

PROGRAMME AND ABSTRACTS

24th International Conference on
Computational Statistics (COMPSTAT 2022)

<http://www.compstat2022.org>

Plesso Belmeloro, University of Bologna, Italy

23-26 August 2022

CSDA & EcoSta Workshop on
Statistical Data Science (SDS 2022)

<http://www.compstat2022.org/SatelliteWorkshop.php>

Department of Statistical Sciences "Paolo Fortunati", University of Bologna, Italy

26-28 August 2022



ELSEVIER



SCHEDULE

COMPSTAT 2022

2022-08-23	2022-08-24	2022-08-25	2022-08-26
A - Keynote 09:00 - 10:00	F 09:00 - 10:30	I 09:00 - 11:00	M 09:00 - 10:30
Coffee Break 10:00 - 10:30	Coffee Break 10:30 - 11:00	Coffee Break 11:00 - 11:30	Coffee Break 10:30 - 11:00
B 10:30 - 12:30	G 11:00 - 12:30	J - Keynote 11:30 - 12:20	N 11:00 - 12:00
Lunch Break 12:30 - 14:15	Lunch Break 12:30 - 14:15	Lunch Break 12:20 - 14:15	O - Keynote 12:10 - 13:15
C 14:15 - 15:45	H 14:15 - 16:15	K 14:15 - 15:45	
Coffee Break 15:45 - 16:15		Coffee Break 15:45 - 16:15	
D 16:15 - 17:45		L 16:15 - 17:45	
E 17:55 - 18:55			
Welcome reception 19:10 - 20:40		Conference Dinner 19:30 - 22:30	

SCHEDULE

SDS 2022

2022-08-26	2022-08-27	2022-08-28
	<p data-bbox="788 427 805 452">C</p> <p data-bbox="716 456 877 481">09:00 - 10:15</p> <p data-bbox="716 524 877 548">Coffee Break</p> <p data-bbox="716 553 877 577">10:15 - 10:45</p> <p data-bbox="788 645 805 669">D</p> <p data-bbox="716 674 877 698">10:45 - 12:25</p> <p data-bbox="716 824 877 848">Lunch Break</p> <p data-bbox="716 853 877 878">12:25 - 13:55</p> <p data-bbox="724 954 869 978">E - Keynote</p> <p data-bbox="716 983 877 1008">13:55 - 14:45</p>	<p data-bbox="1259 477 1276 501">H</p> <p data-bbox="1187 506 1348 530">09:00 - 11:05</p> <p data-bbox="1187 620 1348 645">Coffee Break</p> <p data-bbox="1187 649 1348 674">11:05 - 11:35</p> <p data-bbox="1195 701 1340 725">I - Keynote</p> <p data-bbox="1187 730 1348 754">11:35 - 12:30</p>
<p data-bbox="245 1086 403 1111">A - Keynote</p> <p data-bbox="245 1115 406 1140">15:00 - 16:00</p>	<p data-bbox="788 1115 805 1140">F</p> <p data-bbox="716 1144 877 1169">14:55 - 16:35</p>	
<p data-bbox="245 1171 406 1196">Coffee Break</p> <p data-bbox="245 1200 406 1225">16:00 - 16:30</p>	<p data-bbox="716 1234 877 1258">Coffee Break</p> <p data-bbox="716 1263 877 1288">16:35 - 17:05</p>	
<p data-bbox="317 1290 335 1314">B</p> <p data-bbox="245 1319 406 1344">16:30 - 18:10</p>	<p data-bbox="788 1355 805 1379">G</p> <p data-bbox="716 1384 877 1408">17:05 - 18:45</p>	
<p data-bbox="204 1476 448 1500">Welcome reception</p> <p data-bbox="245 1505 406 1529">18:15 - 19:45</p>		
	<p data-bbox="679 1727 914 1751">Conference Dinner</p> <p data-bbox="716 1756 877 1780">20:00 - 22:30</p>	

TUTORIALS, MEETINGS AND SOCIAL EVENTS

TUTORIALS - COMPSTAT 2022

The tutorials will take place in room Aula G, Plesso Belmeloro, in parallel with the invited, organized and contributed sessions. The first one is given by Prof. Peter Winker (*Introductionary tutorial to text mining in econometrics*), Tuesday 23.8.2022, 10:30 - 12:30. The second is given by Prof. Fabrizio Durante (*Tail dependence with copulas*), Thursday 25.8.2022, 09:00 - 11:00.

SPECIAL MEETINGS by invitation to group members

- IASC Executive Committee meeting, *Room: Aula G, Plesso Belmeloro*, Tuesday 23rd August 2022, 12:35-14:05.
- ERS BoD Meeting, *Room: Aula G, Plesso Belmeloro*, Wednesday 24th August 2022, 12:35-14:05.
- IASC and ERS General Assembly, *Room: Aula G, Plesso Belmeloro*, Thursday 25th August 2022, 17:50-18:50.

SOCIAL EVENTS - COMPSTAT 2022

- *The coffee breaks* will take place in the ground-level Hall of Plesso Belmeloro, building A. You must have your conference badge in order to attend the coffee breaks.
- *Sandwich Lunch Boxes* will be available 23-26 August 2022 for those who had booked. The lunches are optional and registration is required. Information about the purchased lunch tickets is embedded in the QR code on the conference badge. You must have your conference badge in order to get your lunch each day in the ground-level Hall of Plesso Belmeloro, building A. People not registered for lunch can buy lunch at restaurants and cafes in close walking distance to the conference venue.
- *Welcome Reception, Tuesday 23rd August 2022t, 19:10-20:40*. The Welcome Reception will take place at the Palazzo Poggi, and is open to all registrants who had preregistered and accompanying persons who have purchased a reception ticket. Participants must bring their conference badges in order to attend the reception. Preregistration is required due to health and safety reasons.
- *Food Walking Tour, Wednesday 24th August 2022, 16:30-19:00*. Walking tour through the streets of Bolognas market, tasting local specialities and discovering curiosities about Bolognese food. This tour will allow everyone to explore the gastronomy of Bologna with a walk inside the Quadrilatero market, the real beating heart of local products. Duration: 2 hours 30 minutes. The visit is optional, and registration is required. Participants must bring their conference badges in order to attend the event. Information about the booking is embedded in the QR code on the conference badge. The meeting point is the the entrance of the Palazzo Poggi at Via Zamboni.
- *Conference Dinner, Thursday 25th August 2022, 19:30-22:30*. The conference dinner will take place at the Royal Hotel Carlton. It is optional and registration is required. Before the dinner, there will be a reception in the garden. Participants must bring their conference badges in order to attend the conference dinner. Information about the dinner booking is embedded in the QR code on the conference badge.

