

# DSSV 2017

DATA SCIENCE, STATISTICS & VISUALISATION



## *Conference Guide*



# Conference Guide

## Data Science, Statistics & Visualisation 2017

12 – 14 July 2017

IST, Lisbon

[dssv2017.iasc-isi.org](http://dssv2017.iasc-isi.org)

### **Sponsors:**

Instituto Superior Técnico (IST) – University of Lisbon (UL)  
International Association for Statistical Computing (IASC)  
International Federation for Information Processing (IFIP)  
International Statistical Institute (ISI)  
Portuguese Statistical Society (SPE)  
University of Aveiro (UA)

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Springer



## Welcome

Dear participant,

Welcome to *Data Science, Statistics & Visualisation 2017*, a satellite conference of the 61<sup>st</sup> World Statistics Congress promoted by IASC.

The organizers thank all the people and institutions who helped make this conference a reality, in particular our generous sponsors, the scientific committee, and the invited speakers. We especially thank all the participants: you make this conference a success.

We wish you a fruitful conference and a pleasant stay in Lisbon.

Lisbon, July 2017

The Local Organizing Committee



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## **DSSV 2017**

*Data Science, Statistics & Visualisation* (DSSV 2017) is the inaugural edition of a conference whose aim is to bring together researchers and practitioners in the interplay between computer science, statistics, and visualisation. We seek to build bridges between these diverse fields and provide a forum which facilitates exchanges between researchers. The conference also encourages informal contacts and discussions between the participants.

### Scientific Programme Committee

Peter Filzmoser, Vienna University of Technology, Austria (Chair)  
David Banks, Duke University, USA  
Fionn Murtagh, University of Derby, UK  
M. Rosário Oliveira, Instituto Superior Técnico, ULisboa, Portugal  
Patrick Groenen, Erasmus University Rotterdam, The Netherlands  
Patrick Mair, Harvard University, USA  
Silvia Miksch, Vienna University of Technology, Austria

### Local Organizing Committee

M. Rosário Oliveira, Instituto Superior Técnico, ULisboa, Portugal (Chair)  
Alexandre Francisco, Instituto Superior Técnico, ULisboa, Portugal  
Conceição Amado, Instituto Superior Técnico, ULisboa, Portugal  
Francisco Santos, Instituto Superior Técnico, ULisboa, Portugal  
Manuela Souto de Miranda, University of Aveiro, Portugal  
Patrícia Figueiredo, Instituto Superior Técnico, ULisboa, Portugal  
Ricardo Andrade, Instituto Superior Técnico, ULisboa, Portugal  
Sofia Naique, Instituto Superior Técnico, ULisboa, Portugal

