-Ignorable Missing Data Patterns in Outcomes and Covariates with Applications to Head & Neck HPV-Related Cancers
Presenter: Carles Serrat

P87 Imputation model misspecification: how robust are Bayesian methods?
Presenter: Nicole Erler

P91 Bayesian Comparison of Diagnostic Tests with Largely Missing Data
Presenter: Carlos Paulino

P92 Comparing and combining a biomarker and a molecular clock based method to estimate unknown HIV-1 infection dates
Presenter: Nikos Pantazis

P94 Evaluation of sensitivity of imputation methods for hierarchical data under some missing mechanisms
Presenter: Takayuki Abe

P95 Novel approaches to deal with imprecise and incomplete medical data
Presenter: Hye-Young Jung

P96 Bivariate Mixture Models for the Joint Distribution of Repeated Serum Ferritin and Transferrin Saturation Measured 12 Years Apart in a Cohort of Healthy Middle-Aged Australians
Presenter: Christine McLaren

P98 Clinical Trial Designs with Data-Driven Selection of Subgroups
Presenter: Julia Niewczas

P99 Wald and Score tests for simultaneous inference across multiple marginal GEE models
Presenter: Robin Ristl

P100 A testing strategy with adaptive dose selection and two endpoints
Presenter: Ekkehard Glimm
P102  Statistical consulting: differing perceptions of clients and consultants  
Presenter: Graham Hepworth

P103  On the design of three-arm non-inferiority trials including a placebo  
Presenter: Toshiro Tango

P104  Matching in Randomized Trials Using the Goldilocks Approach  
Presenter: S Gwynn Sturdevant

P106  Modelling Hantavirus Cardiopulmonary Syndrome in an Endemic zone through humans and rodents  
Presenter: Karina Hodara

P107  Meta-analysis for identifying the best method for chronic periodontitis therapy  
Presenter: Alejandra Bono

P108  Multivariate statistical analysis of the precipitation of the cities of the state of Sergipe through the factors and groups  
Presenter: Eucymara Santos

P109  Comparison of methods for estimating therapy effects by indirect comparisons - a simulation study  
Presenter: Dorothea Weber

P110  Development and evaluation of an educational program to foster professionalism among biostatisticians  
Presenter: Keiko Sato

P111  IDEAS: Improving Design, Evaluation and Analysis of early drug development Studies  
Presenter: Thomas Jaki

P112  Reducing bias in digital PCR experiments by appropriate modelling of volume variability  
Presenter: Matthijs Vynck

P114  Optimizing adaptive sample size recalculation based on performance scores  
Presenter: Maximilian Pilz

P115  ERDO a framework to select the best practice randomization procedure in Clinical trials.  
Presenter: Ralf-Dieter Hilgers

P118  Estimation of the Genomic Dependence Structure in Stratified Population and Using Dependence Models Among Individuals  
Presenter: Francisco Fernandes

P120  Statistical assessment of the characteristics of the ESMO Magnitude of Clinical Benefit Scale (ESMO-MCBS) threshold rules  
Presenter: Urania Dafni

P124  Estimation of variance-covariance matrices in multivariate random effects meta-analysis with small number of studies  
Presenter: Masayuki Hemmi

P127  PlateDesigner, a web application for the randomization of microplate experiments  
Presenter: Maria Suprun

P131  Comparing the Performance of Logistic Regression, Support Vector Machines And Tree Based Methods using Different Real Data Sets  
Presenter: Yasar Sertdemir

P136  Combining statistics and machine learning to predict post-surgical risk of 1-year mortality for patients with colon cancer  
Presenter: Inmaculada Arostegui

P137  Predicting multivariate binary outcomes after surgery based on sparse longitudinal biomarker sequences for application to electronic health records  
Presenter: Katharina Selig

P138  Presenter: Mutlu Umaroglu  
Modelling Lifetime Data with Lindley Distribution  
Presenter: Mutlu Umaroglu

P139  Univariate and Multivariate Box-Jenkins models to forecast dengue incidence in Thailand  
Presenter: Montip Tiensuwan

P140  An asymptotic test for the equality of error rates based on variance estimation of complete subsampling  
Presenter: Riccardo De Bin

P141  Revision of metrics to validate predictive functions (2005-2015)  
Presenter: Judit Peñafiel

P142  Robust Risk Categorization Using Prediction Scores or Biomarkers When Outcome is Survival Time  
Presenter: Jungbok Lee