SOCIAL EVENTS - SDS 2022

- *The coffee breaks* will take place in room Aula 2, ground floor of the Department of Statistical Sciences "Paolo Fortunati". You must have your SDS 2022 badge in order to attend the coffee breaks.
- *Welcome Reception, Friday 26th August 2022,, 18:15-19:45*. The Welcome Reception will take place in the inner garden of the Department of Statistical Sciences "Paolo Fortunati". It is free for all registrants. Registrants must bring their badges in order to attend the reception.
- *Satellite Workshop Dinner, Saturday 27th August 2022, 20:00-22:30*. The SDS 2022 dinner is optional and registration is required. It will take place at 'the Royal Hotel Carlton. SDS 2022 registrants must bring their conference badges in order to attend the dinner.

GENERAL INFORMATION (see maps on the next pages)

Address of venues

The Conference venue is the Plesso Belmeloro of the University of Bologna, via Beniamino Andreatta 14, Bologna, Italy. The satellite events SDS venue is the Department of Statistical Sciences “Paolo Fortunati”, University of Bologna, via delle Belle Arti, n.41, 40126 Bologna, Italy Alexandru I.

Registration

The registration will be open during the conference days from 08:40 to 17:00 and will take place in the ground-level Hall of Plesso Belmeloro, building A. On Friday 26th August at 13:00, it will be moved to room Aula 2 on the ground floor of the Department of Statistical Sciences “Paolo Fortunati”.

Presentation instructions

The opening, keynote and closing talks will take place in room Aula B. The COMPSTAT parallel sessions will take place in rooms Aula B, C, D, E, F, G, H, I and Q. In-person participants can use room Aula P as a quiet room to attend virtual sessions from their own devices. The poster sessions will take place online, but in-person participants are invited to meet in Aula P with their own laptops for related discussions. The virtual presentations will take place through Zoom. Speakers should have a stable internet connection, and ensure their video and audio are working. They will share their slides when the chair requires it, present their talk, and answer questions after the presentation. The in-person speakers must share presentations through the Zoom session open on the desktop in the conference rooms. The rooms have a webcam, and an omnidirectional desk microphone that collects the sound around the PC desk to make the live streaming easy. Detailed indications for speakers in either virtual or hybrid sessions can be found on the website. As a general rule, each speaker has 20 minutes, including 2-3 minutes for discussion. Strict timing must be observed.

Posters

The poster sessions will take place through Gather Town. The posters should be sent in png format to info@compstat2022s.org by the 19th of August. Landscape orientation is advisable. Detailed indications for the poster presentations can be found on the website.