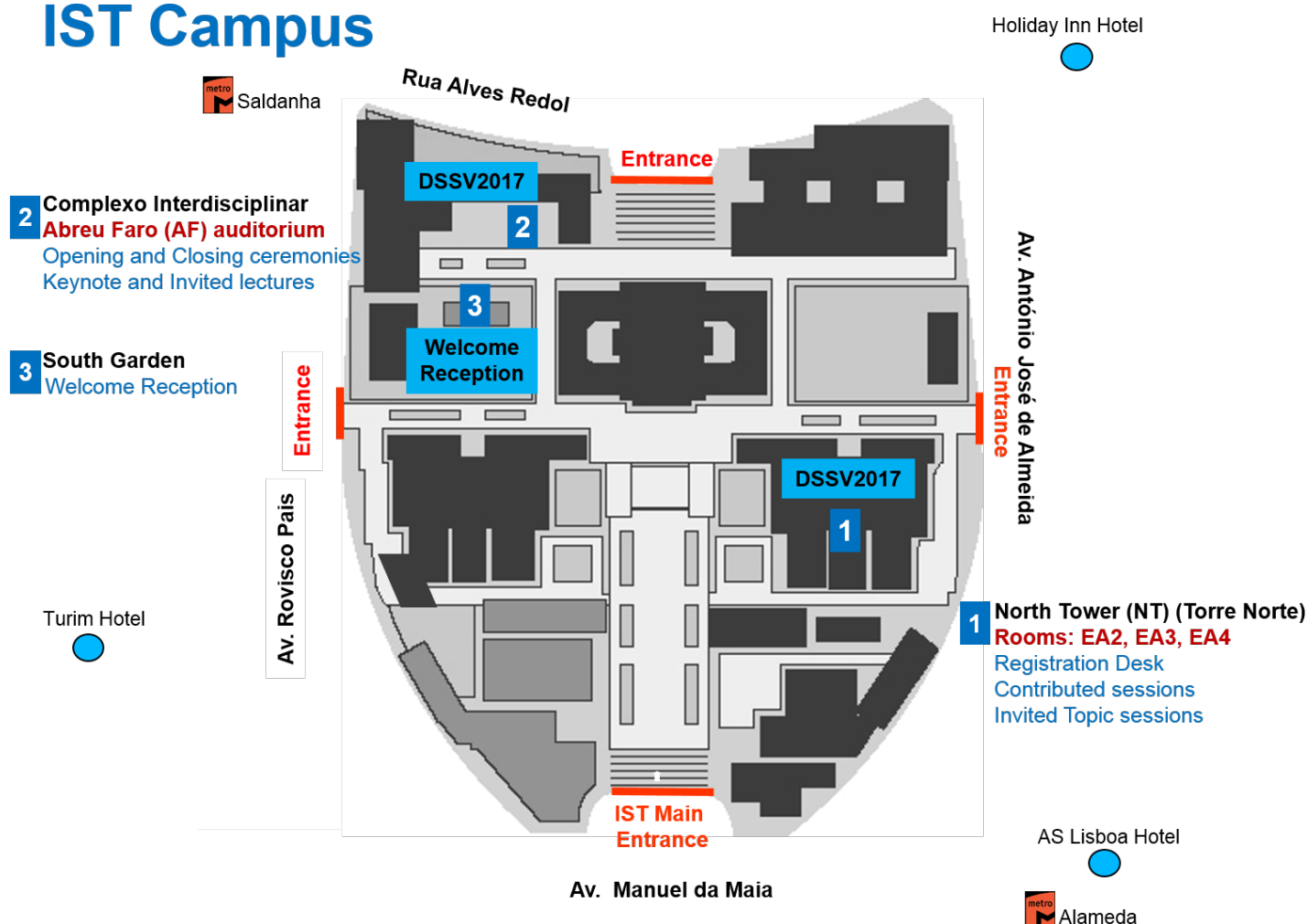


## Important Coordinates and Information

The conference is held at Instituto Superior Técnico (IST). The sessions and lectures take place in two separate buildings:

- The **NORTH TOWER (NT)** (*Torre Norte*), number 1 in the map below.
- **COMPLEXO INTERDISCIPLINAR (CI)**, number 2 in the map.

### IST Campus



The lecture rooms for the conference are the following:

- The **parallel sessions** take place in **rooms EA2, EA3, EA4** in the NORTH TOWER. Room EA2 is on the ground floor of the North Tower; rooms EA3 and EA4 are on the first floor.
- The **keynote and invited lectures** take place in the **Abreu Faro (AF) auditorium** on the ground floor of COMPLEXO INTERDISCIPLINAR.

The **poster session** on Thursday and the coffee breaks take place on the first floor of the NORTH TOWER.

The **conference desk** and luggage storage are located in the hallway of the NORTH TOWER and they will be open from 8:15 am to 5:00 pm on Wednesday to Thursday, and on Friday from 8:30 am to 11:00 am .

**Important for speakers:** In case you wish to use the LCD projector for your lecture, please copy the file for your presentation to a USB pen, then contact the technical staff at your session's room.

Please do this at least 15 minutes before the beginning of your session.

You may use Google Indoor Maps to see the indoor layouts for buildings at Instituto Superior Técnico. On page 7 you have maps of the EA2, EA3 and EA4 rooms.

## Internet Access

Instructions for Internet usage during DSSV 2017:

- Search the available wireless networks and select the one with SSID “tecnico-guest”.
- Set IP to automatic (DHCP). This is typically the default setting, so you may usually skip this step.
- Open your browser and try to access any external website. You will be automatically redirected to the page [https://wifi.ist.utl.pt/index\\_auth.php](https://wifi.ist.utl.pt/index_auth.php). Follow the link “Web based login” at the top of the page concerning short-time, conference and meetings accounts. Enter the following username and password when requested:

**Username:** dssv2017

**Password:** pGfTFb

- You are now free to browse and access the Internet. You may have to repeat the procedure above if you close your browser or if the connection times out.

Alternatively, you may access **eduroam**, the education roaming service.

## Maps of the North Tower Rooms EA2, EA3, EA4



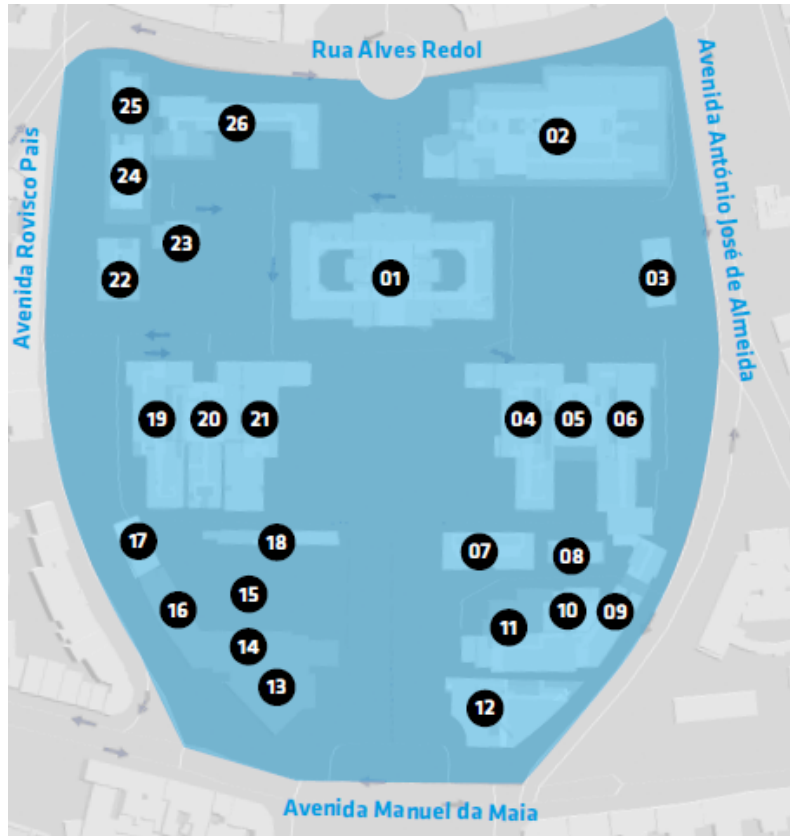
## First floor



Ground floor

## Lunch

There are several places to eat at the IST Campus buildings 01, 02, 05, 20, 24, 26.



