



SCHEDULE

PRECONGRESS COURSE

BIOINFORMATICS WITH EMPHASIS IN RNA-Seq



October 18-20. 2018

Day 1: Thursday, October 18th, 2018			
Time	Program	Speaker	Place
8:30 – 9:00	Registration		ESPOL
9:00 – 9:05	Welcome and presentation of the participants	Aminael Sánchez Rodríguez Ph.D.	ESPOL
9:15 – 10:45	<ul style="list-style-type: none"> • Introduction to Bioinformatics • Bases of biological data • Basic Linux and command line interface 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
10:45 - 11:00	Coffee Break		
11:00 - 12:00	<ul style="list-style-type: none"> • Installation and management of software in Linux environment • High Performance Computing Environment (HPC) 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
12:00 - 13:00	LUNCH		
13:00 – 14:30	PRACTICAL SESSION <ul style="list-style-type: none"> • Biological databases (NCBI and UniProt) • Bioinformatic analysis of biological sequences 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
14:30 – 14:45	Coffee Break		
14:45 – 16:00	PRACTICAL SESSION <ul style="list-style-type: none"> • Linux OS • HPC 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
16:00-16:30	Group discussion and conclusions of the day	Aminael Sánchez Rodríguez Ph.D.	ESPOL



Day 2: Friday, 19th october, 2018			
Time	Program	Speaker	Place
9:00 – 10:45	<ul style="list-style-type: none"> • Sequencing of New Generation of RNA: technologies and applications • New generation sequencing data format (FASTA, FASTQ, GFF, GTF etc.) • Experimental design of RNA-seq 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
10:45 - 11:00	Coffee Break		
11:00 - 12:00	<ul style="list-style-type: none"> • Quality control and pre-processing of RNA-seq data • Sequencing data repository in public repositories 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
12:00 - 13:00	LUNCH		
13:00 – 14:30	PRACTICAL SESSION <ul style="list-style-type: none"> • Familiarization and management of RNA-seq data • Design of RNA-seq experiments 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
14:30 – 14:45	Coffee Break		
14:45 – 16:00	PRACTICAL SESSION <ul style="list-style-type: none"> • Quality analysis of RNA-seq data • Data repository in public repositories (NCBI SRA) 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
16:00-16:30	Group discussion and conclusions of the day	Aminael Sánchez Rodríguez Ph.D.	ESPOL



PROGRAMA IBEROAMERICANO

CENCIA Y TECNOLOGIA PARA EL DESARROLLO

Day 3: Saturday, October 20th, 2018			
Time	Program	Speaker	Place
9:00 – 10:45	<ul style="list-style-type: none"> • Analysis of differential gene expression (DESeq pipeline, tools in R) • Graphic analysis of differential gene expression data 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
10:45 - 11:00	Coffee Break		
11:00 - 12:00	<ul style="list-style-type: none"> • Functional annotation of transcripts • Statistics associated with the analysis of New Generation Sequencing data 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
12:00 - 13:00	LUNCH		
13:00 – 14:30	PRACTICAL SESSION <ul style="list-style-type: none"> •Anotación funcional de transcritos. •Gene Ontology Analysis 	Aminael Sánchez Rodríguez Ph.D.	ESPOL
14:30 – 14:45	Coffee Break		
16:00 – 16:30	Group discussion and conclusions of the day	Aminael Sánchez Rodríguez Ph.D.	ESPOL
16:30 - 17:00	Closing and Delivery of Certificates		ESPOL