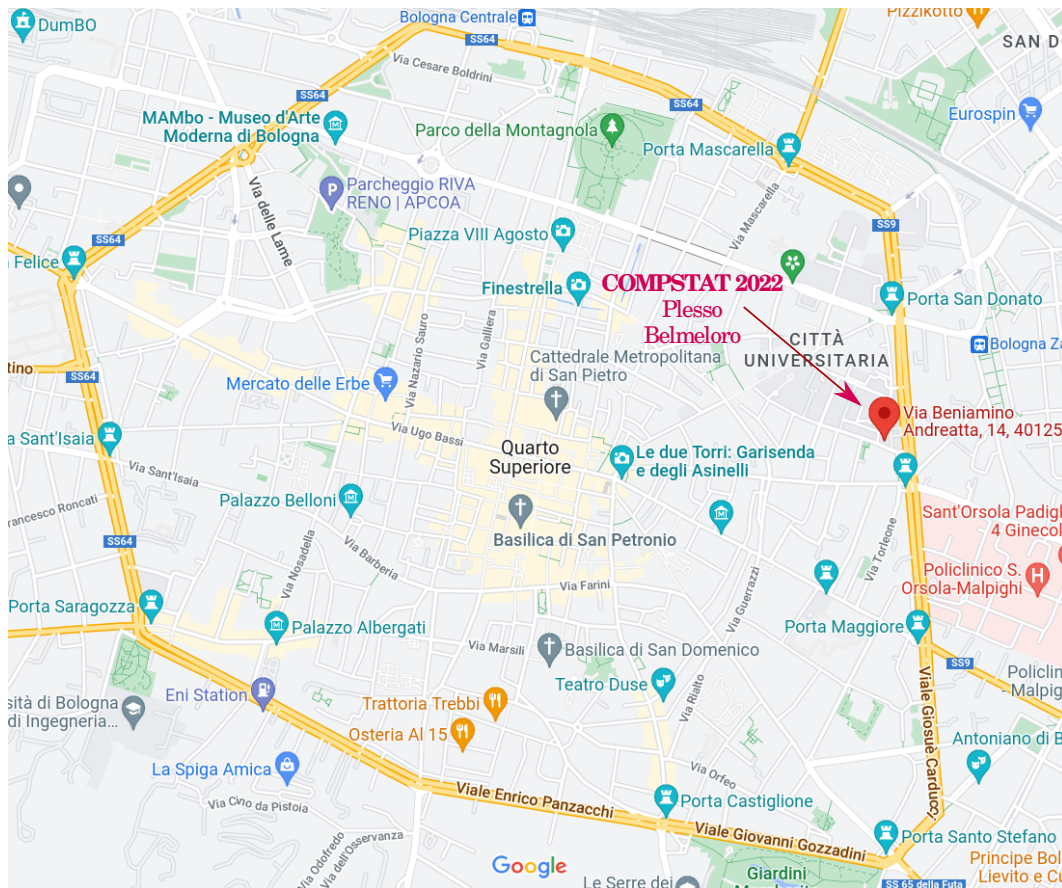
Session chairs

The session chairs will be responsible for introducing the session, the speakers and coordinating the discussion time. A member of the conference staff, identified on Zoom by the name Angel followed by a number, will assist online. If any speaker is missing or has a technical problem, the chair can pass to the next speaker and come back later to resume if possible. Detailed indications for the session chairs of both virtual and hybrid sessions can be found on the website.

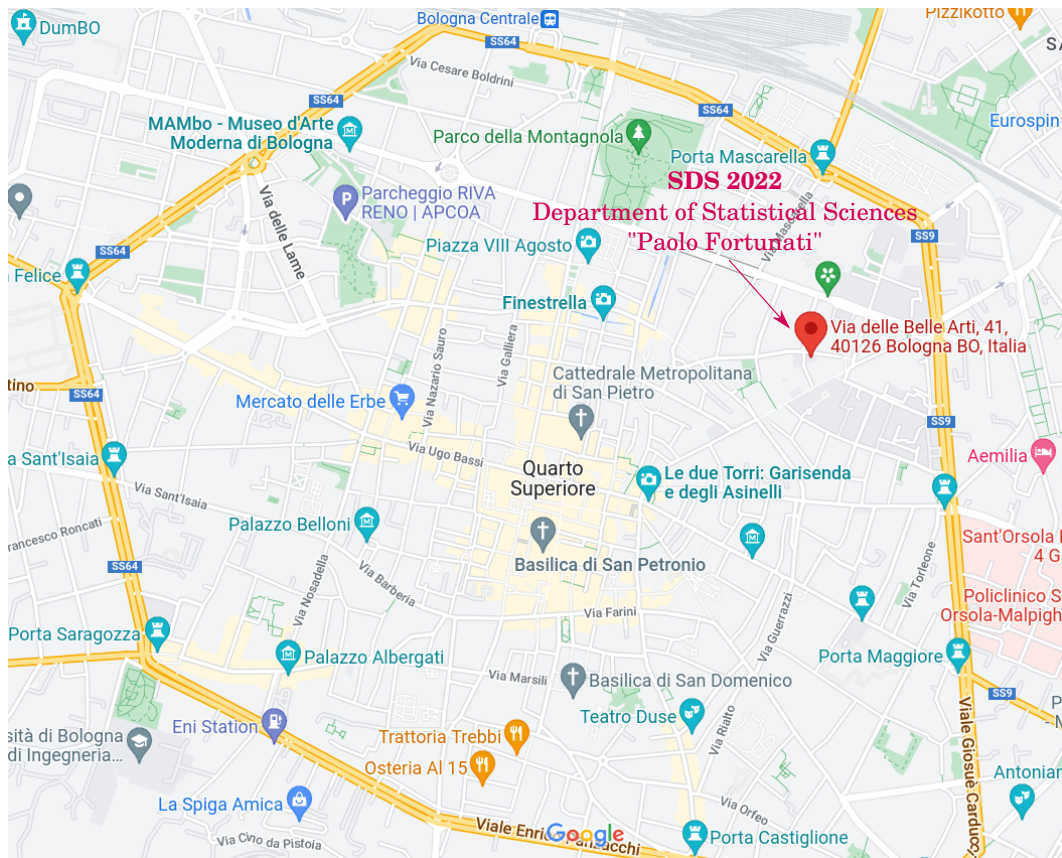
Test session

A test session will be set up for Saturday 20th August 2022, from 15:00 to 15:30 GMT+2. The participants will be able to enter the virtual room Aula B in the programme to test their presentations, video, micro and audio. Detailed indications for the test sessions can be found on the website.