- 01** Cafeteria
- 02** Cafeteria and Self-service restaurant
- 05** Cafeteria and Sena restaurant
- 20** Cafeteria
- 24** Cafeteria and Self-service restaurant
- 26** Cafeteria

Also there are several restaurants around IST (see list on page 28).

## Programme Overview

### Wednesday, July 12, 2017

8:15–9:00	Registration	North Tower (NT)
9:00–9:30	Opening Ceremony	Abreu Faro auditorium (AF) - Complexo Interdisciplinar (CI)
9:30–10:30	<b>Keynote:</b> Trevor Hastie, <i>Statistical learning with sparsity</i>	AF (CI)
10:30–11:00	Coffee Break	NT
11:00–12:20	Contributed Paper Sessions I	EA2, EA3, EA4 (NT)
12:20–14:00	Lunch Break	
14:00–15:30	Invited Topic Sessions I	EA2, EA4 (NT)
15:30–15:45	Coffee Break	NT
15:45–16:45	Contributed Paper Sessions II	EA2, EA3, EA4 (NT)
16:45–17:00	Coffee Break	NT
17:00–18:00	Contributed Paper Sessions III	EA2, EA3, EA4 (NT)
18:30–20:00	Welcome Reception	South Garden (SG)

### Thursday, July 13, 2017

9:00–9:45	André Martins, <i>From softmax to sparsemax</i>	AF (CI)
9:45–10:30	Myra Spiliopoulou, <i>Learning on timestamped medical data</i>	AF (CI)
10:30–11:00	Coffee Break	NT
11:00–12:20	Contributed Paper Sessions IV	EA2, EA3, EA4 (NT)
12:20–14:00	Lunch Break	
14:00–15:30	Invited Topic Sessions II	EA2, EA4 (NT)
15:30–15:45	Coffee Break	NT
15:45–17:05	Contributed Paper Sessions V	EA2, EA3, EA4 (NT)
17:05–17:20	Coffee Break	NT
17:20–18:40	Poster Session	NT
20:30–	Conference Dinner	

### Friday, July 14, 2017

9:00–9:45	Mário Figueiredo, <i>Selection and clustering of correlated variables</i>	AF (CI)
9:45–10:30	Peter Rousseeuw, <i>Detecting anomalous data cells</i>	AF (CI)
10:30–11:00	Coffee Break	SG
11:00–11:45	Stephanie Sapp, <i>Performance of marketing attribution models</i>	AF (CI)
11:45–12:45	<b>Keynote:</b> Daniel Keim, <i>The role of visualization in data science</i>	AF (CI)
12:45–13:00	Closing Ceremony	AF (CI)

# Programme

Wednesday, July 12, 2017

8:15–9:00	Registration	North Tower (NT)	
9:00–9:30	Opening Ceremony	Abreu Faro auditorium (CI)	
9:30–10:30	<b>Keynote Lecture: Trevor Hastie</b> <i>Statistical learning with sparsity</i> Room: AF (CI)		
10:30–11:00	Coffee Break	North Tower (NT)	
11:00–12:20	Contributed Paper Sessions I		
	<b>Robust Statistics I</b> Room: EA2(NT)	<b>Biomedics</b> Room: EA3 (NT)	<b>Clustering</b> Room: EA4 (NT)
12:20–14:00	Lunch Break		
14:00–15:30	Invited Topic Sessions I		
	<b>Classification and Network Modelling</b> Room: EA2 (NT)	<b>Statistical Learning in Data Science</b> Room: EA4 (NT)	
15:30–15:45	Coffee Break	North Tower (NT)	
15:45–16:45	Contributed Paper Sessions II		
	<b>Robust Statistics II</b> Room: EA2 (NT)	<b>Regression and Beyond</b> Room: EA3 (NT)	<b>Tools for Data Analytics</b> Room: EA4 (NT)
16:45–17:00	Coffee Break	North Tower (NT)	
17:00–18:00	Contributed Paper Sessions III		
	<b>Applications I</b> Room: EA2 (NT)	<b>Big Data Platforms</b> Room: EA4 (NT)	
18:30–20:00	Welcome Reception	South Garden	

## Thursday, July 13, 2017

9:00–9:45	<b>Invited Lecture: André Martins</b> <i>From softmax to sparsemax: a sparse model of attention and multi-label classification</i> Room: AF (CI)		
9:45–10:30	<b>Invited Lecture: Myra Spiliopoulou</b> <i>Learning on timestamped medical data</i> Room: AF (CI)		
10:30–11:00	Coffee Break		North Tower (NT)
11:00–12:20	Contributed Paper Sessions IV		
	<b>Methods for Data Science</b> Room: EA2 (NT)	<b>Time and Space</b> Room: EA3 (NT)	<b>Visualization I</b> Room: EA4 (NT)
12:20–14:00	Lunch Break		
14:00–15:30	Invited Topic Sessions II		
	<b>Visualization and Analysis of Modern Data</b> Room: EA2 (NT)	<b>ISBIS Session</b> Room: EA4 (NT)	
15:30–15:45	Coffee Break		North Tower (NT)
15:45–17:05	Contributed Paper Sessions V		
	<b>Applications II</b> Room: EA2 (NT)	<b>Inference</b> Room: EA3 (NT)	<b>Visualization II</b> Room: EA4 (NT)
17:05–17:20	Coffee Break		North Tower (NT)
17:20–18:40	Poster Session		North Tower (NT)
20:30–	Conference Dinner		

