

**WORKSHOP PROGRAM**  
**2<sup>nd</sup> Hands-On CRISPR Genome Editing Workshop (HOCGEW)**  
**Date: 8 – 11 October 2019**  
**Venue: Animal Research Complex,**  
**Advanced Medical and Dental Institute (AMDI)**

Due to popular request, **day one (8th October 2019) of our CRISPR workshop is now open to all, free-of-charge.** You will get to hear talks from experts and discuss with them about planning for a CRISPR experiment.

The first talk will cover the basics and focus on the general workflow of CRISPR. The second talk will be given by an expert from Singapore who will elaborate about how to work with small amounts of samples, or lowly expressed genes when doing CRISPR work. The third speaker will talk about how to pick a good gene to target, especially when you are interested in investigating a certain biological pathway. Lastly, the final speaker will walk you through the free online software programs and the A-Zs of designing a specific, efficient guide RNA for CRISPR.

CPD points will also be offered. Email [kumitaa@usm.my](mailto:kumitaa@usm.my) to find out more.

<b>Day 1 - Tuesday, 8<sup>th</sup> October 2019</b>			
<b>Time</b>	<b>Activity</b>	<b>Speaker</b>	<b>Venue</b>
8.10 – 9.00 am	Registration	Secretariat	Seminar Room, ARC
9.00 - 9.15 am	Opening speech	Prof Syed Azhar Syed Sulaiman	Seminar Room, ARC
9.15 - 10.00 am	<b>Lecture:</b> Mastering the art of CRISPR	Mr Choo Chee Wei (Biodiagnostics)	Seminar Room, ARC
10.00 – 11.00 am	<b>Sponsored breakfast (Medigene) (For paying participants only)</b>		
11.00 – 12.30 pm	<b>Lecture:</b> CRISPR for precision medicine: The power of partitioning in droplet digital PCR	Dr Karolina Dwi Setyowati (Bio-Rad Laboratories)	Seminar Room, ARC
12.30 – 1.00 pm	<b>Forum:</b> Forum session with the experts	Mr Choo and Dr Karolina	Seminar Room, ARC
1.00 - 2.00 pm	<b>Sponsored lunch (Biodiagnostics) (For paying participants only)</b>		
2.00 – 3.00 pm	<b>Lecture:</b> The search for genic pathways in CRISPR research	Mr Kalidasan Vasodavan (Universiti Sains Malaysia)	Seminar Room, ARC
3.00 – 4.00 pm	<b>Lecture:</b> Unlocking the potential of genome editing: Designing CRISPR gRNAs for therapeutic and diagnostic purposes	Dr Kumitaa Theva Das (Universiti Sains Malaysia)	Seminar Room, ARC
4.00 - 5.30 pm	<b>Lab session (Hands-On):</b> CRISPR bioinformatics - Choosing a suitable vector - Designing a specific gRNA - Determining off-targets	All lecturers	Seminar Room, ARC
5.30 pm	<b>Sponsored tea break (Canvio) (For paying participants only)</b> <b>End of Day 1</b>		

<b>Day 2 - Wednesday, 9<sup>th</sup> October 2019</b>			
<b>Time</b>	<b>Activity</b>	<b>Speaker</b>	<b>Venue</b>
8.10 - 8.45 am	<b>Sponsored breakfast (Canvio)</b>		
8.45 – 12.30 pm	<b>Lab session (Hands-On):</b> CRISPR cloning	All lecturers	Infectomics, ARC
12.30 – 1.00 pm	<b>Lecture:</b> Innovative molecular biology solutions that aid in CRISPR work	Mr Tristan Tan (Neoscience)	Seminar Room, ARC
1.00 - 2.00 pm	<b>Sponsored lunch (Biomed Global)</b>		
2.00 – 5.00 pm	<b>Lab session (Hands-On):</b> CRISPR cloning	All lecturers	Infectomics, ARC
5.00 pm	<b>Sponsored tea break (Matrioux)</b> <b>End of Day 2</b>		

<b>Day 3 - Thursday, 10<sup>th</sup> October 2019</b>			
<b>Time</b>	<b>Activity</b>	<b>Speaker</b>	<b>Venue</b>
8.10 - 8.45 am	<b>Sponsored breakfast (Canvio)</b>		
8.45 – 9.15 am	<b>Lecture:</b> CRISPR validation using Sanger sequencing	Ms. Nadiah Mohd Nawawi (Biomed Global)	Infectomics, ARC
9.15 – 1.00 pm	<b>Lab session (Hands-On):</b> Verification of CRISPR clones	All lecturers	Infectomics, ARC
1.00 - 2.00 pm	<b>Sponsored lunch (Canvio)</b>		
2.00 – 2.45 pm	<b>Lecture:</b> Efficient delivery of CRISPR	Dr Kumitaa Theva Das (Universiti Sains Malaysia)	Seminar Room, ARC
2.45 - 5.00 pm	<b>Lab session (Hands-On):</b> Transfection of CRISPR into target cells	All lecturers	Infectomics, ARC
5.00 pm	<b>Sponsored tea break (Canvio)</b> <b>End of Day 3</b>		

<b>Day 4 - Friday, 11<sup>th</sup> October 2019</b>			
<b>Time</b>	<b>Activity</b>	<b>Speaker</b>	<b>Venue</b>
8.10 - 8.45 am	<b>Sponsored breakfast (Canvio)</b>		
8.45 – 9.45 am	<b>Lecture:</b> Downstream analysis of efficiency of CRISPR	Dr Kumitaa Theva Das (Universiti Sains Malaysia)	Seminar Room, ARC
9.45 – 12.45 pm	<b>Lab session (Hands-On):</b> Downstream analysis of CRISPR efficiency <ul style="list-style-type: none"> <li>- Microscopy</li> <li>- Sanger sequencing</li> <li>- qPCR (Demo)</li> </ul>	All lecturers	Infectomics, ARC
12.45 - 2.30 pm	<b>Sponsored lunch (Canvio)</b>		
2.30 - 4.00 pm	<b>Lecture:</b> CRISPR/Cas systems for different functions	Dr Kumitaa Theva Das (Universiti Sains Malaysia)	Seminar Room, ARC
4.00 – 5.00 pm	Discussion, certificate presentation, and closing ceremony	All lecturers	Seminar Room, ARC
5.00 pm	<b>Sponsored tea break (Canvio) (End of Workshop)</b>		