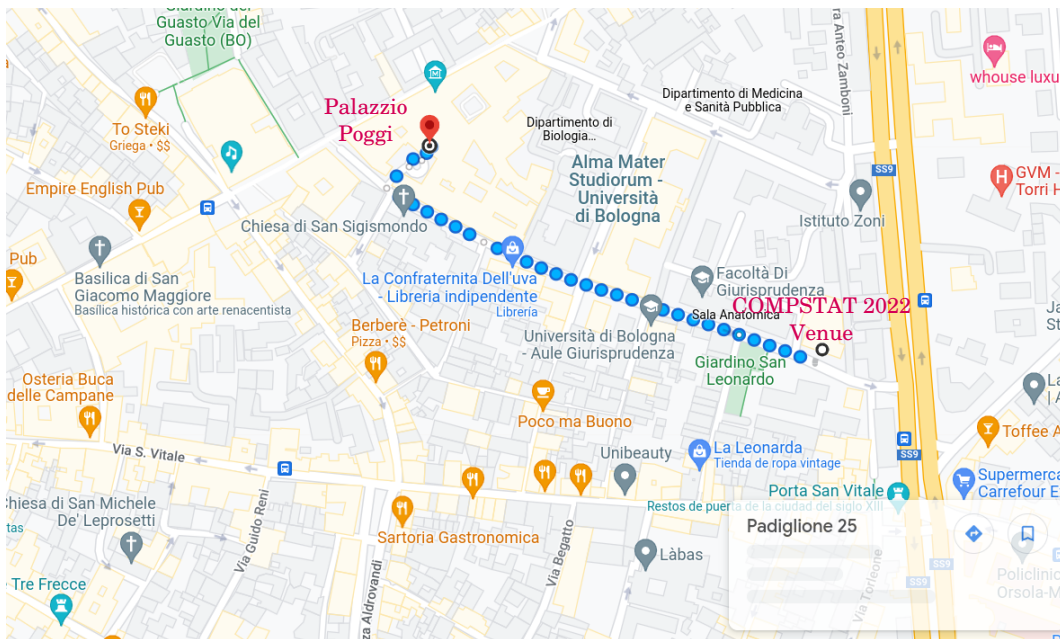
Map of the COMPSTAT venue



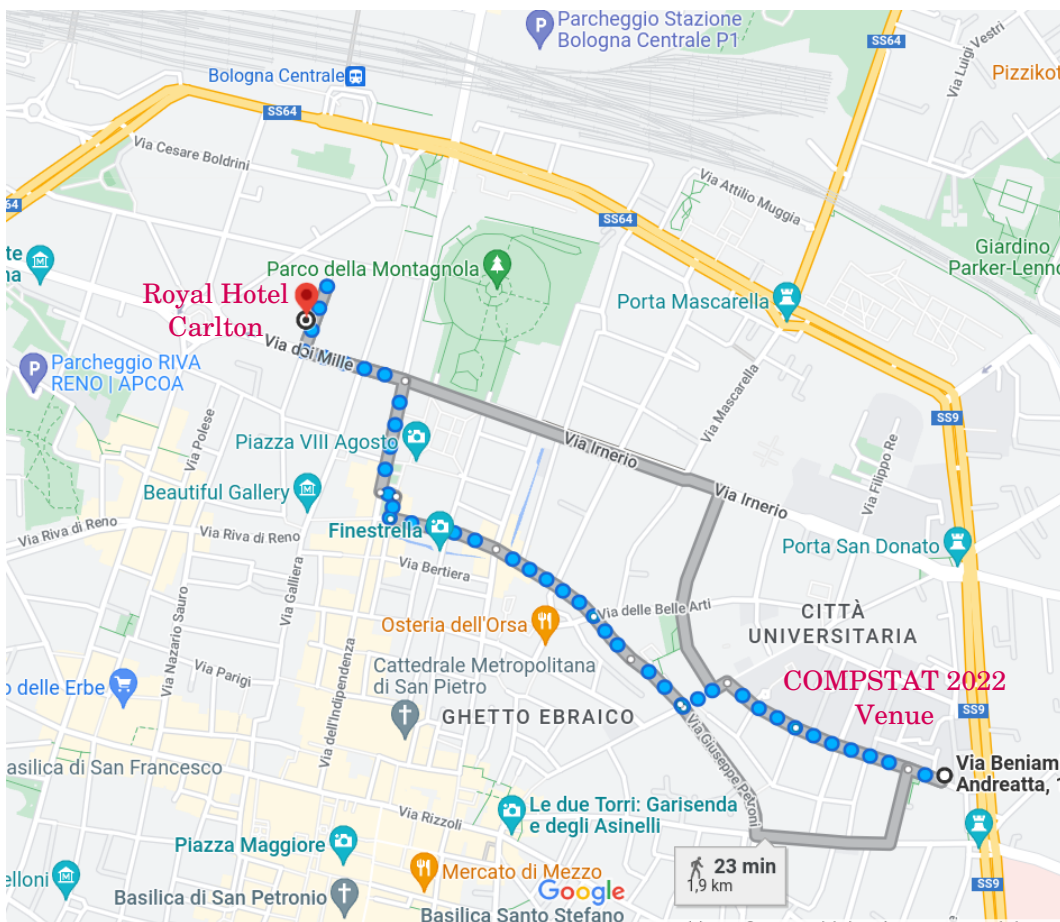
Map of the SDS venue and SDS welcome reception



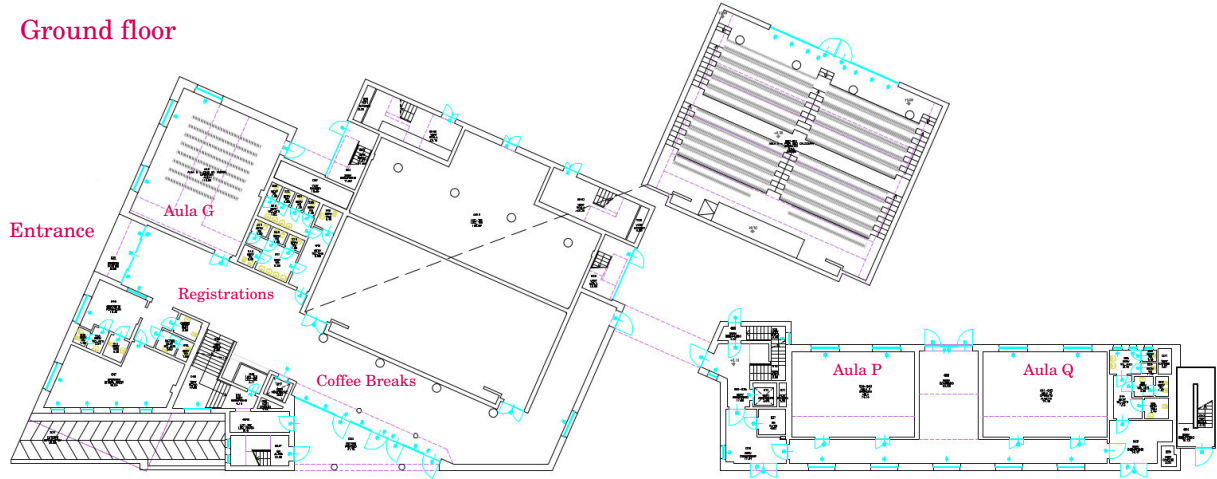
Map of the COMPSTAT welcome reception (5 minutes)



