MSc in Molecular Medicine 2019-2020

Programme for MED6092
30 September – 4 November 2019

From Genome to Gene Function

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Day/Date	Time	Activity	Location	Leader
Mon 30 September	09:30-10:20	Introduction to the module. Monogenic traits and examples (Lecture/discussion) S1	LT3	Martin Nicklin
	10:30-11:20	Modes of inheritance and current methods for investigating monogenic traits (Lecture/discussion) S2	LT3	Martin Nicklin
	11:30-12:20	The size and content of the human genome (Lecture/tutorial) S3	LT3	Martin Nicklin
	2:00-2:50	Sequencing methodologies I (Lecture) S4	LT3	Martin Nicklin
	3:00-3:50	The 2019 assignment (Lecture/discussion) S5	LT3	Martin Nicklin
		Homework: review today's work and look at background papers.		
Tue 1 October	09:30-10:20	Sequencing methodologies II (Lecture) S6	LT3	Martin Nicklin
	10:30-11:20	The ethics of human research genetics (Lecture) S7	LT3	Angela Cox
	11:30-12:20	Sequencing methodologies III (Lecture/Discussion) S8	LT3	Martin Nicklin
	2:00-2:50	How mutations are known to affect function (Lecture) S9	LT3	Martin Nicklin
	3:00-3:50	RNA expression and RNAseq analysis S10 (Lecture)	LT3	Paul Heath
		Homework: Study example papers.		
Wed 2 October	09:30-10:20	(Massive) sequence variation in human genomes (Lecture) S11	LT3	Martin Nicklin
	10:30-11:20	Sequence data analysis (Lecture/Discussion) S12	LT3	Martin Nicklin
	11:30-12:20	Choosing and segregation analysis of candidate mutations (lecture/Disciussion) S13	LT3	Martin Nicklin

	16:00-16:50	The assignment so far. Candidate mutations. (Tutorial) S14	LT3	Martin Nicklin

Fri 11 October	09:30-11:30	Genetics labs visits (Genetics Facility, SITraN and the Biorepository) S15	Med Sch Entrance Hall	various
Mon 21 October	09:30-10:20	Expressing recombinant genes for functional testing of mutants (Lecture) S16		Martin Nicklin
	10:30-11:20	Detecting gene products (Lecture) S17		Martin Nicklin
	11:30-12:20	Reporter gene experiments (Lecture) S18		Martin Nicklin
	2:00-2:50	Micro RNA (Lecture) S19	LT3	Andrew Streets
	3:00-3:50	siRNA as a tool (Lecture) S20	LT3	Andrew Streets
		Homework: Study example papers		
Tue 22 October	09:30-10:20	From examples, how do we tes whether mutations could affect the activity of a gene? (Tutorial) S21	LT3	Martin Nicklin
	10:30-11:20	Mouse models for testing gene function I (Lecture) S22	LT3	Martin Nicklin
	11:30-12;20	Mouse models for testing gene function II (Lecture) S23	LT3	Martin Nicklin
	2:00-2:50	Mouse models for testing gene function II (Lecture) S24	LT3	Martin Nicklin
	3:00-3:50	Linkage based genetic analysis in 2019 I (Lecture/Discussion) S25	LT3	Martin Nicklin
		Homework: Study example papers		
Wed 23 October	09:30-10:20	Linkage based genetic analysis in 2019 II (Lecture) S26	LT3	Martin Nicklin
	10:30-11:20	How can we test pathogenesis? (Discussion/ classwork) S27	LT3	Martin Nicklin
	11:30-12:20	Investigating a dominant trait (Tutorial) S28	LT3	Martin Nicklin
Thu 24 October	09:30-10:30	Investigating a recessive trait (Tutorial) S29	LT3	Martin Nicklin
	10:30-11:20	Historic examples of the discovery of pathogenic mutations. S30	LT3	Martin Nicklin

	11:30-12:20	Draft your assignment I (Discussion/classwork) S	LT3	Martin Nicklin
	2:00-2:50	Draft your assignment II (Discussion/ classwork) s32	LT3	Martin Nicklin
	3:00-3:50	Draft your assignment III (Discussion/ classwork) S33	LT3	Martin Nicklin
Mon 4 November	**16:00**	**Deadline for submitting completed assignment to MOLE.**		