Programs

Students choose between attending for one week or two. For the first week a student can choose one course from block 1 and one from block 2, OR choose the course offered in block 3. For the second week, students choose one course from block 4 and one from block 5, OR choose the course offered in block 6. No afternoon sessions will be held on Saturdays. Stata® is the statistical software used in most courses. The Sunday Stata® courses are extra courses, and independent of courses from other blocks.

June 2			
Stata® Courses 1 (9:00-17:00)			
Basics of Stata	Meta-analysis with Stata	Data Visualization with Stata	Analysis of Prospective Studies using Stata
June 3 - 8			
Block 1 (8:30-10:30, 14:00-15:30)			
Principles of Biostatistics	Linear Regression for Medical Research	Causal Inference in Epidemiology	
Block 2 (11:00-13:00, 16:00-17:30)			
Principles of Epidemiology	Logistic Regression for Medical Research	Mediation Analysis	
Block 3 (8:30-17:30)			
Big Data Analytics in Healthcare: Value, Effectiveness and Safety*			
June 9			
Stata® Courses 2 (9:00-17:00)			
Basics of Stata	Epi tables using Stata	Simulations studies in Stata	Multiple Imputation with Stata
June 10 - 15			
Block 4 (8:30-10:30, 14:00-15:30)			
Research Methods in Health: Biostatistics	Longitudinal Data Analysis	Molecular Epidemiology	Monitoring and Evaluating Complex Public Health and Social Interventions
Block 5 (11:00-13:00, 16:00-17:30)			
Research Methods in Health: Epidemiology	Survival Analysis	Nutritional Epidemiology: Principles and Application to Cancer	Joint Modelling of Longitudinal and Survival Data
Block 6 (8:30-17:30)			
Statistical Methods for Population Based Cancer Survival Analysis			

*** This course can also be taken in its second part only, starting from Thursday (further information on the website).**

Registration Fee

The registration fee covers only the course tuition. The final deadline for registration is 31st of May 2019. Fees depend on: the number of course weeks; the timing of enrolment; and, whether the applicant is currently a student at an accredited university, or not.

	Registration before 24th of March 2019		Registration after 24th of March 2019	
	Student	General	Student	General
1 week	1250 €	1450 €	1450 €	1650 €
2 weeks	2300 €	2700 €	2600 €	3000 €

Standard fee for Stata® courses is 400 €, except Summer School students pay a fee of 250 € per course.

Scholarships

A limited number of scholarships are available for accredited university students. Students from EU or North America are not eligible for scholarships. Deadline for application is 3rd of February 2019. Scholarships cover at most half of the tuition cost, and no other expenses. Please see the application form for more information.

Accommodations

Standard lodging expenses in a double room are 110-125€ per person, per day, including all meals. More information can be found in the course application form and in the hotel accommodation form in the application section of the website.

Summer School Administration

Francesca Ghilotti

Department of Medicine, Karolinska Institutet

Cecilia Damiano

Department of Statistics and Quantitative Methods,

University of Milano-Bicocca

E-mail: bioepiedu@ki.se

Website: www.biostatepi.org

Tel. +393200321345

Mailing address:

BiostatEpi, via San Gerardo 5

20900 Monza (MB), Italy

Summer School on Modern Methods in Biostatistics and Epidemiology

2-15 June 2019

CISON DI VALMARINO-TREVISO, ITALY
CASTELLO BRANDOLINI COLOMBAN

The School is held in the Brandolini Colomban Castle located in Cison di Valmarino, in the Northeast of Italy.

The School offers introductory and advanced courses in biostatistics and epidemiology, and their application to clinical and etiology research and public health.

The castle is a conference center with meeting, sporting, recreational and well-being facilities and yet, conducive to study. For more information, visit its homepage www.castelbrando.it

www.biostatepi.org

Goals and Rationale

The School offers introductory and advanced courses in medical statistics and epidemiology, and their application to clinical and etiology research and public health.

Modern medical research is becoming increasingly formalized. Today researchers, physicians and health professionals are encouraged to use scientific data, including controlled experiments and well-structured observational data as the source for decision making. Evidence based medicine is entering into many subspecialties, including public health science.

This School provides participants insight into available analytical tools for planning research, handling data and interpreting results. Better understanding of scientific medical papers is also a goal and it requires not only knowledge of the topic being investigated but also an understanding of the research methods being used.

Week-long, Full-day Courses

Big Data Analytics in Healthcare: Value, Effectiveness and Safety – S. Schneeweiss, and E. Patorno, Core faculty: Krista Huybrechts

Large longitudinal healthcare databases are important tools for studying the utilization and clinical effectiveness of medical products and interventions in routine care. Participants will learn to use longitudinal databases for effectiveness research with modern epidemiologic methods through lectures and computer labs using the Aetion platform.

Statistical Methods for Population Based Cancer Survival Analysis – P. Dickman and P. Lambert

The course covers central concepts, such as how to estimate and model relative survival, cure models, flexible parametric models, loss in expectation of life, and estimation in the presence of competing risks.