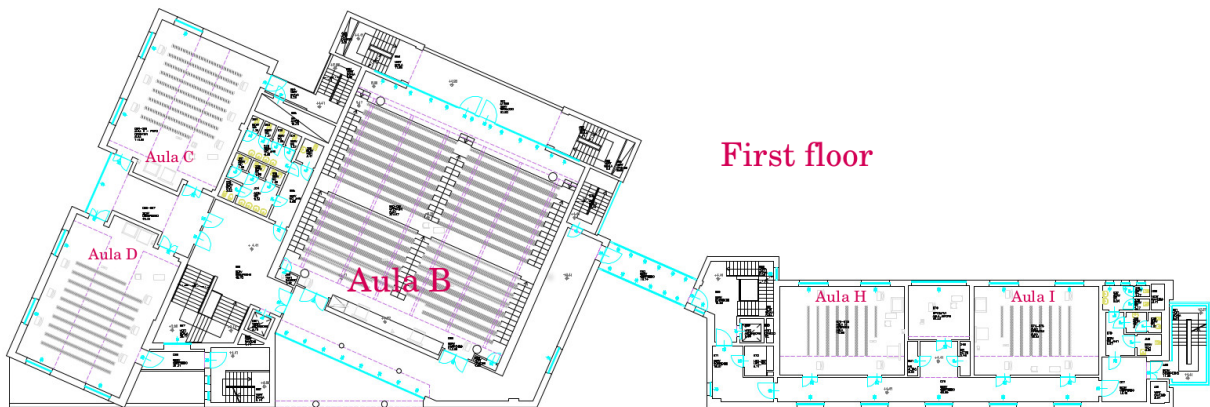
Map of the COMPSTAT and SDS conference dinners (20 minutes)



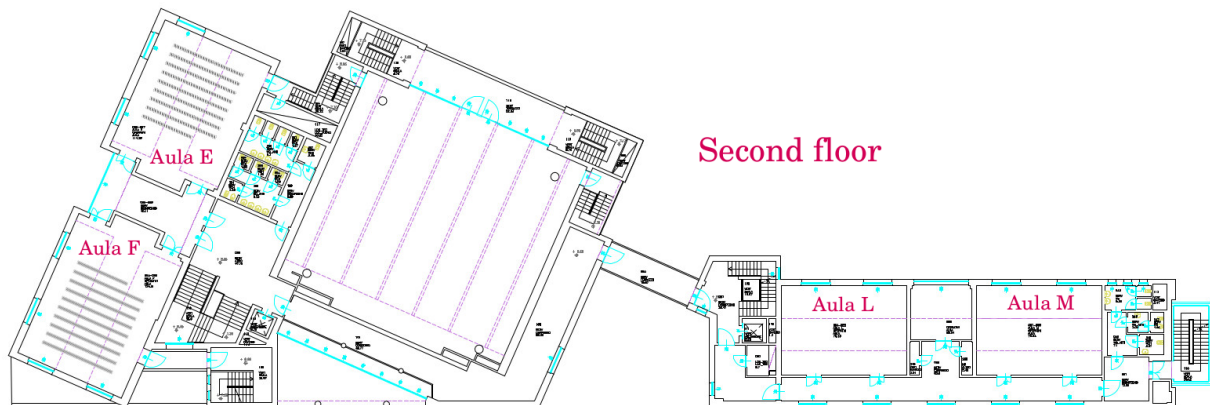
COMPSTAT venue - Plesso Belmeloro, Ground Floor



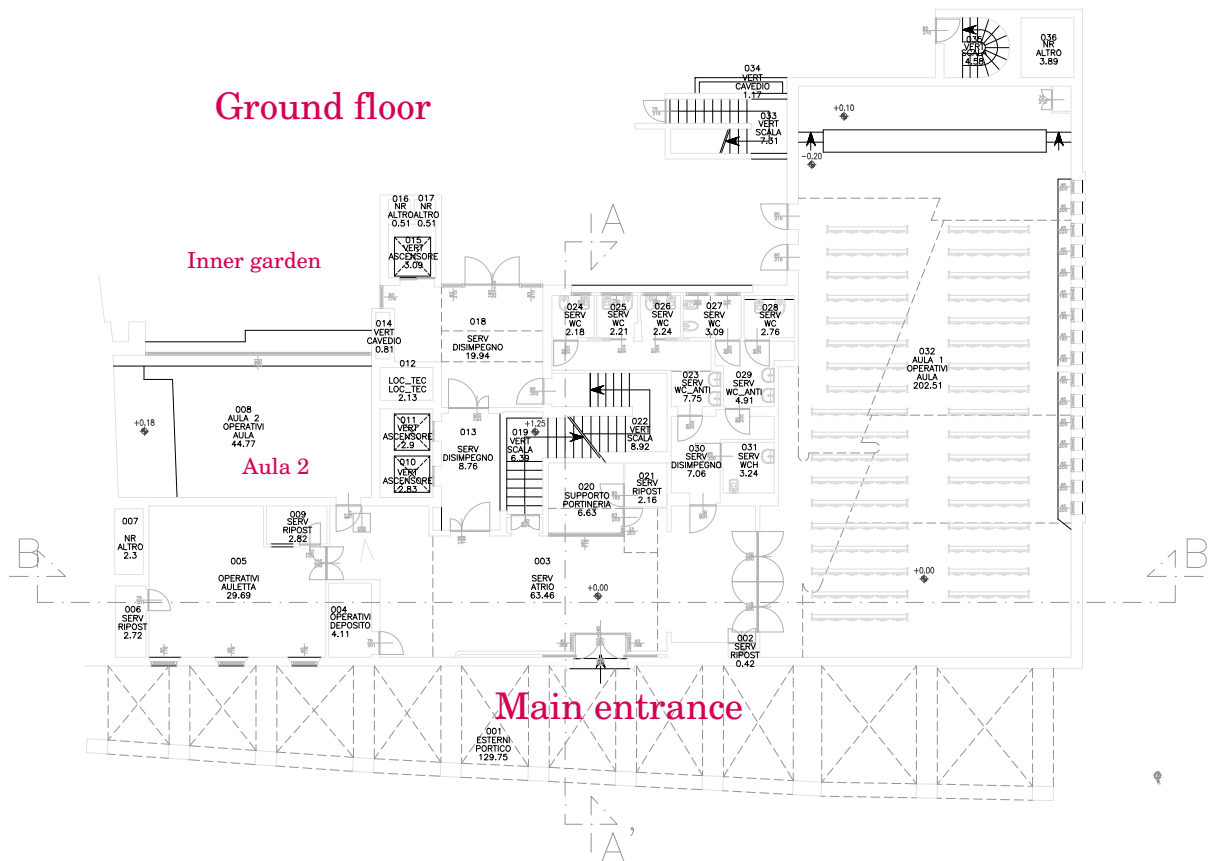
COMPSTAT venue - Plesso Belmeloro, First Floor



