

Workshops on Bioinformatics and Computational Biology (WBCB) 2018

in conjunction with

**MaSBiC Extraordinary
General Meeting (EGM)**

29th and 30th October 2018

organised by



RUBC

RESEARCH UNIT FOR BIOINFORMATICS AND COMPUTATIONAL BIOLOGY

in partnership with

GENOM MALAYSIA
Malaysia Genome Institute

NIBM
NATIONAL INSTITUTES OF BIOTECHNOLOGY MALAYSIA
www.nibm.my

Malaysian Society of Bioinformatics and
Computational Biology (MaSBiC)

TWO-SERIES WORKSHOPS

A) Genome Editing using CRISPR/Cas9

The topics that will be covered are principles of CRISPR technology, concept of genome editing through CRISPR, understanding the concept of single guide RNA (sgRNA) and primer designing for CRISPR. At the end of our workshop, we hope everyone will be able to understand the concept of CRISPR, learn how to design the single guide RNA using the CRISPR protocol and designing primers using bioinformatics tools for CRISPR technologies.

B) Molecular Docking and Molecular Dynamics Simulation

This workshop will provide the fundamental theory and technicalities on setting up docking simulation using Autodock and MD simulation using GROMACS version 5. In the workshop, participants will also learn how to analyse molecular docking and MD results using GROMACS utility and other open source software.

Venue

Bioinformatics Lab and Training Lab, Malaysia
Genome Institute, Jalan Bangi, 43000 Kajang,
Selangor Darul Ehsan

Visit our website

<https://wbcbiium.wixsite.com/wbcb>

PACKAGE A: CRISPR/Cas9

Delegates	Price/ person (RM)	Early bird (by 31 st August 2018)
Postgraduate	500.00	450.00
Academic / Research Institution	600.00	550.00
Private Company	800.00	750.00

PACKAGE B: Molecular Docking and Molecular Dynamics Simulation

Delegates	Price/ person (RM)	Early bird (by 31 st August 2018)
Postgraduate	1000.00	900.00
Academic / Research Institution	1100.00	1000.00
Private Company	1200.00	1100.00

Register now for earlybird rates!

[click here to register](#)

For more info please contact

wbcbiium@gmail.com

09-5715051 (Dr. Suhaila Mohd Omar)

PROGRAM SCHEDULE

29/10/2018	Monday
7.30 am	Registration
8.30 am	Opening Ceremony
8.45 am	Keynote Address Bioinformatics: Current Trends, Challenges and Future Directions
9.15 am	MaSBiC Extraordinary General Meeting
10.45 am	Tea Break
11.00 am	Plenary Lecture Implementation of Structural Systems Biology in Modeling PCOS Protein Interaction Network
12.00 pm	Parallel Workshop A (CRISPR/Cas9) Principles of CRISPR/Cas9 Analysis Q&A session Parallel Workshop B (Molecular docking) Principles of Molecular Docking Simulations
1.00 pm	Lunch & Prayer
2.00 pm	Parallel Workshop A (CRISPR/Cas9) Hands-on Practicals: I- Understanding the concept of single guide RNA (sgRNA) II- Design primers and identify off-target regions using bioinformatics tools for CRISPR technologies III- View the construct Parallel Workshop B (Molecular Docking Simulations) Hands-on Practicals: I- Protein and Ligand preparation for docking simulation using Autodock II- Docking simulation and Analysis III- Visualization and H-bond analysis using Ligplot
4.00 pm	Parallel Wrap up and Discussion
5.00 pm	Tea Break

30/12/2018	Tuesday
8.30 am	Breakfast
9.00 am	Workshop B – Molecular Dynamics (MD) Simulation Principles of Molecular Dynamics Simulation using GROMACS Hands-on Practical: IV- System preparation and Setting up Molecular Dynamics simulation
10.00 am	Tea Break
10.30 am	Workshop B – Molecular Dynamics (MD) Simulation Hands-on Practicals: V- Introduction to analysis tools for MD simulations and analysis of MD trajectory VI- Molecular visualization using PyMol and VMD
12.00 pm	Lunch & prayer
2.00 pm	Workshop B – Molecular Dynamics (MD) Simulation Hands-on Practical: VII- Analysis of MD trajectory using GROMACS tools
4.00 pm	Wrap up and Discussion
5.00 pm	Tea Break and Disperse



Keynote and Plenary Speakers



Prof. Dr. Amir Feisal Merican Bin Aljunid Merican
Institute Of Biological Sciences,
Faculty Of Science,
University of Malaya



Assoc. Prof. Dr. Zeti Azura Mohamed Hussein
School of Biosciences and
Biotechnology & Institute of
Systems Biology (INBIOSIS),
Universiti Kebangsaan Malaysia

Workshop Instructors

CRISPR/Cas9



Dr. Nurul Hidayah Samsulrizal, IIUM
Research Unit for Bioinformatics and
Computational Biology (RUBIC),
Kulliyah of Science

Molecular Docking and Molecular Dynamics Simulation



Dr. Khairul Bariyyah Abd Halim, IIUM
Research Unit for Bioinformatics and
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Dr. Azzmer Azzar Abd Hamid, IIUM
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