Building minimal cells: from non-essential genes identification to genome engineering

	TUESDAY 27/03/2018	WEDNESDAY 28/03/2018	THURSDAY 29/03/2018
	Theoretical Part	**Practical Course**	
8:00-8:15		Practical course introduction & Health and Safety rules	Practical course introduction
8:15-8:30	**Registration**		
8:30-8:45			
8:45-9:00			
9:00-9:15	Welcome & Introduction to the workshop		
9:15-9:30			
9:30-9:45			
9:45-10:00	***Comparative genomics - CORE genome/proteome and link to essentiality*** Pascal Sirand-Pugnet, Université de Bordeaux		
10:00-10:15		**Practical: Transposon library Prep for sequencing** * Introduction * gDNA tagmentation * Library amplification * Library quality check (bioAnalyzer) * Library normalization	**Practical: Rapid prototyping of CRISPR-Cas9 tools** * Introduction * Target DNA amplification * In vitro sgRNA expression * in vitro cleavage
10:15-10:30			
10:30-10:45	***Analysis of gene essentiality by Tn-sequencing***		
10:45-11:00			
11:00-11:15			
11:15-11:30	***Genome minimization of Bacillus subtilis*** Jörg Stülke, Georg-August-Universität		
11:30-11:45			
11:45-12:00			
12:00-12:15	**Lunch**		
12:15-12:30			
12:30-12:45			**Lunch**
12:45-13:00	***Design and production of a synthetic minimal cell - Mycoplasma Syn3.0*** John Glass, JCVI		
13:00-13:15			
13:15-13:30			
13:30-13:45		**Lunch**	
13:45-14:00			
14:00-14:15			
14:15-14:30	***Whole cell modeling - principle and interest for epistasis analysis*** Jonathan Karr, Icahn School of Medicine at Mount Sinai		
14:30-14:45			
14:45-15:00			**Practical: Rapid prototyping of CRISPR-Cas9 tools** * In vitro cleavage * Results analysis
15:00-15:15	***Genome engineering tools*** Carole Lartigue, INRA	**Tn-Sequencing data analysis**	
15:15-15:30			
15:30-15:45			
15:45-16:00	**Legal and ethical aspects of genome manipulation**		
16:00-16:15			
16:15-16:30			
16:30-16:45			
16:45-17:00			
17:00-17:15			
17:15-17:30			
17:30-17:45			
17:45-18:00			

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