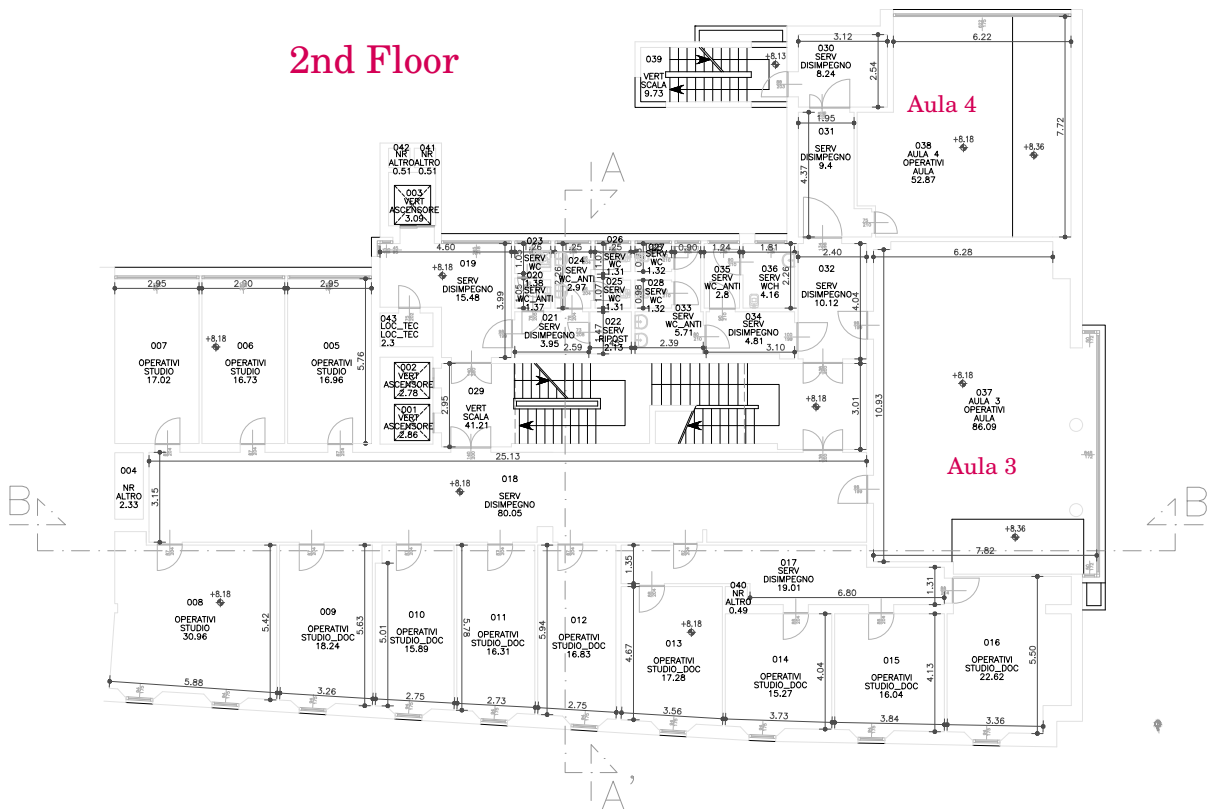
COMPSTAT venue - Plesso Belmeloro, Second Floor