## Friday, July 14, 2017

9:00–9:45	<b>Invited Lecture: Mário Figueiredo</b> <i>Selection and clustering of correlated variables</i> Room: AF (CI)	
9:45–10:30	<b>Invited Lecture: Peter Rousseeuw</b> <i>Detecting anomalous data cells</i> Room: AF (CI)	
10:30–11:00	Coffee Break	
11:00–11:45	<b>Invited Lecture: Stephanie Sapp</b> <i>Performance of marketing attribution models</i> Room: AF (CI)	
11:45–12:45	<b>Keynote Lecture: Daniel Keim</b> <i>The role of visualization in data science</i> Room: AF (CI)	
12:45–13:00	Closing Ceremony	Room: AF (CI)



# Detailed Programme

Wednesday, 12 July 2017

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<b>Registration</b>	<b>8:15 – 9:00</b>
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<b>Opening Ceremony</b>	<b>9:00 – 9:30</b>
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## Keynote Lecture Session

Chair: Patrick Groenen, Room: Abreu Faro (CI)

**9:30–10:30**  
Wednesday 12<sup>th</sup>

**T. Hastie**

*Statistical learning with sparsity*

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**Coffee Break: 10:30–11:00**

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## Robust Statistics I

Chair: Peter Filzmoser, Room: EA2 (NT)

**11:00–12:20**  
Wednesday 12<sup>th</sup>

*Contributed Paper Session*

P.J. Rousseeuw, **J. Raymaekers**, M. Hubert

*A measure of directional outlyingness with applications to image data and video*

11:00–11:20

**Y. Wang**, S. Van Aelst

*Sparse principal component analysis based on least trimmed squares*

11:20–11:40

**H. Cevallos Valdiviezo**, S. Van Aelst, M. Salibian-Barrera

*Least trimmed squares estimators for functional principal component analysis*

11:40–12:00

M. Debruyne, **S. Höppner**, S. Serneels, T. Verdonck

*On sparse directions of maximal outlyingness*

12:00–12:20

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## Biomedics

Chair: Wing Kam Fung, Room: EA3 (NT)  
*Contributed Paper Session*

11:00–12:20  
Wednesday 12<sup>th</sup>

**M.B. Lopes**, A. Veríssimo, E. Carrasquinha, S. Vinga  
*Consensus outlier detection in triple-negative breast cancer gene expression data*  
11:00–11:20

C. Arenas, **I. Irigoien**  
*Detection of differentially expressed genes by means of outlier detection*  
11:20–11:40

R. van den Berg, **L. De Mot**, G. Leroux-Roels, V. Bechtold, F. Clément, M. Coccia, E. Jongert, T.G. Evans, P. Gillard, R. van der Most  
*Transcriptional profiling of response to the candidate tuberculosis vaccine M72/AS01E for trial sampling time-point selection*  
11:40–12:00

**A.H. Tavares**, V. Afreixo, P. Brito  
*Clustering DNA words through distance distributions*  
12:00–12:20

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## Clustering

Chair: Ron Wehrens, Room: EA4 (NT)  
*Contributed Paper Session*

11:00–12:20  
Wednesday 12<sup>th</sup>

**N. Bozkus**  
*Lifting and clustering*  
11:00–11:20

**S. Lubbe**  
*Visualisations associated with bootstrapping cluster analysis*  
11:20–11:40

**N.C. Chung**  
*Evaluation of membership reliability in K-means clusters*  
11:40–12:00

**R. Wehrens**, J. Kruisselbrink  
*Data fusion with self-organising maps*  
12:00–12:20

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**Lunch Break: 12:20–14:00**

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## **Classification and Network Modelling**

**14:00–15:30**

Chair: Berthold Lausen, Room: EA2 (NT)

Wednesday 12<sup>th</sup>

*Invited Topic Session in Collaboration with the European Association for Data Science*

### **B. Lausen**

*Ensemble classification*

14:00–14:30

### **I. Gollini**

*Latent variable modelling of interdependent ego-networks*

14:30–15:00

### **A. Caimo**

*Improving the efficiency of Bayesian computation for network models*

15:00–15:30

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## **Statistical Learning in Data Science**

**14:00–15:30**

Chair: Paula Brito, Room: EA4 (NT)

Wednesday 12<sup>th</sup>

*Invited Topic Session in Collaboration with the Portuguese Statistical Society*

### **M.G.M.S. Cardoso**

*On clustering validation: the internal perspective*

14:00–14:30

### **P.P. Rodrigues**

*Controversies in health data science*

14:30–15:00

### **L. Torgo**

*Data pre-processing methods for forecasting with spatio-temporal data*

15:00–15:30

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**Coffee Break: 15:30–15:45**

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## Robust Statistics II

Chair: Klaus Nordhausen, Room: EA2 (NT)

*Contributed Paper Session*

**15:45 – 16:45**

Wednesday 12<sup>th</sup>

**P. Segaert**, S. Van Aelst, T. Verdonck

*Robust joint modelling of mean and dispersion for the GLM framework*

15:45 – 16:05

A. Kharin, **E. Vecherko**

*Performance and robustness in statistical testing of hypotheses for data with Markov dependencies*

16:05 – 16:25

**R. Crevits**, C. Croux

*Forecasting with robust exponential smoothing with trend and seasonality*

16:25 – 16:45

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## Regression and Beyond

Chair: Mário Figueiredo, Room: EA3 (NT)

*Contributed Paper Session*

**15:45 – 16:45**

Wednesday 12<sup>th</sup>

**P. Macedo**, J.P. Cruz

*Entropy in high-dimensional variable selection*

15:45 – 16:05

**J. Wagner**, R. Münnich

*Regularized B-spline regression for high-dimensional scattered data*

16:05 – 16:25

**M.C. Costa**, P. Macedo

*Contributions to the analysis of inhomogeneous large-scale data using maximum entropy*

