

RESEARCH METHODS WORKSHOP JANUARY – FEBRUARY 2019



The UCSC Genome Browser

16-17 January 2019 8.30 am – 5.00 pm Level 1, Monash 3 Building Clinical School Johor Bahru Monash University Malaysia

The University of California Santa Cruz (UCSC) developed the UCSC Genome Browser to ensure free public on-line access to the annotated human genome reference that was sequenced by the Human Genome Project consortium (http://genome.ucsc.edu). This powerful graphical interface is a major gateway for researchers to explore the human genome to address their scientific curiosities. This two day workshop will give an overview of current sequencing technologies and their relevance for medicine and guide the novice through the latest version of the browser explaining its salient features through practical demonstrations and lectures. Selected human genes will be used as examples to illustrate the wealth of available information.

Program

| Time | Topic | Presenters & Facilitators |
|------------------------------------|--|---------------------------|
| Day 1 8.30 am – 9.00 am | Registration | |
| 9.00 am – 9.15 am | Introduction and course overview | Qasim Ayub |
| 9.15 am — 10.15 am | Relevance of Genomics to Medicine | Maude E. Phipps |
| 10.15 am — 10.45 am | Tea Break | |
| 10.45 am — 11.15 am | Introduction to the UCSC Genome Browser | Qasim Ayub |
| 11.15 am — 1.00 pm | Browsing the Human Genome (Lecture and Demonstration) | Qasim Ayub |
| 1.00 pm — 2.00 pm | Lunch Break | |
| 2.00 pm – 5.00 pm | Browsing the Human Genome (Exercises) | Farhang Aghakhanian |
| Day 2 9.00 am – 10.00 am | Genomics and Bioethics | Maude E. Phipps |
| 10.00 am — 10.30 am | Tea Break | |
| 10.30 pm — 11.30 pm | Exploring Variation and Regulation (Lecture and Demonstration) | Qasim Ayub |
| 11.30 pm — 1.00 pm | Exploring Variation and Regulation (Exercises) | Farhang Aghakhanian |
| 1.00 pm — 2.00 pm | Lunch Break | |
| 2.00 pm — 2.30 pm | UCSC Tools Overview (Lecture and Demonstration) | Qasim Ayub |
| 2.30 pm — 4.30 pm | UCSC Tools (Exercises) | Farhang Aghakhanian |
| 4.30 pm — 5.00 pm | Wrap up and feedback | Qasim Ayub |



Course Coordinators



Professor Maude Elvira Phipps

Jeffrey Cheah School of Medicine and Health Sciences

Maude E. Phipps trained at University of Malaya and University of Cambridge, UK. She is currently Professor of Human Genetics at the Jeffrey Cheah School of Medicine and Health Sciences at Monash University Malaysia. Her research is in human population genetics and health with special focus on indigenous communities in Malaysia, Asia and Oceania. Ongoing collaborative projects are with investigators in Oxford University, Stanford University, UCSF, UC Berkeley, University of Colorado, Cambridge University, Indian Statistical Institute and National Institute of Genetics, Japan. She continues to mentor early career researchers and junior colleagues in the university and has developed and organised workshops in Malaysia in collaboration with bioethicists in UNESCO, UK, USA and Australia to train local bioethics faculty in Malaysia.



Associate Professor Qasim Ayub

Director, Genomics Facility School of Science

Dr Qasim Ayub trained as a clinician and obtained his doctorate from the University of North Texas, Denton, USA. From 2008 until August 2017 he worked in the United Kingdom at the world renowned Wellcome Sanger Institute in Hinxton, near Cambridge. His research is focused on human population and evolutionary genomics with an interest in South Asian populations and he has published several high profile papers in the last decade. He is currently leading the genomics research platform at Monash University Malaysia with broad interests in genetic basis of host-pathogen interactions, species biodiversity and bioinformatics. He has conducted several such workshops in the past in Egypt, Malaysia and Pakistan and is extremely familiar with the browser and its capabilities.

Facilitators

Dr Farhang Aghakhanian (Jeffrey Cheah School of Medicine and Health Science

Who Should Attend?

This two-day workshop offers clinicians, academics, students and non-academic researchers, with an interest in human genetics, the necessary background information and practical hands-on experience in the use of the UCSC Genome Browser. The workshop is primarily targeted at beginners with no prior knowledge of the browser. Selected human genes will be shown during the demonstration and practical and participants will be encouraged to explore their genes of interest during the proceedings.

Course Fees*

- RM 500.00 (External Participants)
- RM 400.00**

*Lunch and tea will be provided

** 20% discount for Sunway Group staff, students and Monash Alumni

Method of Payment

(Telegraphic Transfer or Direct Deposit)

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Registration

Seats are limited. To register, please visit

https://goo.gl/forms/GauBJbiKIIDWEVho1

by **December 22, 2018** and email your payment slip to **see.wai.mun@monash.edu**

Your seat will be confirmed once the payment slip is received, and you will be informed via email.

Contact Details

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Organised by The Tropical Medicine and Biology Multidisciplinary Research Platform and Jeffrey Cheah School of Medicine and Health Sciences

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