

**February 10th, 2020
(Computer Room, Research and Training Building)**

	Session	Instructors
9:00-10:15	Introduction <ul style="list-style-type: none"> - Singularity image explained - Goals of RNA-seq experiments - Overview of platforms for RNA-seq 	Sarah Bonnin, CRG Julia Ponomarenko, CRG
10:15-10:45 Coffee break		
10:45-12:00	<ul style="list-style-type: none"> - RNA-seq protocols - Public repositories - Retrieve course data set (fastq files) 	Sarah Bonnin, CRG Julia Ponomarenko, CRG
12:00-13:30 Lunch		
13:30-14:45	<ul style="list-style-type: none"> - Experimental design - Quality control with FastQC: what differs from a DNA-seq FastQC output? 	Sarah Bonnin, CRG Julia Ponomarenko, CRG
14:45-15:15 Coffee break		
15:15-16:30	<ul style="list-style-type: none"> - Adaptor trimming: why and how - Hands on 	Sarah Bonnin, CRG Julia Ponomarenko, CRG

**February 11th, 2020
(Computer Room, Research and Training Building)**

	Session	Instructors
9:00-10:15	<ul style="list-style-type: none"> - Retrieve and explain files for mapping <ul style="list-style-type: none"> - Reference genome (fasta) - Reference annotation (gtf) - Mapping <ul style="list-style-type: none"> - Theory: different tools and methods 	Sarah Bonnin, CRG Julia Ponomarenko, CRG
10:15-10:45 Coffee break		

10:45-12:00	Mapping - Hands on	Sarah Bonnin, CRG Julia Ponomarenko, CRG
12:00-13:30 Lunch		
13:30-14:45	Mapping - SAM and BAM formats - Conversion between formats - Filter files	Sarah Bonnin, CRG Julia Ponomarenko, CRG
14:45-15:15 Coffee break		
15:15-16:30	UCSC genome browser - Visualize aligned files - Navigate browser	Sarah Bonnin, CRG Julia Ponomarenko, CRG

February 12 th , 2020 (Computer Room, Research and Training Building)		
	Session	Instructors
9:00-10:15	R: refreshing basics	Sarah Bonnin, CRG Julia Ponomarenko, CRG
10:15-10:45 Coffee break		
10:45-12:00	Differential expression analysis - Theory: different tools and methods - Hands on	Sarah Bonnin, CRG Julia Ponomarenko, CRG
12:00-13:30 Lunch		
13:30-14:45	Differential expression analysis - Hands on (continues)	Sarah Bonnin, CRG Julia Ponomarenko, CRG
14:45-15:15 Coffee break		
15:15-16:30	Visualization of differential expression - Hands on with R plotting	Sarah Bonnin, CRG Julia Ponomarenko, CRG

February 13 th , 2020 (Computer Room, Research and Training Building)		
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	Session	Instructors
9:00-10:15	multiQC to summarize experiment Functional analysis	Sarah Bonnin, CRG Julia Ponomarenko, CRG
10:15-10:45 Coffee break		
10:45-12:00	Functional analysis (continues)	Sarah Bonnin, CRG Julia Ponomarenko, CRG
12:00-13:30 Lunch		
13:30-14:45	More practice (in groups) and examples	Sarah Bonnin, CRG Julia Ponomarenko, CRG
14:45-15:15 Coffee break		
15:15-16:30	More practice (in groups) and examples Wrap up and questions	Sarah Bonnin, CRG Julia Ponomarenko, CRG