16:25 – 16:45

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## Tools for Data Analytics

Chair: Paulo C. Rodrigues, Room: EA4 (NT)

*Contributed Paper Session*

**15:45 – 16:45**

Wednesday 12<sup>th</sup>

**T. Savage**, C. Hansen, A. Seyb

*Providing analysts the tools they need within a modern National Statistics Office*

15:45 – 16:05

**M. Rupp**, R. Münnich

*A flexible optimization tool for multivariate optimal allocation problems under high-dimensional data*

16:05–16:25

**V. Ardelean**

*Data analysis with contaminated data*

16:25–16:45

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**Coffee Break: 16:45–17:00**

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## **Applications I**

**17:00–18:00**

Chair: Pieter Segaert, Room: EA2 (NT)

Wednesday 12<sup>th</sup>

*Contributed Paper Session*

J.L. de Miranda, **M. Casquilho**

*Computing over the Internet applied to data visualization: an illustrative example in geometry*

17:00–17:20

**J.M. Sanchez-Gomez**, M.A. Vega-Rodriguez, C.J. Perez Sanchez, F. Calle-Alonso

*Using word clouds as an e-learning analytics tool based on data visualization and statistics*

17:20–17:40

**D. Alptekin**

*Economic growth and tourism in Turkey: Hsiao's Granger causality analysis*

17:40–18:00

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## **Big Data Platforms**

**17:00–18:00**

Chair: Klaus Nordhausen, Room: EA4 (NT)

Wednesday 12<sup>th</sup>

*Contributed Paper Session*

**R.M. Silva**, L. Sampaio, P. Calado, M.J. Silva, A. Delgado

*Matching administrative data for census purposes*

17:00–17:20

**E.J. Harner**, M. Lilback, W. Foreman

*Rspark: running R and Spark in Docker containers*

17:20–17:40

**L. Borke**, S. Bykovskaya

*BitQuery – a GitHub API driven and D3 based search engine for open source repositories*

17:40–18:00

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**Welcome Reception**

**18:30**

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**Thursday, 13 July 2017**

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**Invited Lecture Session**

**9:00–10:30**

Chair: Berthold Lausen, Room: Abreu Faro (CI)

Thursday 13<sup>th</sup>

**A.F.T. Martins**

*From softmax to sparsemax: a sparse model of attention and multi-label classification*

9:00–9:45

**M. Spiliopoulou**

*Learning on timestamped medical data*

9:45–10:30

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**Coffee Break: 10:30–11:00**

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**Methods for Data Science**

**11:00–12:00**

Chair: Patrick Groenen, Room: EA2 (NT)

Thursday 13<sup>th</sup>

*Contributed Paper Session*

**S. Zhang, H.-S. Chen**

*More powerful test procedures for multiple hypothesis testing*

11:00–11:20

**E. Stoimenova**

*Incomplete ranking*

11:20–11:40

E. Macedo, **A. Freitas**, M. Vichi

*Clustering and disjoint principal component analysis: an empirical comparison of two approaches*

11:40–12:00

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## Time and Space

Chair: Myra Spiliopoulou, Room: EA3 (NT)  
*Contributed Paper Session*

11:00–12:20  
Thursday 13<sup>th</sup>

### P. Otto

*Estimation, simulation, and visualization of spatial and spatiotemporal autoregressive conditional heteroscedasticity*

11:00–11:20

### M.H. Gonçalves, M.S. Cabral

*Performance of statistical approaches to model binary responses in longitudinal studies*

11:20–11:40

### B. Alptekin, C.H. Aladag

*Air pollution forecasting with time series neural networks models*

11:40–12:00

### C.S. Santos, I. Pereira, M.G. Scotto

*Periodic multivariate INAR processes*

12:00–12:20

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## Visualization I

Chair: Sugnet Lubbe, Room: EA4 (NT)  
*Contributed Paper Session*

11:00–12:20  
Thursday 13<sup>th</sup>

### J. Rougier, A. Zammit-Mangion

*Visualization for large-scale Gaussian updates*

11:00–11:20

### C. Bors, M. Bögl, T. Gschwandtner, S. Miksch

*Visual support for rastering of unequally spaced time series*

11:20–11:40

### J.E. Lee, S. Ahn, D.-H. Jang

*Visualization of three-dimensional data with virtual reality*

11:40–12:00

### M. Gallo, V. Todorov, M.A. Di Palma

*R visual tools for three-way data analysis*

12:00–12:20

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**Lunch Break: 12:20–14:00**

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**Visualization and Analysis of Modern Data**

**14:00–15:30**

Chair: Po-Ling Loh, Room: EA2 (NT)

Thursday 13<sup>th</sup>

*Invited Topic Session in Collaboration with the Bernoulli Society*

**J.P. Long**

*Mapping the Milky Way halo: modeling and classification of sparsely sampled vector valued functions*

14:00–14:30

**Y. Benjamini**

*Summarizing linearized prediction models along feature groups*

14:30–15:00

**T.H. McCormick**

*Using Aggregated Relational Data to feasibly identify network structure without network data*

15:00–15:30

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**ISBIS Session**

**14:00–15:30**

Chair: David Banks, Room: EA4 (NT)

Thursday 13<sup>th</sup>

*Invited Topic Session in Collaboration with the International Society for Business and Industrial Statistics*

**D. Banks**

*Statistical issues with agent-based models*

14:00–14:30

**T.A. Oliveira, A. Oliveira**

*Balanced incomplete block designs: some applications and visualization*

14:30–15:00

**P.C. Rodrigues, P. Tuy, R. Mahmoudvand**

*Randomized singular spectrum analysis for long time series*

15:00–15:30

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**Coffee Break: 15:30–15:45**