P143  Association between climate variability and Dengue in the Cauca River watershed  
Presenter: Delia Ortega Lenis
P144  Apply Multivariate Statistics to study the Chocolate Science and Cardiovascular or Neurovascular Disease
Presenter: Mason Chen

P145  Evaluation of intrasubject parallelism in balanced ex vivo bioassay with baseline covariate measurement using one-sided efficient score tests of random effect quantile
Presenter: Hideaki Uehara

P149  Neurocognitive Assessment in Obsessive Compulsive Disorder Patients: Adherence to Behavioral Decision Models
Presenter: Giovanni Burro

P150  Derivation of Growth Reference Curves for a cohort of South African children
Presenter: Francesca Little

P152  Diagnostics in Semiparametric Regression for Analyzing Correlated Data using Penalized Generalized Estimating Equations
Presenter: Gilberto Paula

P153  Robust estimation for analyzing correlated Birnbaum-Saunders data
Presenter: Aline Tsuyuguchi

P154  Estimating heterogeneity variance under sparsity
Presenter: Susan Martin

P155  Evaluating the environmental factors in the oviposition by the Aedes aegypti using the negative binomial regression model with random effect for overdispersed data
Presenter: Graciana Palioto

P156  Estimating the lowest observed effect concentration in a toxicological study with replicate experiments
Presenter: Silvia Calderazzo

P157  Logistic regression issues when estimating pertussis vaccine effectiveness with small samples: illustration based on catalan data and different estimation procedures
Presenter: Lesly Acosta

P160  Efficient secondary analysis in two phase studies
Presenter: Haibo Zhou

P161  Brazilian Volatility Predictions through the Support Vector Machine
Presenter: Paulo Henrique Guimarães

P163  Distributional Regression models including Functional Data. An application in Diabetes
Presenter: Jenifer Espasandin-Dominguez

P164  Using bivariate copula additive models for location, scale and shape in cardiovascular disease
Presenter: Óscar Lado-Baleato

P165  Statistical methods to identify hospitals with high mortality rate
Presenter: Isaac Subirana

P166  Prognostic risk score of genotypic characteristics in oral cancer based on logistic regression model
Presenter: Mabel Brunotto

P167  Three-way interaction models in terms of combined categories of interacting factors
Presenter: Grethe Albrektsen

P168  Lung Cancer Risk Prediction and Assessment: application to the NLST and the PLCO data
Presenter: Ping Hu

P171  Calibration of data from different types of fisheries surveys for use in spatio-temporal modelling
Presenter: Raymond Webster

P172  A spatio-temporal Bayesian multivariate age-period-cohort model to assess the evolution of mortality in Spain during and after the great recession
Presenter: Marc Saez

P173  Moran’s Eigenvector Maps (MEM) and Asymmetric Eigenvector Maps (AEM) to model spatial patterns of heavy metals contamination in a polluted river basin in central Argentina
Presenter: Gerardo Cueto

P174  Effect of BMI on unintended pregnancy rates amongst women with time-varying exposure to combined oral contraceptives
Presenter: Anja Bauerfeind

P175  Robust Wald-Type Tests under Random Censoring
Presenter: Abhik Ghosh
P176 Immortal Time Bias And Confounding By Indication: Two Avoidable Issues In Real-world Data Studies
Presenter: Natàlia Pallarès

P178 Comparison of Summary Indices for the Time Dependent AUC Curves
Presenter: Ilker Unal

P179 A Survival Model with Surviving Fraction: An Application to Colorectal Cancer Data
Presenter: Gladys Barriga

P181 Additive-multiplicative hazards regression models for interval-censored semi-competing risks data with missing intermediate events
Presenter: Jinheum Kim

P182 Joint modelling of progression-free survival and overall survival in oncology trials using the gamma threshold model
Presenter: Enya Weber

P183 Simulation-based comparative performance of survival methods in case of non-proportional hazards. Application to immunotherapies treatment study
Presenter: Nadia Dardenne

P184 Variance estimation for generalised pseudo-values for a time dependent intervention
Presenter: Martina Mittlböck

P185 Construction of a survival tree based on prediction accuracy
Presenter: Asanao Shimokawa

P186 Regression cure modelling for interval-censored data: application to HIV infection in Danish homosexual men
Presenter: Olivier Bouaziz

P187 Defining degrees of necessity and sufficiency in models with binary or survival outcomes
Presenter: Andreas Gleiss

