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G. A N° 811.034

Course "Analyzing genetic data - NGS"

May 16-20, 2022
Institut Pasteur de Tunis

May 16th, 2022 Variant discovery 1/2 (*Computer Room, Research and Training Building*)		
	Session	**Speakers**
9:00-10:15	Introduction & basics of sequencing data	Pascal Campagne, Amaury Vaysse, Emmanuelle Permal
10:15-10:45 Coffee break		
10:45-12:00	Tools and practice: Alignment tools Duplicates Base quality scores	Pascal Campagne, Amaury Vaysse, Emmanuelle Permal
12:00-13:30 Lunch		
13:30-14:45	Tools and practice: Visualizing and extracting relevant information from .bam files	Pascal Campagne, Amaury Vaysse, Emmanuelle Permal
14:45-15:15 Coffee break		
15:15-16:30	Limitations and pitfalls of usual pipelines	Pascal Campagne, Amaury Vaysse, Emmanuelle Permal

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May 17th, 2022 Variant discovery 2/2 (*Computer Room, Research and Training Building*)		
	Session	**Speakers**
9:00-10:15	**Tools and practice: Haplotype-based variant detectors**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**
10:15-10:45 Coffee break		
10:45-12:00	**Tools and practice: Jointly-calling variants**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**
12:00-13:30 Lunch		
13:30-14:45	**Tools and practice: Filtering Variants**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**
14:45-15:15 Coffee break		
15:15-16:30	**Manipulating vcf files in R**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**

May 18th, 2022 Population genetics - some basics (*Computer Room, Research and Training Building*)		
	Session	**Speakers**
9:00-10:15	**Concepts and simplest models (1/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**
10:15-10:45 Coffee break		
10:45-12:00	**Concepts and simplest models (2/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**

12:00-13:30 Lunch		
13:30-14:45	**Practice: performing population genetics analyses (1/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**
14:45-15:15 Coffee break		
15:15-16:30	**Practice: performing population genetics analyses (1/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal**

May 19th, 2022 Association studies (*Computer Room, Research and Training Building*)		
	Session	**Speakers**
9:00-10:15	**Key concepts and methods (1/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal, Victoire Baillet**
10:15-10:45 Coffee break		
10:45-12:00	**Key concepts and methods (2/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal, Victoire Baillet**
12:00-13:30 Lunch		
13:30-14:45	**Practice: performing a GWAS analysis (based on public datasets) (1/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal, Victoire Baillet**
14:45-15:15 Coffee break		
15:15-16:30	**Practice: performing a GWAS analysis (based on public datasets) (2/2)**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal, Victoire Baillet**

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May 20th, 2022 Trait mapping based on controlled crosses (*Computer Room, Research and Training Building*)		
	Session	**Speakers**
9:00-10:15	**Linkage studies (for mendelian traits) - principles**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal, Victoire Baillet**
10:15-10:45 Coffee break		
10:45-12:00	**Linkage studies (for mendelian traits) - practice**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal, Victoire Baillet**
12:00-13:30 Lunch		
13:30-14:45	**QTL mapping - principles**	**Pascal Campagne, Amaury Vaysse, Emmanuelle Permal, Victoire Baillet**
14:45-15:15 Coffee break		
15:15-16:30	**QTL mapping - practice**	