SDS venue - Department of Statistical Sciences "Paolo Fortunati", Ground Floor



SDS venue - Department of Statistical Sciences "Paolo Fortunati", Second Floor



Keynote talk 1	Tuesday 23.08.2022	09:00 - 10:00
ARE DEVIATIONS IN A GRADUALLY VARYING MEAN RELEVANT?		
Speaker: Holger Dette, Ruhr-Universitaet Bochum, Germany		
Keynote talk 2	Thursday 25.08.2022	11:30 - 12:20
TESTING THE EXISTENCE OF MOMENTS AND ESTIMATING THE TAIL INDEX OF AUGMENTED GARCH PROCESSES		
Speaker: Jean-Michel Zakoian, CREST, France		
Keynote talk 3	Friday 26.08.2022	12:10 - 13:15
LEARNING AND PREDICTION VIA HIERARCHIES OF RANDOM MEASURES IN BAYESIAN NONPARAMETRICS		
Speaker: Igor Pruenster, Bocconi University, Italy		
Parallel Session B – COMPSTAT2022	Tuesday 23.08.2022	10:30 - 12:30
CI013 SMALL AREA ESTIMATION (Room Aula B)		
CO166 TUTORIAL I (Room Aula G)		
CO073 STATISTICAL ANALYSIS IN FINITE AND INFINITE DIMENSIONAL HILBERT SPACES (Room Aula D)		
CO142 ALGEBRAIC STATISTICS (Room Aula Q)		
CC158 TIME SERIES (Room Aula C)		
CC151 BAYESIAN STATISTICS (Room Aula H)		
CC215 CLASSIFICATION (Room Aula I)		
CC159 ALGORITHMS AND COMPUTATIONAL METHODS (Room Aula E)		
CC220 COMPUTATIONAL AND FINANCIAL ECONOMETRICS II (Room Aula F)		
Parallel Session C – COMPSTAT2022	Tuesday 23.08.2022	14:15 - 15:45
CI007 BOOTSTRAP AND RESAMPLING IN CLUSTER ANALYSIS (Room Aula Q)		
CO115 LATENT VARIABLE AND PSYCHOMETRIC MODELLING (VIRTUAL) (Room Virtual Room R1)		
CO105 ISBA SESSION: APPLIED COMPUTATIONAL BAYES (VIRTUAL) (Room Aula B)		
CO017 ANALYSIS OF RANKING DATA (Room Aula C)		
CO033 SOME ADVANCES IN MULTIVARIATE AND FUNCTIONAL STATISTICS (Room Aula D)		
CO125 STATISTICAL ANALYSIS OF NETWORKS: APPLICATIONS IN CYBER-SECURITY (Room Aula I)		
CO045 NOVEL STATISTICAL METHODS FOR CENSORED AND SKEW DATA (Room Aula E)		
CC162 PARAMETRIC INFERENCE (Room Aula G)		
CC157 APPLIED STATISTICS AND DATA ANALYSIS (Room Aula H)		
CC219 FEATURE SELECTION AND VARIABLE IMPORTANCE (Room Aula F)		
Parallel Session D – COMPSTAT2022	Tuesday 23.08.2022	16:15 - 17:45
CV193 APPLIED STATISTICS (VIRTUAL) (Room Aula B)		
CI015 BAYESIAN AND COMPUTATIONAL EXTREME VALUE ANALYSIS (Room Aula F)		
CO131 ANALYSIS OF COMPLEX REAL LIFE DATA (Room Aula G)		
CO031 STATISTICAL TEXT MINING (Room Aula C)		
CO123 STATISTICAL ANALYSIS OF NETWORKS (Room Aula D)		
CO103 STATISTICAL METHODS FOR SURVIVAL DATA (Room Aula I)		
CO176 DIMENSION REDUCTION IN RECENT CROSS SECTIONAL AND TIME SERIES METHODS (Room Aula Q)		
CO095 STATISTICAL LEARNING IN PRACTICE (Room Aula E)		
CC160 MACHINE LEARNING AND DATA SCIENCE (Room Aula H)		
Parallel Session E – COMPSTAT2022	Tuesday 23.08.2022	17:55 - 18:55
CO085 APPLIED DATA SCIENCE AND STATISTICAL LEARNING (Room Aula D)		
CO164 BIOMEDICAL RESEARCH ON BIOMARKERS: METHODS & APPLICATIONS (VIRTUAL) (Room Aula H)		
CO146 IFCS SESSION: ASSESSMENT OF CLUSTER STABILITY AND PHYLOGENETIC INFERENCE (Room Aula Q)		
CO109 DYNAMIC MODELS FOR DISCRETE TIME SERIES AND LONGITUDINAL DATA (Room Aula E)		
CO180 COMPUTATIONAL STATISTICS FROM THE LENS OF YOUNG RESEARCHERS II (Room Aula F)		
CC223 FORECASTING (Room Aula G)		
CC230 STATISTICAL MODELLING AND INFERENCE (Room Aula B)		
CC229 MISSING DATA (Room Aula C)		
CC217 MIXED MODELS AND APPLICATIONS (Room Aula I)		
Parallel Session F – COMPSTAT2022	Wednesday 24.08.2022	09:00 - 10:30
CV191 SEMI- AND NONPARAMETRIC METHODS (VIRTUAL) (Room Aula B)		
CI009 NON-REGULAR STATISTICAL ANALYTICS FOR NON-NORMAL DATA (Room Aula G)		
CO063 COPULA MODELS AND APPLICATIONS (Room Aula C)		
CO069 INFERENCE FOR FUNCTIONAL DATA (Room Aula D)		
CO059 ADVANCES IN LATENT VARIABLE MODELS I (VIRTUAL) (Room Aula Q)		
CC222 BIostatISTICS AND APPLICATIONS (Room Aula H)		
CC152 ROBUST METHODS I (Room Aula I)		
CC213 MODEL-BASED CLUSTERING (Room Aula E)		
CC218 DESIGN OF EXPERIMENTS (Room Aula F)		
CP001 POSTER SESSION I (Room Virtual Posters Room I)		
Parallel Session G – COMPSTAT2022	Wednesday 24.08.2022	11:00 - 12:30
CV197 STATISTICAL MODELLING AND INFERENCE (VIRTUAL) (Room Aula Q)		
CI011 MULTISTATE MODELS AND INTERMEDIATE EVENTS (Room Aula F)		
CO057 BAYESIAN TIME SERIES NOVELTY (VIRTUAL) (Room Aula B)		
CO097 SPORTS STATISTICS (Room Aula C)		
CO170 VOLATILITY MODELS (Room Aula D)		
CO091 ADVANCES IN LATENT VARIABLE MODELS II (VIRTUAL) (Room Aula I)		
CC212 DATA DEPTH (Room Aula G)		
CC209 TEXT MINING (Room Aula H)		
CC208 CHANGE-POINT DETECTION (Room Aula E)		
Parallel Session H – COMPSTAT2022	Wednesday 24.08.2022	14:15 - 16:15
CV195 ALGORITHMS AND COMPUTATIONAL METHODS (VIRTUAL) (Room Aula B)		
CO029 DEPENDENCE MODELS (Room Aula G)		
CO140 COMPUTATIONAL STATISTICS: THEORY AND APPLICATIONS (Room Aula C)		
CO049 OPTIMAL EXPERIMENTAL DESIGN AND APPLICATIONS (Room Aula H)		
CO183 STOCHASTIC MODELS FOR DYNAMICAL SYSTEMS: METHODS AND COMPUTATIONS (Room Aula E)		
CC161 STATISTICAL MODELLING (Room Aula D)		
CC211 MIXTURE MODELS (Room Aula I)		
CC155 SEMI- AND NONPARAMETRIC METHODS (Room Aula Q)		
CC207 SPATIAL STATISTICS (Room Aula F)		
Parallel Session I – COMPSTAT2022	Thursday 25.08.2022	09:00 - 11:00
CV194 TIME SERIES (VIRTUAL) (Room Virtual Room R1)		
CO168 TUTORIAL II (Room Aula G)		
CO067 RECENT DEVELOPMENT IN THE NETWORK DATA ANALYSIS (VIRTUAL) (Room Aula B)		