P189 Power and type i error of generalised pseudo-values and cox-regression when assessing a time dependent intervention
Presenter: Ulrike Pötschger

P190 A flexible shared frailty model using Gamma shape mixtures and the EM algorithm for interval-censored data
Presenter: Aysun Cetinyurek-Yavuz

P191 Predicting excess cumulative incidence probability in matched survival data
Presenter: Cristina Boschini

P192 Subgroup analysis of treatment effects for misclassified biomarkers with time-to-event data
Presenter: Fang Wan

P193 A goodness-of-fit test for the mixture cure rate model
Presenter: Candida Geerdens

P194 Adaptive clinical trial designs for survival outcomes considering the proportionality of hazards assumption
Presenter: Dimitris Karlis

P195 The association between type 2 diabetes mellitus, hip fracture, and post-hip-fracture mortality: a multi-state cohort analysis
Presenter: Cristian Tebé

P196 A case-subcohort study for pancreatic cancer in the China Kadoorie Biobank
Presenter: Christiana Kartsonaki

P197 Analysis of adverse events in survival studies: theoretical quantities and graphical representations
Presenter: Laura Antolini

P200 Semiparametric approach for covariate-specific time dependent ROC curves for correlated survival data
Presenter: Alessandra Meddis

P203 A diabetes distress scale adapted and validated to measure distress in Mexican patients with diabetes mellitus type 2, hypertension or both diseases
Presenter: Rebeca Aguirre-Hernandez

P205 Evaluating concordance between automated and manual scoring of Polysomnographic Recordings from a clinical trial using zolpidem in the treatment of insomnia
Presenter: Carla Leal Kaymalyz

P206 Heritability and genetic gains from selection in non-normal populations
Presenter: Júlio Bueno

P207 The Irish Prostate Cancer Outcomes Research Study
Presenter: Cara Dooley
<table>
<thead>
<tr>
<th>Event Type</th>
<th>Date</th>
<th>Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Board Meeting</td>
<td>Sunday, 8th July</td>
<td>09:00 – 16:00</td>
<td>M215+M216</td>
</tr>
<tr>
<td>Committee Chairs and Officers Meeting</td>
<td>Monday, 9th July</td>
<td>13:45 – 15:15</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>Committee on Communications Meeting</td>
<td>Monday, 9th July</td>
<td>15:45 – 17:15</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>Conference Advisory Committee Meeting</td>
<td>Monday, 9th July</td>
<td>15:45 – 19:00</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>Education Committee Meeting</td>
<td>Monday, 9th July</td>
<td>17:30 – 19:00</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>Club of Presidents</td>
<td>Tuesday, 10th July</td>
<td>8:30 – 10:00</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>Social Media Correspondents Meeting</td>
<td>Tuesday, 10th July</td>
<td>10:30 – 12:00</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>Governance Council of Italian Region</td>
<td>Tuesday, 10th July</td>
<td>12:00 – 13:00</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>IBS General Membership Meeting</td>
<td>Tuesday, 10th July</td>
<td>13:00 – 13:45</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>Bulletin Correspondents Meeting</td>
<td>Tuesday, 10th July</td>
<td>13:45 – 15:15</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>Biometrics Associate Editors Meeting</td>
<td>Tuesday, 10th July</td>
<td>15:45 – 17:15</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>JABES Editors and JABES Management Committee Members</td>
<td>Tuesday, 10th July</td>
<td>15:45 – 17:15</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>IBS Honors and Awards Ceremony</td>
<td>Tuesday, 10th July</td>
<td>17:30 – 19:00</td>
<td>Susie Bayrri</td>
</tr>
<tr>
<td>Representative Council Meeting</td>
<td>Thursday, 12th July</td>
<td>8:30 – 12:00</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>Budget and Finance Committee Meeting</td>
<td>Thursday, 12th July</td>
<td>13:45 – 15:15</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>Regional Presidents and Officers Meeting</td>
<td>Thursday, 12th July</td>
<td>13:45 – 17:15</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>Editorial Advisory Committee Meeting</td>
<td>Thursday, 12th July</td>
<td>15:45 – 17:15</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>Awards Fund Committee Meeting (DC Travel Award Recipients invited to attend)</td>
<td>Thursday, 12th July</td>
<td>17:30 – 19:00</td>
<td>IBS Committee Meeting Room</td>
</tr>
<tr>
<td>Meeting of 2018 &amp; 2020 IPC &amp; LOC Chairs</td>
<td>Thursday, 12th July</td>
<td>17:30 – 19:00</td>
<td>Aleyamma George</td>
</tr>
<tr>
<td>Annual Assembly of the Spanish Region</td>
<td>Friday, 13th July</td>
<td>12:45 – 14:15</td>
<td>Laura Pla</td>
</tr>
</tbody>
</table>
## IBC2018 Opening Ceremony and President’s Address