Week-long, half-day Courses

Causal Inference in Epidemiology – N. Jewell

Causal inference from observational data is a key task of biostatistics and of allied sciences. These disciplines share a methodological framework for causal inference that has been developed over the last decades. This course presents this unifying causal theory and shows how biostatistical concepts and methods can be understood within this general framework.

Monitoring and Evaluating Complex Public Health and Social Interventions – E. Savoia and M. Pagano

Individuals working within the field of public health and social programs must be able to monitor and assess the effectiveness of existing interventions. This course will train students to gather skills in applying evaluation frameworks and methods to real practice interventions.

Joint Modelling of Longitudinal and Survival Data – M. Crowther

This week-long course will provide an introduction to the joint modelling of longitudinal and survival data through real applications to clinical trial data and electronic health records, describing the methodological framework, underlying assumptions, estimation, model building and predictions.

Linear Regression for Medical Research - R. Bellocco

This introductory course teaches students how to apply and use linear regression models with continuous and categorical predictors. Topic: Interpretation of the estimates, diagnostic and goodness of fit, confounding and interaction, modeling strategies.

Logistic Regression for Medical Research - D. Wypij

This course introduces to the practice and application of logistic regression modeling. Topics: assessment of confounding and effect modification, use of indicator variables, models building methods, goodness-of-fit assessment.

Longitudinal Data Analysis - G. Fitzmaurice

This course focuses on methods for analyzing longitudinal and repeated measures data. This type of study design encompasses epidemiological follow-up studies as well as clinical trials.

Mediation Analysis - A. Bellavia

Mediation analysis evaluates the social and biological pathways by which causal effects operate. This course will introduce traditional and new methods for mediation analysis, with particular emphasis on its implementation and applications in epidemiology and the social sciences.

Molecular Epidemiology – L. Mucci

This course focuses on key biomarkers and principles in molecular epidemiology studies. We will examine markers including genome wide association studies, tissue biomarkers, metabolomics, and the transcriptome. Emphasis is on study design strategies, validity, and publicly available data resources. We will use examples from cancer epidemiology to illustrate key concepts.

Nutritional Epidemiology: Principles and Applications to Cancer – M. Song

This course provides an overview of the key principles and methods of nutritional epidemiology in studying the relation of diet and disease. It highlights the substantive applications of the principles to cancer.

Principles of Epidemiology - E. Mostofsky

This course provides an introduction to the skills needed by public health professionals and clinicians to critically interpret the epidemiological literature.

Principles of Biostatistics – M. Pagano

Introduces the fundamental principles of statistics applied to biomedicine. The course covers the three tenets of biostatistics: how to handle variability, including descriptive statistics; an introduction to inference (population statements based on a sample from that population); and the use of probability to quantify uncertainty, including diagnostic tests.

Research Methods in Health: Biostatistics - M. Bonetti

Students are introduced to more advanced methods for the comparison of outcome among groups, correlation and linear regression, contingency tables, and study design.

Research Methods in Health: Epidemiology - M. Mittleman

Principles of epidemiology introduced in week 1 will be explored in greater depth. Topics will mainly focus on chronic disease epidemiology, with special emphasis on causal inference and practical study design.

Survival Analysis - N. Orsini

The course introduces the concepts and methods for the analysis of survival data. Survival probabilities, rates, and percentiles will be estimated using non-parametric (Kaplan-Meier), parametric (Poisson), and semi-parametric models (Cox).

Stata® One-day Courses

Analysis of Prospective Studies with Stata®, - F.Ghilotti

This course introduces students to the analysis of cohort studies, managing person times, estimating counts and incidence rate ratios and fitting count regression models.

Basics of Stata® - B. Pongiglione (June 2nd), **F. Gallo** (June 9th)

This course is designed to introduce students to the basics of Stata®,. It will focus on the minimum set of commands everyone should know to organize their own work. Specific topics include data-management, data-reporting, graphics and basic use of do-files. By the end of this one-day course, the student should be capable of using Stata independently.

Data Visualization with Stata® - G. Capelli

An introduction to the logic and the strategies for visualizing data in Stata®, including issues in the choice of the graphic for different data and aims, and tips and tricks to prepare data for different graphical schemes. The power and flexibility of multiple "layers" in two-way Stata® panels will be exploited.

Epi Tables using Stata®, - A. Discacciati

This course teaches basic commands to estimate proportions and mean of binary and continuous outcomes, and create tables for measures of associations.

Meta-Analysis with Stata® - R. D'Amico

Covers Stata® commands for a variety of tasks: data preparation and input, fixed and random-effect models, forest plots, heterogeneity across studies, publications bias, sensitivity analysis, and meta-regression models.

Multiple Imputation using Stata® - N. Orsini

The course introduces the basics of multiple imputations, in particular imputation by chained equations. Students should have a background in regression methods prior to taking this course.

Simulation studies in Stata® – T. Morris

This course introduces simulation studies using a structured framework, and works through planning, coding, analysis and reporting. It is designed to enable practitioners to execute a simulation study for the first time but also includes content for more advanced practitioners.