

MED6092: From Genome to Gene Function

2020

All live sessions will be via Blackboard Collaborate (unless otherwise indicated). Please note that you are almost certainly going to be doing something else during the working day if you aren't occupied with MED6092. Please see the Core Schedule for this.

October 27 - 30

Tue Oct 27

Morning F2F

LT1 or Live Online. Martin Nicklin*

9:00 1 Introduction to the Module †

10:00 2 Mendelian Disorders in Humans †

Wed Oct 28

Morning

Live Online. Martin Nicklin

9:30 3 Identifying a Mutation Causing a Monogenic Trait †

10:30 4 The Size and Content of the Human Genome

11:30 5 Sequencing methodologies I, from Sanger to NGS

Afternoon

Live Online. Martin Nicklin

4:00 6 Ethics in Human Research Genetics †

Thu Oct 29

Afternoon

Live Online. Martin Nicklin

2:00 7 Sequencing methodologies II, from Sanger to NGS

3:00 8 RNA Expression Analysis. *Julie Simpson*

4:00 **MED6098** Statistics, private study

Fri Oct 30

Morning

Live Online. Martin Nicklin

9:30 9 Effects of Mutations on Gene Function

10:30 10 Sequencing methodologies III, *Nanopore* technology

11:30 11 Discriminating Between Functional Mutation and Background Variation

November 2 - 6

Mon Nov 2

Afternoon

Live Online. Martin Nicklin

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|------|---|
| 2:00 | 12 Sequence Data Analysis for Pathogenic Mutations |
| 3:00 | 13 Segregation of Pathogenic Mutations <i>[continued]</i> |
| 4:00 | 14 Have we identified the right mutation in the right gene? |

Homework Private Study. Outline what you are going to put into your assignment, Part A.

Tue Nov 3

Morning F2F

*LT6 Diamond (if large enough) or *Live Online. Martin Nicklin*

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|-------|--|
| 9:00 | 15 Discussion of your questions and plans for answering Part A |
| 10:00 | 16 What to do once you've found a gene <i>Maria Fragiadaki</i> |
| 11:00 | 17 Reporter Gene Systems for Assaying Function of Variants <i>MN</i> |

Wed Nov 4 & Thu Nov 5

No sessions for MED6092

Fri Nov 6

Morning

Live Online. Martin Nicklin

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|-------|---|
| 9:30 | 18 miRNA in Gene Regulation. <i>Andrew Streets</i> |
| 10:30 | 19 siRNA to Knock Down Gene Expression. <i>Andrew Streets</i> |
| 11:30 | 20 Mouse models for testing Gene Function I <i>MN</i> |

November 9 - 13

Mon Nov 9

Morning

Live Online. Martin Nicklin

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|-------|---|
| 9:30 | 21 Detecting Protein Expression |
| 10:30 | 22 Cas9/CRISPR gene Edited Mice as Models <i>MN</i> |
| 11:30 | 23 Experimentally Controlling Genes in Vivo in Mice <i>MN</i> |

Tue Nov 10

No sessions for MED6092

Wed Nov 11

Live Online. Martin Nicklin

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|------|--|
| 4:00 | 24 When Do We have Enough Evidence to Convict? |
|------|--|

Thu Nov 12
No sessions for MED6092

Fri Nov 13
Morning
Live Online. Martin Nicklin
9:00 25 Linkage Based Genetic Analysis *MN*
10:00 26 Examples of Monogenic Disease Gene Discovery I *MN*
11:00 27 Examples of Monogenic Disease Gene Discovery II *MN*

Afternoon
Private Study. Outline what you are going to put into your assignment, Part B

November 16 - 20

Mon Nov 16
Morning
Live Online. Martin Nicklin
9:30-12:30 28-30. Discussion of your questions and plans for the assignment

Tue Nov 17
Afternoon
Private study - Assignment preparation.

Wed Nov 18
Private study - Assignment preparation.

But note 2:00-3:30 **MED6098** Statistics. *Phil Watson*

Thu Nov 19
Afternoon
Private study - Assignment preparation.
4:00 **MED6098** Statistics, private study

Fri Nov 20
No sessions for MED6092

November 23 - 27

Mon Nov 23
Private study - Assignment preparation

Tue Nov 24
Afternoon.
Private study - Assignment preparation

Wed Nov 25 & Thu Nov 26
No sessions for MED6092 (Careers Day, Wednesday!)

Fri Nov 27- all day.
Private study - Assignment preparation

Nov 30 - Dec 4

Mon Nov 30 - all day
Private study - Assignment preparation

Tue Dec 1 - all day
Private study - Assignment preparation

By 4 pm MED6092 From Gene to Gene Function Assessment to be submitted to Turnitin/Blackboard

Results and feedback for Christmas!