**Date:** Monday, 9th July  
**Time:** 08:30 – 10:00  
**Room:** Susie Bayarri

## Young Statisticians Luncheon Meeting

**Date:** Monday, 9th July  
**Time:** 12:30 – 13:30  
**Room:** Susie Bayarri

## Evening Welcome Reception

**Date:** Monday, 9th July  
**Time:** 20:00 – 22:30  
**Room:** Banquet Hall

## IBS Awards Presentation

**Date:** Tuesday, 10th July  
**Time:** 17:30 – 19:00  
**Room:** Susie Bayarri

## Reception for Regional Officers and Award Winners

**Date:** Tuesday, 10th July  
**Time:** 19:00 – 20:00  
**Room:** VIP Room

## Young Statisticians Reception

**Date:** Tuesday, 10th July  
**Time:** 20:00 – late  
**Room:** BOO Restaurant

## Tours and Excursions

**Date:** Wednesday, 11th July  
**Time:** N/A  
**Note:** No Sessions, Optional tours ALL DAY  

## Women in Statistics Luncheon Meeting

**Date:** Thursday, 12th July  
**Time:** 12:30 – 13:30  
**Room:** Susie Bayarri

## Annual Gala Cocktail Reception and Dinner, with Live Music

**Date:** Thursday, 12th July  
**Time:** 20:00 – 24:45  
**Location:** Drassanes (Visit [http://2018.biometricconference.org/ibc2018-gala-dinner/](http://2018.biometricconference.org/ibc2018-gala-dinner/) for more information and to reserve your ticket for the dinner.)

## IBC2018 Closing Ceremony, IBC Awards and IBC2020/Seoul Preview

**Date:** Friday, 13th July  
**Time:** 16:00 – 17:30  
**Room:** Susie Bayarri

---

Table-top exhibit area in the Centre Convencions Internacional Barcelona will be located on the 1st floor, next to the posters Room.

**Meetings’ rooms**  
Gertrude Mary Cox  
Florence Nightingale  
Helen Newton Turner  
Laura PlaAleyamma George  
IBS committee meetings room

**Posters + Exhibition + coffee area**  
Susie Bayarri Room

### Summary of Key Dates:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>8th July</td>
<td>9:00 - 11:00</td>
</tr>
<tr>
<td>8th July</td>
<td>13:30 - 19:00</td>
</tr>
<tr>
<td>9th July</td>
<td>8:00 - 16:30</td>
</tr>
<tr>
<td>9th July</td>
<td>10:00 - 16:30</td>
</tr>
<tr>
<td>10th July</td>
<td>NO SESSIONS</td>
</tr>
<tr>
<td>12th July</td>
<td>8:30 - 16:30</td>
</tr>
<tr>
<td>13th July</td>
<td>9:00 - 13:00</td>
</tr>
<tr>
<td>13th July</td>
<td>13:30 - 19:00</td>
</tr>
</tbody>
</table>

### Booth number & Company name

1. **IBS Spanish Region**  
   [www.biometricsociety.net](http://www.biometricsociety.net)  
2. **Wiley**  
   [www.wiley.com](http://www.wiley.com)  
3. **Springer**  
   [www.springernature.com](http://www.springernature.com)  
4. **Oxford University Press**  
   [www.global.oup.com](http://www.global.oup.com)  
5. **CRC/Taylor & Francis Group**  
   [www.crcpress.com](http://www.crcpress.com)  
6. **Cambridge University Press**  
   [www.cambridge.org](http://www.cambridge.org)  
7. **IBC 2020 / Seoul**  
   [www.biometricsociety.org](http://www.biometricsociety.org)  
8. **Caucus for Women in Statistics**  
   [www.cwstat.org](http://www.cwstat.org)
ABOUT BARCELONA

Barcelona is Spain’s second largest city, in population, with around 3,200,000 people. This innovative, diverse city is located on the northeast coast of the peninsula along the Mediterranean Sea. Barcelona is the capital of the Catalanian region, as well as the province of Barcelona.

