

COURSE CALENDAR

Autumn 2017

Course	Venue	Class dates ¹	Type of course ²	Instructor	Course Objectives	Main Contents	ECTS
<i>Starting on September 2017</i>							
STATISTICS AND LABORATORY DATA ANALYSIS	UNITE	September 18, 19, 20, 25, 26 h.9,30-17,30	TS	Prof. BERNABO'	The course will allow ESRs to become familiar with the main funding programme for research in Europe. Nearly 90 Billion Euros to be used to support research activities and research networks in a global perspective (not just EU)	Probability: Definitions Calculation in operative conditions, Conditioned probability Descriptive statistic: Concept of distribution, Different kind of distributions, Normality tests Inferential statistic, Parametrical and non -parametrical tests for two samples or for more samples Concept of correlation and regression. Linear and non-linear regression, multiple regression. Introduction to multivariate techniques. Grouping, clustering.	5
<i>Starting on October 2017</i>							
NUTRIGENOMIC	UNITE	4 and 11 October	SR	Liborio STUPPIA/Marina LA ROVERE	This course will explore the science of nutrigenomics and focus on those plant and animal nutraceuticals, bioactives that provide important health, wellness and comfort benefits. Regulatory and labeling impact on functional food production will also be presented. The course will also investigate opportunities for commercial	Genetic variability and exposure to human diseases Metabolism of foods and nutrigenomic panels Genomics of obesity, diabets and eating disorders Epigenetic impacts of nutrition	2

¹ SR= Scientific & Research specific; TS= Transferable Skills; LC= Language Course

					development of functional and genotype-specific personalized foods and beverages of the future with focus on market-driving factors		
PRACTICAL COURSE OF FLUORESCENCE MICROSCOPY	UNITE (with the support of NIKON)	16-20 October 2017	SR	Valentina RUSSO/Angelo BALSAMO	<p>Imaging technologies are widespread in the life science laboratories today. Many biological questions may be addressed applying fluorescence microscopy and live imaging technologies. Advances in the available instruments and technologies are continuously evolving. The course will examine some of the cutting-edge technologies available today, through real-world examples provided by our panel of experts and with our co-sponsor Nikon will allow the setup of four imaging/analysis stations: confocal imaging, spinning disk imaging, time-lapse microscopy, image processing and quantitative analysis. To this end morning theoretical sessions will provide the necessary background and afternoon practical sessions will permit hands-on experience on state-of-the-art instruments.. It is expected that the participants at the end of the Course will be capable of applying fluorescence microscopy and live cell imaging to their experimental needs</p>	<p>16/10/2017 Bright Field and Fluorescence Microscopy: basic principles Valentina Russo – Angelo Balsamo 10.30 – 12.30 Microscopy Working Stations Hands-on 14.00 – 17.00</p> <p>17/10/2017 Live Cells Microscopy: Imaging and Time-Lapse Inverted Microscope: basic principles Pietro Cirigliano – Angelo Balsamo 10.30 – 12.30 Imaging solution Pietro Cirigliano – Angelo Balsamo 14.00 – 17.00</p> <p>18/10/2017 Live Cells Microscopy: Imaging and Time-Lapse Microscopy Working Stations Hands-on Pietro Cirigliano 9.00 – 12.30</p> <p>19/10/2017 Setup and technology of a Confocal Microscope Giacomo Cozzi 10.30 – 12.30 Microscopy Working Stations Hands-on Giacomo Cozzi 14.00 – 17.00</p> <p>20/10/2017 Setup and technology of a Confocal Microscope Microscopy Working Stations Hands-on Giacomo Cozzi 9.00 – 12.30</p>	3
<i>Starting on November 2017</i>							
LABORATORY OF MOLECULAR BIOLOGY: FOCUS ON	UNITE	29-30 November 1 December	SR	Tomas EKSTROM, Karolinska Institutet, Stockholm, Sweden	Epigenetics involves changes in phenotype heritable through cell division but not associated with DNA sequence change.	Practical Lab sessions	3

EPIGENETIC MECHANIMS				Andrea FUSO, Roma Sapienza, Roma, Italy	Epigenetic mechanisms underlie gene expression and cell state changes during gametogenesis, development, and aging. he Lab will focus on molecular mechanisms of epigenetics, including chromatin regulation, DNA methylation, gene expression networks, and non-coding RNAs.		
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