PROGRAM

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 block 3. For the second week, choose one course from block 4 and one from block 5, OR choose 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.

<table>
<tr><th colspan="4">JUNE 4</th></tr>
<tr><td colspan="4">Stata Courses 1 (9:00-17:00)</td></tr>
<tr><td>Meta-analysis with Stata®</td><td>Basics of Stata®</td><td colspan="2">Analysis of prospective studies using Stata®</td></tr>
<tr><th colspan="4">JUNE 5-10</th></tr>
<tr><td colspan="3">Block 1
(8:30-10:30 Lecture, 14:00-15:30 Lab)</td><td>Block 3
(8:30-17:30)</td></tr>
<tr><td>Principles of Biostatistics</td><td>Linear Regression for Medical Research</td><td>Causal Inference in Epidemiology</td><td rowspan="3">Effectiveness Research with Longitudinal Healthcare Databases *</td></tr>
<tr><td colspan="3">Block 2
(11:00-13:00 Lecture, 16:00-17:30 Lab)</td></tr>
<tr><td>Principles of Epidemiology</td><td>Logistic Regression for Medical Research</td><td>Survival Analysis</td></tr>
<tr><th colspan="4">JUNE 11</th></tr>
<tr><td colspan="4">Stata Courses 2 (9:00-17:00)</td></tr>
<tr><td>Tables for Epidemiologists Using Stata®</td><td>Basics of Stata®</td><td>Multiple Imputation Using Stata®</td><td>Data Visualization with Stata®</td></tr>
<tr><th colspan="4">JUNE 12-17</th></tr>
<tr><td colspan="3">Block 4
(8:30-10:30 Lecture, 14:00-15:30 Lab)</td><td>Block 6
(8:30-17:30)</td></tr>
<tr><td>Research Methods in Health: Biostatistics</td><td>Mediation Analysis</td><td>Longitudinal Data Analysis</td><td rowspan="3">Monitoring and Evaluation of Public Health Programs: Systems Approaches and Techniques</td></tr>
<tr><td colspan="3">Block 5
(11:00-13:00 Lecture, 16:00-17:30 Lab)</td></tr>
<tr><td>Research Methods in Health: Epidemiology</td><td>Competing Risks for Survival Analysis</td><td>Flexible Modeling of Quantitative Predictors</td></tr>
</table>

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

REGISTRATION FEE

The registration fee includes only the course tuition. The final deadline for registration is 31st of May 2017. Fees depend on number of course weeks, the timing of enrolment, and whether the applicant is currently a student at an accredited university, or not.

	Registration before 28th of February 2017		Registration after 28th of February 2017	
	Student	General	Student	General
1 week	1200 €	1400 €	1400 €	1600 €
2 weeks	2200 €	2600 €	2500 €	2900 €

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

SCHOLARSHIPS AND DISCOUNTS

A limited number of (tuition only) scholarships are available for students enrolled in a degree program in a non-European country. Deadline for application is 31st of January, 2017. Please see our website for more information.

Returning students get a 10% discount on the tuition fee.

ACCOMODATION

Standard lodging expenses in a double room are 105-115€ 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.

Education Administration, Summer School

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SUMMER SCHOOL ON MODERN METHODS IN BIOSTATISTICS AND EPIDEMIOLOGY

4-17 JUNE 2017

CISON DI VALMARINO-TREVISO, ITALY
CASTELLO BRANDOLINI COLOMBAN

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

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

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

BIOSTATEPI.ORG

GOALS AND RATIONALE

The School offers introductory and advanced courses in medical statistics and epidemiology, and their application in 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. Examples include proper understanding of the meaning of a hazard ratio or a confidence interval and an understanding of the difference between a randomized controlled trial and a case control study.

WEEK-LONG COURSES

CAUSAL INFERENCE IN EPIDEMIOLOGY - A. SJÖLANDER
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.

COMPETING RISKS FOR SURVIVAL ANALYSIS - N. JEWELL
This course provides an understanding of competing risk methodology. Students will learn how to analyze all-cause mortality (or similar outcome) focusing on factors associated with a specific cause of death (eg cardiovascular death) while accommodating that other causes may be related to the cause of interest (and, for example may preclude observation of a cardiovascular death by occurring earlier).

EFFECTIVENESS RESEARCH WITH LONGITUDINAL HEALTHCARE DATABASES - S. SCHNEEWEISS, E. PATORNO
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.

FLEXIBLE MODELING OF QUANTITATIVE PREDICTORS - N. ORSINI
Aim of this course is to learn how to use flexible tools such as splines in a variety of regression models and study designs.
The emphasis is given on the interpretation and careful visualization of such analyses.

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 - L. VALERI
Mediation analysis concerns assessing the mechanisms and pathways by which causal effects operate. The course will cover the relationship between traditional methods for mediation in epidemiology and the social sciences and new methods in causal inference.

MONITORING AND EVALUATION OF PUBLIC HEALTH PROGRAMS: SYSTEMS APPROACHES AND TECHNIQUES -M. PAGANO, E. SAVOIA
Evaluation planning, survey development and validation techniques, testing methods, methods for evaluating sub-groups performance, comprehensive monitoring and evaluation are some of the topics covered.

PRINCIPLES OF BIOSTATISTICS - M. PAGANO
Introduces the fundamental principles of statistics applied to biomedicine. The topics to be covered include: descriptive statistics, measures of central tendency, probability, diagnostic testing, population and sample, comparison of proportions.

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.

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 survival data.

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 - P. DICKMAN
This course describes how epidemiological cohort studies can be analyzed in the framework of survival analysis.

Stata® ONE DAY COURSES

ANALYSIS OF PROSPECTIVE STUDIES USING Stata® - L. HONG
This course introduces student 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 4th), **F. GALLO** (June 11th)
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.

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® - G. DiTANNA
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.

TABLES FOR EPIDEMIOLOGISTS USING Stata® - A. DISCACCIATI
This course teaches basic commands to estimate the incidence of a binary response and create a table of univariate predictors.