Many tourists are drawn to the city because of its rich culture and it is very easy to find cheap flights to Barcelona from all bigger European cities and most capitals worldwide. Barcelona’s airport is the second largest in Spain. The city is situated 160 km south of the Pyrenees and the French-Spanish border, and enjoys 4.5 km of coastline, with seven beaches. It was the home to several impressive works done by the world renowned architects, Antoni Gaud and Lluis Domenech i Montaner. The city also has a wide range of parks, several walking streets in the old part of the city, and numerous attractions to visit.

Although Spanish is the official language in Spain, in the Catalonian region, Catalan is also recognized as the co-official language.

The weather is typically decent year-round, with the nicest months being May until July, as well as September, generally. Like many Spanish cities, August tends to be the hottest month, with temperatures soaring into the mid-30s at times.

Barcelona is ranked just after Madrid as the country’s main source of economy. It is also home to one of the most major Mediterranean ports. Barcelona was known for its manufacturing industry, and that is still prevalent today as some of the most important industries are textiles, chemistry, motor and electronics. As for the service market, the leaders are logistics, publishing, and telecommunications.
INTERNATIONAL TIME ZONE
The time in Spain is CET (Central European Time) which is GMT + 1 hour.

CLIMATE
Barcelona and its metropolitan area has a Mediterranean climate with mild winters and hot summers. Barcelona is located on the eastern coast of the Iberian Peninsula, so Atlantic west winds often arrive in Barcelona with low humidity, producing no rain. The proximity of the Atlantic, its latitude, and the relief, are the reasons why the summers are not as dry as in most other Mediterranean Basin locations. July and August are the warmest months, with average temperatures around 28–29 °C (82–84 °F) during the day and 22–23 °C (72–73 °F) at night.

CONFERENCE DATES AND VENUE
8 – 13 July 2018
CCIB Centre de Convencions Internacional de Barcelona
Plaça de Willy Brandt, 11-14, 08019 Barcelona (SPAIN)

CONFERENCE MOBILE APP
For the latest IBC conference schedule, download and install the official IBC 2018 Mobile App by following these instructions:
1. Visit eventmobi.com/app and click on the appropriate app store logo for your device.
2. Launch the app and enter the event code: IBC2018

IBC on TWITTER
Join the conversation #IBC2018BCN
Follow the IBC Local Organizing committee: @LOC_IBC2018
The Young Statisticians IBC2018: @YSIBC2018

CONFERENCE LANGUAGE
The language spoken in Barcelona is Spanish and Catalan. The official language of the IBC2018 is English. All sessions will be conducted in English. Simultaneous translation will not be provided.

CONFERENCE TIMETABLE
All IBC 2018 conference sessions will be held at the CCIB-Centre de Convencions Internacional de Barcelona. Please consult the Schedule at a Glance in this Final Program for details related to timing and refreshment breaks. Social Program events are held at various locations. Please consult the Social Program section of this Final Program for details. All time references within this Final Program are noted in Central European Summer Time (CEST), and are subject to change.

CONFERENCE WI-FI
NAME NET: IBC2018BCN
PASSWORD: IBC-2018

ELECTRICITY
Electricity supply is 220 volts throughout Spain with two pin wall sockets. For any European countries that use 240 volts, e.g. UK and Ireland most electrical equipment will function adequately.

MEDICAL ASSISTANCE & INSURANCE
Emergency phone: 112
Participants are advised to make their own arrangements regarding travel insurance and medical assistance during the Conference. Neither the Organization nor the Secretariat are able to accept any responsibility whatsoever for damage or injury to persons or their belongings during the Conference.

LOST PROPERTY
Please report any lost or unattended items immediately to the Conference staff. Should you lose anything while at the CCIB-Centre de Convencions Internacional de Barcelona, please inquire at the Conference Registration/Help Desk where any lost property will be held.

PHOTGRAPHER
Volunteers will take pictures during the Conference. By registering for the IBC 2018, you agree to have your picture taken.

REFRESHMENT BREAKS & LUNCH
Coffee and tea breaks are served each day, during morning and afternoon refreshment breaks near the IBC 2018 exhibitor area of the CCIB. A break will also be provided each day for lunch where delegates are encouraged to visit any of the many local eateries nearby.

