**UNIVERSITY OF MALAYA**
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**BCM**
Baylor College of Medicine

# 1st UM-CUHK Certificate Course in Clinical Genetics and Genomics

'Integrating clinical (prenatal and postnatal) and laboratory genetics and genomics'

**Co-organizers:**
Department of Pediatrics, Faculty of Medicine, University of Malaya &
Department of Obstetrics and Gynecology, The Chinese University of Hong Kong

**11th – 13th July 2017
(Tuesday-Thursday)
0830 - 1800
CUBE, Faculty of Medicine,
University of Malaya,
Kuala Lumpur, Malaysia**

**International instructors**

Prof. Dr. Leung Tak Yeung
The Chinese University of Hong Kong

Prof. Dr. Richard Choy Kwong Wai
The Chinese University of Hong Kong

Prof. Dr. Carlos A. Bacino
Baylor College of Medicine, USA

Who should attend?
Geneticists, Paediatricians,
Obstetricians, Gynaecologists,
Researchers, Clinical Specialists,
Medical Officers, Nurses
and Trainees

### TOPICS

· Basic genetics to genomes · Disorders in sex development & urogenital tract · Pathogenesis and inheritance of diseases · Neurogenetic diseases & Inborn Error of Metabolism · Cardiac diseases · Genetic and genomic technology · Growth disorders and Facial dysmorphism · Clinical skills and population genetics · Cancer genetics & hematological diseases · Musculo-Skeletal disorders · Legal and ethical issues·

Registration will close once the 50 places are allocated

A certificate of completion of course by
UM-CUHK will be awarded to every participant

### Registration Fee

|  | Early birds (Before 15th June 2017) | Normal rate |
|---|---|---|
| Clinical specialists / Consultants / | RM 800 | RM1000 |
| Nurses / Trainees / Students / Para-medical / Others | RM700 | RM800 |

Please register via Google Forms, by the link below:
**https://goo.gl/forms/FltLuCxQb77YsTZD3**

Payable in Ringgit Malaysia (RM) to by :
1) Bank transfer to;
   **Bank Account name** : **Universiti Malaya**
   **Bank Account number** : **80-0127999-8**
   **Bank** : **CIMB Bank**
   **Recipient ref.** : **umgenetic2017**

2) Payment by PO Or Money Order to **BENDAHARI UNIVERSITI MALAYA**

**Kindly email the payment receipt to umgeneticcourse2017@gmail.com**

3) Cash: Payment by cash before 19th June 2017

**Enquiry**
Email : umgeneticcourse2017@gmail.com
Tel/WA : 019 2440838 (Ms.Rifhan)
Fax : 03 7949 4704

**For more information, visit our FB page:
UM Genetic Course**

# Tentative
# 1st UM-CUHK Certificate Course in Clinical Genetics and Genomics

## DAY 1 (Tuesday)

| Session 1 | Revisit the basic structures: from chromosome to genomes |
|---|---|
| 08:30 | Introduction |
| 08:35 | From chromosome to genome: basic structure |
| 09:00 | Non-coding regions and its clinical significance |
| 09:30 | Copy Number Variants (CNV) and its clinical significance |
| 10:00 | Single Nucleotides Polymorphism (SNP) and its clinical significance |
| 10:30 | Gene Mutation and repair mechanism |
| 11:00 | Tea break |
| **Session 2** | **Clinical genetics: Disorders in sex development & urogenital tract** |
| 11:20 | Understanding the X and Y chromosomes |
| 11:50 | Prenatal diagnosis of ambiguous genitalia |
| 12:20 | Genetic syndromes of renal malformation and diseases |
| 12:50 | Prenatal diagnosis of renal malformation and diseases |
| 13:20 | Lunch |
| **Session 3** | **Patho-genesis and inheritance of diseases** |
| 14:20 | Chromosomal numeric disorders, deletion and duplication (including micro) |
| 15:00 | Chromosomal structural rearrangement (translocation, ring, etc) |
| 15:30 | Mendelian inheritance (AS, AR, sex-linked, penetrance and expression) |
| 16:00 | Non-Mendelian inheritance (UPD, etc) |
| 16:30 | Tea break |
| **Session 4** | **Clinical genetics: Skeletal disorders** |
| 16:50 | Postnatal diagnosis of genetic dwarfism |
| 17:20 | Prenatal diagnosis of genetic dwarfism |
| 17:50 | Arthrogryposis |
| 18:20 | Prenatal diagnosis of Craniosynostosis |
| 18:50 | The End of the 1nd day |

## DAY 2 (Wednesday)

| Session 5 | Clinical genetics: Cardiac diseases |
|---|---|
| 08:30 | Genetics in congenital cardiac structural abnormalities |
| 09:00 | Prenatal USG and Genetic diagnosis of cardiac abnormalities |
| 09:30 | Cardiocutaneous syndromes |
| 10:00 | Hereditary Cardiomyopathy and Conductions Defects |
| 10:30 | Marfan and aortopathy syndromes |
| 11:00 | Tea break |
| **Session 6** | **Genetic and genomic technology: from basic to advanced 1** |
| 11:20 | Cytogenetics: karyotyping and FISH |
| 11:50 | Molecular genetics: PCR |
| 12:20 | Molecular genetics: Microarray and sequencing |
| 12:50 | Molecular genetics: BoBs |
| 13:20 | Lunch |
| **Session 7** | **Clinical genetics: Growth disorders & Facial dysmorphism** |
| 14:20 | Genetics in Growth restriction & Overgrowth syndromes |
| 15:00 | Prenatal USG and genetic diagnosis in fetal growth restriction & overgrowth syndromes |
| 15:40 | Postnatal assessment of facial Dysmorphism |
| 16:05 | Prenatal assessment of facial Dysmorphism |
| 16:30 | Tea break |
| **Session 8** | **Clinical skill and population genetics** |
| 16:50 | Carrier screening |
| 17:10 | Pedigree construction, analysis and risk assessment |
| 17:40 | Genetic Counseling and resources |
| 18:10 | The End of the 2nd day |

## DAY 3 (Thursday)

| Session 9 | Genetic and genomic technology: from basic to advanced 2 |
|---|---|
| 08 30 | Genetic tests for cancer screening and monitoring |
| 09:00 | Fetal Cell-free DNA and NIPT |
| 09:40 | PGS & PGD |
| 10.10 | NGS in genetic diagnosis |
| 10:40 | Tea break |
| **Session 10** | **Cancer genetics & hematological diseases** |
| 11:00 | Oncogenes and genetic mechanism |
| 11:30 | Hereditary and familial cancers |
| 12:00 | Neurofibromatosis & Tuberous Sclerosis |
| 12:30 | BRCA gene and breast cancers |
| 13:00 | Lunch |
| **Session 11** | **Clinical genetics: Neuromuscular diseases & inborn error of metabolism** |
| 14:00 | Overview of Neurogenetic diseases |
| 14:30 | Genetic muscular disorders (Neurometabolic Disorder) |
| 15:00 | Prenatal diagnosis of neuromuscular genetic disorders |
| 15:40 | Genetic contribution to autism and autistic spectrum disorders |
| 16:10 | Tea break |
| **Session 12** | **Inborn error of metabolism, Legal and ethical issues** |
| 16:30 | IEM: implication on maternal and fetal health |
| 17:00 | Newborn screening & acute management of IEM |
| 17:30 | Issues on human reproduction technology in Malaysia |
| 18:00 | The End of the 3nd day and course |