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## Applications II

Chair: Paula Brito, Room: EA2 (NT)

*Contributed Paper Session*

**15:45 – 17:05**

Thursday 13<sup>th</sup>

**F.G. Akgül**, B. Şenoğlu

*Alternative distributions to Weibull for modeling the wind speed data in wind energy analysis*

15:45 – 16:05

**A.S.T. Sousa**, M.G.C. Batista, M.C. Medeiros, O.L. Silva, H. Bacelar-Nicolau

*Hierarchical cluster analysis in the context of performance evaluation: from classical to complex data*

16:05 – 16:25

**M.S. Bahadori**

*Statistical analysis of pedestrian control features. Case study: Lisbon–Portugal*

16:25 – 16:45

**P. Brito**, M.G.M.S. Cardoso, A.P. Duarte Silva

*Building a map of Europe based on citizens values: an interval data approach*

16:45 – 17:05

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## Inference

Chair: Peter Rousseeuw, Room: EA3 (NT)

*Contributed Paper Session*

**15:45 – 16:45**

Thursday 13<sup>th</sup>

T. Arslan, S. Acitas, **B. Şenoğlu**

*Estimating the location and scale parameters of the Maxwell distribution*

15:45 – 16:05

**D. Kushary**

*Estimation of percentile of marginal distribution of order statistic with real life application*

16:05 – 16:25

**L. Qu**

*Copula density estimation by Lagrange interpolation at the Padua points*

16:25 – 16:45

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## Visualization II

Chair: Niel Le Roux, Room: EA4 (NT)

*Contributed Paper Session*

**15:45 – 17:05**

Thursday 13<sup>th</sup>

**J. Nienkemper-Swanepoel**, S. Gardner-Lubbe, N.J. Le Roux

*The virtues and pitfalls of the visualisation of incomplete categorical data*

15:45 – 16:05

**A. de Falguerolles**

*Is Arthur Batut's geometric experiment a convincing argument in favor of Francis Galton's generic images?*

16:05 – 16:25

**V.O. Choulakian**

*Visualization of sparse two-way contingency tables*

16:25 – 16:45

**A. Alexandrino da Silva**

*Cyclical history theory in data visualization: using a four-quadrant display to see history repeating itself*

16:45 – 17:05

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**Coffee Break: 17:05 – 17:20**

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## Poster Session

Location: North Tower, first floor

**17:20 – 18:40**

Thursday 13<sup>th</sup>

D. Montaña, Y. Campos-Roca, **C.J. Perez**

*Early detection of Parkinson's disease by considering acoustic features of plosive consonants*

**N.S. Ribeiro**, J.O. Folgado, H.C. Rodrigues

*Surrogate-based visualization of the influence of geometric design on the performance of a coronary stent*

**V.M. Lourenço**, P.C. Rodrigues, A.M. Pires, H.-P. Piepho

*A robust DF-REML framework for variance components estimation in genetic studies*

**N. Krautenbacher**, F.J. Theis, C. Fuchs

*A correction approach for random forest under sample selection bias*

**R. Gorter**, E. Geuze

*Measuring trends in depression symptoms in Dutch veterans from before, until five years after deployment*

J. Pinto, S. Nunes, M. Bianciardi, L.M. Silveira, L.L. Wald, **P. Figueiredo**

*Cluster-based lag optimization of physiological noise models in high-field resting-state fMRI*

M.C. Botelho, E. Vilar, E. Cardoso, **A. Alexandrino da Silva**, P.D. Almeida, L. Rodrigues, A.P. Martinho, S. Rodrigues

*Information visualisation quadrant display: a synergistic approach to a postgraduate program*

**J.R. da Cruz**, M.H. Herzog, P. Figueiredo

*An automatic pre-processing pipeline for EEG analysis based on robust statistics*

**D.M. Garvis**

*Adaptive learning and learning science in a first course in university statistics*

**J. Korzeniewski**

*A novel technique of symbolic time series representation aimed at time series clustering*

A.C. Finamore, **A. Moura Santos**, A. Pacheco

*Introducing formative assessment in probability and statistics course – analysis of the first data*

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**Conference Dinner**

**20:30**

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**Friday, 14 July 2017**

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**Invited Lecture Session**

**9:00–10:30**

Chair: Christophe Croux, Room: Abreu Faro (CI)

Friday 14<sup>th</sup>

**M.A.T. Figueiredo**

*Selection and clustering of correlated variables*

9:00–9:45

**P.J. Rousseeuw, W. Van den Bossche**

*Detecting anomalous data cells*

9:45–10:30

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**Coffee Break: 10:30–11:00**

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**Invited Lecture Session**

**11:00–11:45**

Chair: Peter Filzmoser, Room: Abreu Faro (CI)

Friday 14<sup>th</sup>

**S. Sapp**

*Performance of marketing attribution models*

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**Keynote Lecture Session**

**11:45–12:45**

Chair: Peter Filzmoser, Room: Abreu Faro (CI)

Friday 14<sup>th</sup>

**D.A. Keim**

*The role of visualization in data science*

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**Closing Ceremony**

**12:45–13:00**

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## Social Programme

### **Welcome Reception – South Garden at IST**

**Wednesday, July 12, 18:30**

All participants are invited to a welcome reception on Wednesday, the first day of the conference. A light meal will be served in the South Garden and the “Tuna Universitária do Instituto Superior Técnico”, a Portuguese Academic Musical group composed of male IST students, will provide lively and funny entertainment.