CO129 PIONEERING NEW FRONTIERS IN DISTRIBUTION AND MODELING (Room Aula E)
 CC150 CLUSTERING AND CLASSIFICATION (Room Aula C)
 CC154 COMPUTATIONAL AND FINANCIAL ECONOMETRICS I (Room Aula D)
 CC216 FUNCTIONAL DATA ANALYSIS (Room Aula H)
 CC214 ROBUST METHODS II (Room Aula I)
 CC221 DIMENSION REDUCTION (Room Aula Q)
 CC203 STATISTICS AND DATA SCIENCE (Room Aula F)

Parallel Session K – COMPSTAT2022**Thursday 25.08.2022****14:15 - 15:45**

CV226 CLUSTERING AND CLASSIFICATION II (VIRTUAL) (Room Aula G)
 CI005 ROBUST STATISTICS (Room Aula F)
 CO047 STATISTICAL METHODS FOR STATISTICALLY CHALLENGING DATA (VIRTUAL) (Room Aula B)
 CO043 ASSOCIATION, DEPENDENCE AND COPULAS (Room Aula D)
 CO053 NON-PROPORTIONAL HAZARDS IN SURVIVAL DATA (Room Aula H)
 CO178 COMPUTATIONAL STATISTICS FROM THE LENS OF YOUNG RESEARCHERS I (Room Aula Q)
 CO101 ECONOMETRICS METHODS FOR HIGH DIMENSIONAL DATA ANALYSIS (Room Aula E)
 CC156 HIGH-DIMENSIONAL STATISTICS I (Room Aula C)
 CC233 COMPUTATIONAL STATISTICS AND APPLICATIONS (Room Aula I)
 CP205 POSTER SESSION II (Room Virtual Posters Room II)

Parallel Session L – COMPSTAT2022**Thursday 25.08.2022****16:15 - 17:45**

CV196 MACHINE LEARNING (VIRTUAL) (Room Aula B)
 CI107 CAUSALITY AND DISTRIBUTIONAL ROBUSTNESS (VIRTUAL) (Room Aula F)
 CO138 HEAVY-TAILED DISTRIBUTIONS FOR FINANCIAL MODELING (Room Aula G)
 CO027 SURVEY SAMPLING (Room Aula C)
 CO025 NEW INSIGHTS IN ROBUST METHODS OF INFERENCE (Room Aula D)
 CO136 RECENT DEVELOPMENTS IN HIGH-DIMENSIONAL STATISTICS (Room Aula I)
 CO055 BIOSSTATISTICS AND BIOCOMPUTING (Room Aula Q)
 CO119 ADVANCES IN K-MEANS AND CLUSTERING ENSEMBLE METHODS (Room Aula E)
 CC135 MULTIVARIATE DATA ANALYSIS I (Room Aula H)

Parallel Session M – COMPSTAT2022**Friday 26.08.2022****09:00 - 10:30**

CV190 COMPUTATIONAL AND FINANCIAL ECONOMETRICS III (Room Aula H)
 CV227 REGRESSION MODELS (Room Aula I)
 CO051 IASC-ARS SESSION: COMPUTATIONS FOR CATEGORICAL DATA (VIRTUAL) (Room Aula G)
 CO037 CLUSTERING METHODS AND COPULA FUNCTION (Room Aula C)
 CO148 EARLY CAREER ADVICE FOR STATISTICIANS IN THE COMPUTATIONAL SCIENCES (Room Aula D)
 CO035 RECENT DEVELOPMENTS OF VARIATIONAL APPROXIMATIONS (Room Aula F)
 CC231 TIME SERIES AND FINANCIAL ECONOMETRICS (Room Aula B)
 CC210 GRAPHICAL MODELS AND NETWORKS (Room Aula Q)
 CC228 MULTIVARIATE DATA ANALYSIS II (Room Aula E)

Parallel Session N – COMPSTAT2022**Friday 26.08.2022****11:00 - 12:00**

CV202 SURVIVAL ANALYSIS (VIRTUAL) (Room Aula G)
 CV186 CLUSTERING AND CLASSIFICATION I (VIRTUAL) (Room Virtual Room R1)
 CV199 MULTIVARIATE DATA ANALYSIS (VIRTUAL) (Room Aula C)
 CI099 DATA VISUALIZATION AND MODEL SELECTION (Room Aula F)
 CO075 COMPUTATIONAL STATISTICS FOR APPLICATIONS (Room Aula D)
 CO174 GEOSTATISTICS (Room Aula H)
 CO065 RESEARCH METRICS FOR INSTITUTIONAL PERFORMANCE EVALUATION (VIRTUAL) (Room Aula I)
 CO127 MATHEMATICAL AND STATISTICAL METHODS FOR ECONOMICS AND FINANCE (Room Aula Q)
 CC232 HIGH-DIMENSIONAL STATISTICS AND MODEL ASSESSMENT (Room Aula B)
 CC224 LONGITUDINAL DATA (Room Aula E)