

Programme 4th RNA-seq advanced data analysis course

July 7	Activity	Speaker / Practical Supervisor
<i>Chair: Peter-Bram 't Hoen</i>		
09:00 - 09:30	<i>Registration @ LUMC, PO-112/115, Leiden & Coffee</i>	
09:30 - 10:30	Introduction to RNA-seq technology and sample preparation protocols	Peter-Bram 't Hoen (LUMC)
10:30 - 10:45	<i>Coffee Break</i>	
10:45 - 11:45	Biases in RNA-seq data	Perry Moerland (AMC)
11:45 - 12:30	Tools and measures for Quality Control	Peter-Bram 't Hoen (LUMC)
12:30 - 13:30	<i>Lunch</i>	
13:30 - 14:15	Alignment, transcript deconvolution and quantification	Irina Pulyakhina (LUMC)
14:15 - 14:45	Crash course command line and login to VM	Bowo Arindrarto (LUMC)
14:45 - 15:00	<i>Coffee Break</i>	
15:00 - 16:30	<i>Practical: quality control, alignment, visualization - Part 1</i>	Irina Pulyakhina, Bowo Arindrarto, Jan Oosting (LUMC)
16:30 - 17:30	<i>Drinks</i>	
July 8	Activity	Speaker / Practical Supervisor
<i>Chair: Jan Oosting</i>		
08:30 - 09:00	<i>Coffee</i>	
09:00 - 10:00	<i>Practical: quality control, alignment, visualization - Part 2</i>	Jan Oosting (LUMC) Sander de Zeeuw (LUMC), Andrew Stubbs (EMC), Peter-Bram 't Hoen (LUMC)
10:00 - 11:00	<i>Practical: cummeRbund - quality control and transcript visualization</i>	
11:00 - 11:15	<i>Coffee Break</i>	
11:15 - 12:00	Statistical tests for differential expression in count data	Mark van der Wiel (VUMC)
12:00 - 13:00	<i>Lunch</i>	
13:00 - 15:00	<i>Practical: Differential expression analysis in R (edgeR, DESeq, limma)</i>	Peter-Bram 't Hoen, Sander de Zeeuw, Jan Oosting (LUMC)
15:00 - 15:15	<i>Coffee Break</i>	
15:15 - 16:00	Single Cell RNA sequencing	Dominic Grun (Hubrecht)
16:00 - 16:45	Ribosome profiling	Eleonora de Klerk (LUMC)
16:45 - 17:30	Fusion transcript detection in cancer	René Böttcher (EMC)
18:30 - 20:30	<i>Dinner</i>	
July 9	Activity	Speaker / Practical Supervisor
<i>Chair: Andrew Stubbs</i>		
08:30 - 09:00	<i>Coffee</i>	
09:00 - 09:45	Variant calling in RNAseq data and eQTL analysis	Dasha Zhernakova (UMCG)
09:45 - 10:30	Differential allelic expression and RNA editing	Irina Pulyakhina (LUMC)
10:30 - 10:45	<i>Coffee Break</i>	
10:45 - 12:15	<i>Practical: Alignment and variant calling in Galaxy</i>	Andrew Stubbs (EMC), Sander de Zeeuw (LUMC), Saskia Hiltmann (EMC)
12:15 - 13:15	<i>Lunch</i>	
13:15 - 15:30	<i>Practical: CLCbio software for RNA-seq analysis</i>	Patrick Dekker (CLCbio)
15:30 - 15:45	<i>Coffee Break</i>	
15:45 - 16:30	The future of RNA-seq: direct RNA sequencing and whole transcript structure determination	Yahya Anvar (LUMC)
16:30 - 17:00	Questions and answers, evaluation	Peter-Bram 't Hoen (LUMC)