### **Conference Dinner – Sacramento do Chiado Restaurant (downtown)**

**Thursday, July 13, 20:30**

If you are registered for the conference dinner, you will receive a ticket upon registration at the conference desk. *Please remember to bring this ticket to the dinner.*

The conference dinner will take place at the Sacramento do Chiado restaurant (Calçada Sacramento 44, Phone: +351 213 420 572 , Baixa-Chiado subway station). After dinner, there will be a show with Fado.

The contact address during and after the conference is:

Departamento de Matemática, DSSV 2017  
Instituto Superior Técnico  
Av. Rovisco Pais, 1  
1049-001 Lisboa  
Portugal  
Tel.: (+351) 218417599  
Email: [dssv2017@tecnico.ulisboa.pt](mailto:dssv2017@tecnico.ulisboa.pt)

## **General Information**

**Emergency number:** The national emergency phone number is **112**.

### **Currency and exchange**

Portugal's currency is the Euro (€). The banks are typically open Monday to Friday between 8:30 am and 3 pm. The bank at the airport is open 24 hours a day, 7 days a week. Money can also be exchanged at bureaux de change or automatic exchange machines. International credit cards are widely accepted. There are three bank branches in the main IST building (open from 10 am to 5 pm) as well as several ATM machines accepting all major credit cards.

### **Business hours**

**Shops:** Most street shops in Lisbon open at 9 am or 10 am, and often close at around 7 pm. Some offices and smaller businesses close for lunch, usually between 1 pm and 3 pm. The shopping malls open from 10 in the morning, and only close at midnight.

**Restaurants:** Usually open for lunch from noon to 3 pm and for dinner from 7 pm to 10 pm.

**Pharmacies:** Monday to Friday 9 am to 7 pm (some pharmacies close at lunchtime). Saturdays from 9 am to 1 pm. When closed all pharmacies indicate the nearest open pharmacy on duty, where there is a 24-hour service.

### **Taxis**

There are several taxi companies. If you want to take a taxi, you may ask at the reception of your hotel or call the taxi company directly.

Radio Taxis Retális Lisboa: (+351) 218 119 000

It is advisable to ask in advance how much, roughly, the taxi fare will be.

### **Information about Lisbon**

You can find tourist and cultural information about Lisbon in the site of the conference. For further information contact

Ask Me Lisboa Story Centre

Address: Praça do Comércio, 78–81

Phone: (+351) 910 517 886

## **List of restaurants in the IST area (walking distance)**

### **Within 10 min walk:**

GULA'S - KITCHEN LOVERS €

Rua de Dona Filipa de Vilhena, 18A

<https://www.zomato.com/pt/grande-lisboa/gulas-kitchen-lovers-saldanha-lisboa>

RIALVA €

Avenida Duque de Ávila, 2B

<https://www.zomato.com/pt/grande-lisboa/rialva-saldanha-lisboa>

AÇÚCAR E CANELA €

Avenida Duque d'Ávila, 6A

<https://www.zomato.com/pt/grande-lisboa/açúcar-canela-1-saldanha-lisboa>

MERCEARIA CRIATIVA €

Avenida Guerra Junqueiro, 4A

<https://www.zomato.com/pt/grande-lisboa/mercearia-criativa-são-joão-de-deus-lisboa>

B' PERFECT BURGERS €

Rua Brás Pacheco, 2C

<https://www.zomato.com/pt/grande-lisboa/b-perfect-burgers-são-joão-de-deus-lisboa>

KOKORO RAMEN BAR €

Avenida Rovisco Pais, 30A

<https://www.zomato.com/pt/grande-lisboa/kokoro-ramen-bar-arroios-lisboa>

SANTORINI COFFEE €

Avenida Manuel da Maia, 19A

<https://www.zomato.com/pt/grande-lisboa/santorini-coffee-arroios-lisboa>

VITAMINAS E SABORES €

Avenida Duque d'Ávila, 45A/B/C

<https://www.zomato.com/pt/grande-lisboa/vitaminas-e-sabores-saldanha-lisboa>

PASTELARIA MEXICANA €€

Avenida Guerra Junqueiro, 30C

<https://www.zomato.com/pt/grande-lisboa/pastelaria-mexicana-são-joão-de-deus-lisboa>

CAFÉ IMPÉRIO €€

Avenida Almirante Reis, 205 A

<https://www.zomato.com/pt/grande-lisboa/café-império-arroios-lisboa>



CHARRUA DO LAVRADOR €€€

Avenida Duque de Ávila, 11

<https://www.zomato.com/pt/grande-lisboa/charrua-do-lavrador-saldanha-lisboa>

O REI DA PESCADA €€€

Avenida Duque de Ávila, 19

<https://www.zomato.com/pt/grande-lisboa/o-rei-da-pescada-saldanha-lisboa>

**Within 15 min walk:**

ANNAPURNA €

Avenida Almirante Reis, 179A

<https://www.zomato.com/pt/grande-lisboa/annapurna-arroios-lisboa>

CHOUPANA CAFFÉ €

Avenida da República, 25A

<https://www.zomato.com/pt/grande-lisboa/choupana-caffé-saldanha-lisboa>

ESPIRAL (vegetarian restaurant) €

Praça Ilha do Faial, 13C-14A/B

<https://www.zomato.com/EspiralRestaurante>

FÁBRICA DOS SABORES €

Avenida Defensores de Chaves, 55

<https://www.zomato.com/pt/grande-lisboa/fábrica-dos-sabores-saldanha-lisboa>

SUPER-CHEFE €

Avenida Duque de Ávila, 22

<https://www.zomato.com/pt/grande-lisboa/super-chefe-saldanha-lisboa>

HAMBURGUERIA 21 €

Avenida João XXI, 45A

<https://www.zomato.com/pt/grande-lisboa/hamburgueria-21-são-joão-de-deus-lisboa>

