

CRASH
COURSE



1st MEGMA

BASIC GENETICS AND INBORN ERRORS OF
METABOLISM DIAGNOSTICS AND THERAPEUTICS



5-6 JUNE
2026

HYATT REGENCY RIYADH OLAYA HOTEL

Hybrid Conference
Physical **Free** of Charge

VIRTUAL 500 SAR

REGISTER
HERE



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TARGET AUDIENCE

1

**Medical Genetics
Fellows and
Consultants**

2

**Clinical Lab
Scientists**

3

**Genetic Counselors
and Nurses**

4

**Pediatrician
and Neurologists**

5

Physicians



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OBJECTIVES:

1. Education about advanced therapeutic options for genetic defects and inborn errors of metabolism disorders, including enzyme replacement and gene therapies.
2. Know the basic genetics concepts, common genetics syndrome.
3. Identify clinical signs and symptoms of common Inborn Errors of Metabolism (IEM).
4. Training on Bayesian analysis to assess genetic risk.
5. Interpret biochemical laboratory tests for accurate diagnosis including tandem MS, plasma amino acids and urine for organic acids.
6. Interpret Cytogenetics laboratory tests for accurate diagnosis including karyotype, FISH and CGH microarray.
7. Interpret molecular laboratory tests for accurate diagnosis including whole exome sequencing (WES) and whole genome sequencing (WGS).
8. Execute emergency management plans for acute metabolic decompensation.
9. Provide effective genetic counseling and ethical guidance to affected families.



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Day1
Friday 5th June

Clinical, Biochemical and Laboratory genetics

07:30 - 08:30 *Registration* 

08:30-09:00	Opening Remarks Prof. Majid Alfadhel
09:00-09:30	Important Concepts in Genetics Dr. Mohammed Almoqbil
09:30-09:55	Syndromes that Every Geneticist Should Know Dr. Mohammed Almoqbil
09:55-10:20	Sponsored scientific lecture title to be determined TBD
10:20-10:30	Discussion
10:30-10:50	Coffee break
10:50-11:15	Clinical Cytogenetics -1 Dr. Bader Almuzaini
11:15-11:40	Clinical Cytogenetics -2 Dr. Bader Almuzaini
11:40-12:00	Gaucher Disease: Advancing Early Diagnosis, Awareness and Optimal Care Dr. Maha Faden
12:00-12:10	Discussion
12:10-13:30	Lunch break

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Day1

Friday 5th June

Clinical, Biochemical and Laboratory genetics

13:30-13:55	Molecular Genetics -1 Dr. Abdullah Alfalah
13:55-14:20	Molecular Genetics -2 Dr. Abdullah Alfalah
14:20-14:45	Bayesian analysis and Risk assessment Dr. Hajer Alaqeel
14:45-15:10	Sponsored scientific lecture title to be determined TBD
15:10-15:15	Discussion
15:15-15:30	Coffee break
15:30-15:55	Newborn screening and Tandem Mass Spectrometry (TMS) -1 Dr. Mohammed Almannai
15:55-16:20	Plasma aminocids -1 Prof. Fuad Almutairi
16:20-16:45	Urine for Organic Acids -1 Dr. Ahmed Alodaib
16:45-16:55	Discussion
18:00-20:00	Gala Dinner
20:00-20:05	Closure of the first day



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BASIC GENETICS AND INBORN ERRORS OF METABOLISM DIAGNOSTICS AND THERAPEUTICS

Day 2

Saturday 6th June

Clinical, Biochemical and Laboratory genetics

08:30-09:00	Newborn screening and Tandem Mass Spectrometry (TMS)-2 Dr. Mohammed Almannai
09:00-09:30	Plasma amino acids -2 Prof. Fuad Almutairi
09:30-09:55	Urine for Organic Acids-2 Dr. Ahmed Alodaib
09:55-10:20	The Art of Molecular Matchmaking: Primer Design how to do it? Dr. Mohammed Umair
10:20-10:30	Discussion
10:30-10:50	Coffee break
10:50-11:15	Biochemical Genetics -1 Prof. Malak Alghamdi
11:15-11:45	Biochemical Genetics -2 Prof. Malak Alghamdi
11:45-12:10	Update on the Diagnosis and Treatment of Inborn Errors of Metabolism Prof. Majid Alfadhel
12:00-12:10	Discussion
12:10-13:30	Lunch break

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Day 2

Saturday 6th June

Clinical, Biochemical and Laboratory genetics

13:30-13:55	Basic Genetics-1 Prof. Zuhair Alhassnan
13:55-14:20	Basic Genetics-2 Prof. Zuhair Alhassnan
14:20-14:40	Whole Exome Sequencing and Whole Genome Sequencing Interpretation Dr. Ali Tabish
14:40-15:00	Sponsored scientific lecture title to be determined TBD
15:00-15:10	Discussion
15:10-15:30	Coffee break
15:30-15:55	Reproductive Genetics Prof. Majid Alfadhel
15:55- 16:20	MCQ Preparation Tips Dr.Hamad Althyab
16:20-16:45	Sponsored scientific lecture title to be determined TBD
16:45-16:55	Discussion
16:55-17:00	Closure of the Course