REGISTRATION/HELP DESK
The registration and information desk is located in the CCIB Vestibulo and will be open at the following times:

Sunday, July 8th 07:30 – 11:00 Short Course Only Check-in
14:00 – 19:00 All Attendees Check-in
Monday, July 9th 07:30 – 17:00 | Help Desk Only 17:00 – 19:00
Tuesday, July 10th 08:00 – 17:00 | Help Desk Only 17:00 – 19:00
Wednesday, July 11th CLOSED
Thursday, July 12th 08:00 – 17:00 | Help Desk Only 17:00 – 19:00
Friday, July 13th 08:30 – 13:30 | Help Desk Only 13:30 – 15:30

GENERAL INFORMATION
RESTAURANTS
Barcelona and its surrounding areas have become renowned internationally for food and eating. Its location on the Mediterranean coast offers a generous and varied selection of meals.

Barcelona’s eateries range from traditional Catalan restaurants to the luxurious gourmet temple. Typical Catalan food includes, Pa amb tomàquet, Fideua, and Crema Catalana.

SMOKING POLICY
Since January 2nd 2011 the new, far-reaching Spanish Non-smoking Protection Act is law. This has considerably tightened the regulations of the law from 2006. The previous special rules, such as separate smoking areas in restaurants, or free choice in bars, no longer exist.

Smoking is prohibited in public buildings and public transport (including taxis), at workplaces, railway stations, discotheques, bars and restaurants. Tobacco consumption is also not allowed outside the grounds of hospitals, health centers, schools and kindergartens.

Smoking is permitted on terraces (e.g. restaurants), in one’s own home and balcony and in the fresh air with the exceptions explained above.

SPEAKER PREP ROOM
The conference will have a speakers’ preview room in Room 122 on the 1st floor where speakers can test their presentation beforehand and upload the file onto the laptop, in the same Prep room, so that they can have it ready for their session. Speakers are invited to upload their presentation at least 3 hours prior to the beginning of their session.

No personal laptops can be used.

TAXES
Value-Added Tax is called IVA (for Impuesto sobre el valor añadido) in Spain. It is levied on services, such as hotels and restaurants, and on consumer products. The IVA rate for hotels and restaurants is 10%. Menus will generally say at the bottom whether tax is included (IVA incluido) or not. While food and basic necessities are taxed at the lowest rate, most consumer goods are taxed at 21%.

TAXIS
Barcelona has a service of 11,000 taxis which can be easily identified by their yellow and black livery. A green light on top of the taxi indicates its availability. There is also a service of taxis adapted for people with reduced mobility.

If you want to hire specific services [drivers who speak foreign languages, seven-seater vehicles, etc.], we recommend you use the telephone booking service.

Barcelona taxi fares:
There are special supplements of entrance and exit of the airport, luggage and nights.
For further information about taxis service of Barcelona:
Institut Metropolità del Taxi de Barcelona
Tel. 932 235 151
www.taxibarcelona.cat

TELEPHONE SERVICE
General emergencies – 122
CatSalut [Medical emergencies] – 061
Fire Service – 080
Guàrdia Urbana [Local Police] – 092
Mossos d’Esquadra [Catalan Police Force] – 112
Policia Nacional [National Police] – 091

TRANSPORTATION (PUBLIC)
Tickets, Integrate tickets and multi-journey tickets
Here below are listed different types of travel card and multi-journey tickets for use on all public transport in Barcelona. Cards providing options for a number of journeys or unlimited journeys over a given period of time and using different operators.

A ticket valid for a single TMB bus journey. This is an individual non-integrated ticket.
Price: 2,20 €
Point of sale: On the Bus

A multi-person travel card valid for 10 intermodal journeys. In the case of one-zone cards, passengers have 75 minutes between the first and last validation when changing lines or mode of transport. This time increases by 15 minutes for each zone. Not valid for Aeroport T1 and Aeroport T2 metro stations on line L9 Sud.
Price: 1 zone / 10.20 €
Points of sale
- TMB bus and metro automatic vending machines.
- TMB customer service and information centres (Punt TMB).
- Other Integrated Fare System operators (stations).
- Servicaixa.
- Other operators’ information centres.

A non-integrated individual metro ticket for one journey between Aeroport T1 and Aeroport T2 stations on line L9 Sud and the rest of the metro network.

Validity: Until prices change
Price: 4,60 €
Points of sale: Metro ticket vending machines.

Barcelona Metro Timetables, General Schedules
Monday to Thursday: from 5am to 12pm
Friday: from 5am to 2am
Saturday from 5am uninterruptedly
Sunday until 12pm.