ITALY - LISBONA CAFFÉ €€

Avenida Duque de Ávila, 26B R/C

<https://www.zomato.com/pt/grande-lisboa/restaurantes?q=italy+caffé>

CAFÉ SÃO REMO €€

Avenida Duque de Ávila, 30

<https://www.zomato.com/pt/grande-lisboa/café-são-remo-saldanha-lisboa>

À PARTE €€

Avenida Defensores de Chaves, 14C

<https://www.zomato.com/pt/grande-lisboa/à-parte-saldanha-lisboa>

VERSAILLES €€

Avenida da República, 15A

<https://www.zomato.com/pt/grande-lisboa/versailles-saldanha-lisboa>

GALETO €€

Avenida da República, 14

<https://www.zomato.com/pt/grande-lisboa/galeto-saldanha-lisboa>

RESTAURANTE FOGO DE CHÃO €€€

Avenida Elias Garcia, 13

<https://www.zomato.com/pt/grande-lisboa/fogo-de-chão-campo-pequeno-lisboa>





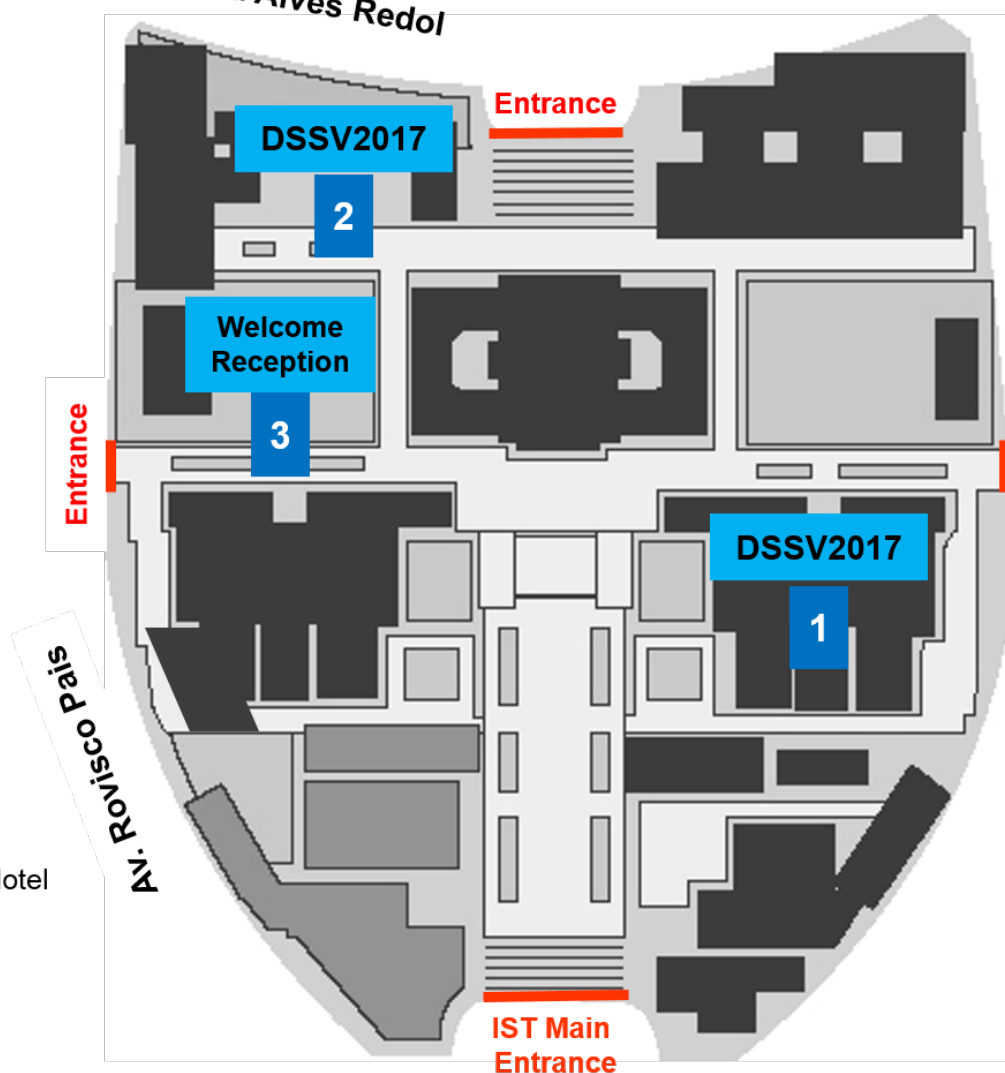
Saldanha

# IST Campus

Holiday Inn Hotel



Rua Alves Redol



Av. António José de Almeida

Turim Hotel



IST Main  
Entrance

Av. Manuel da Maia

1

**North Tower (NT) (Torre Norte)**

**Rooms: EA2, EA3, EA4**

Registration Desk

Contributed sessions

Invited Topic sessions

2

**Complexo Interdisciplinar (CI)**

**Abreu Faro (AF) auditorium**

Opening and Closing ceremonies

Keynote and Invited lectures

3

**South Garden**

Welcome Reception

AS Lisboa Hotel



Alameda



universidade de aveiro  
theoria poiesis praxis



Sociedade  
Portuguesa de  
Estatística

**ANDRITZ**  
Pulp & Paper



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