



## **“Current Trends in Genomic and Molecular Medicine”**

### **The First Indo-UK Training Workshop**

#### **SERB-DST Sponsored Workshop**

**Molecular Biology Unit, Center for Advance Research**

**King George's Medical University, Lucknow, UP, India**

**19-21 November 2018**

***Convenor: Professor MLB Bhatt, Vice Chancellor, KGMU, Lucknow, UP***

***Co-Convenor: Professor Dhavendra Kumar, Institute of Medical Genetics, Cardiff University, UK***

***Co-Convenor: Dr. Neetu Singh, Associate Professor, KGMU, Lucknow, UP***

***15 Hours CPD/CME Credit Points-approved by Royal College of Physicians,***

***London***

*The unique training workshop aims to introduce fundamental aspects of genomic and molecular medicine to wide ranging Medical Faculty, Postgraduates in Medicine and Surgery and other Specialist Medical Practitioners.*

**The Three days Workshop offers training in the key aspects of current practice in the following areas-**

- Fundamentals of genetic and genomic medicine
- Concept of molecular basis of human disease
- Spectrum and heterogeneity of human disease
- Techniques for genetic, genomic and molecular pathology of human disease
- Scope and limitations of next generation genome sequencing in clinical medicine
- Specific issues in genome and molecular level diagnosis
- Gene and genome based molecular therapy for human disease
- Genomic and Molecular approach to infectious diseases
- Community and public health aspects of genomic & molecular medicine
- Targeted molecular therapy including Pharmacogenetics/Pharmacogenomics
- Gene & Genome based Therapeutics
- Practice of Intergrated precision genomic and molecular medicine

**Training Faculty includes, highly acclaimed clinicians and scientists from UK and other leading Indian Institutions**

*Apply now and secure a place in this unique and rare opportunity to enhance your current specialist clinical practice with up to date knowledge and insights from leading research in human genomics and molecular biology*

**For Registration**

Please visit [www.kgmucollege.org](http://www.kgmucollege.org)

**For further information please contact**

**Professor Dhavendra Kumar ([kumard1@cf.ac.uk](mailto:kumard1@cf.ac.uk))**

**OR**

**For registration information please contact**

**Dr. Neetu Singh ([neetusingh@kgmcindia.edu](mailto:neetusingh@kgmcindia.edu))+91-9984801444)**



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### **Aim**

Introduce fundamental aspects of genomic and molecular medicine to Postgraduates in Medicine and Surgery and Specialist Medical Practitioners

### **Objectives**

- Fundamentals of genetic and genomic medicine
- Concept of molecular basis of human disease
- Spectrum and heterogeneity of human disease
- Techniques for genetic, genomic and molecular pathology of human disease
- Scope and limitations of next generation genome sequencing in clinical medicine
- Specific issues in genome and molecular level diagnosis
- Gene and genome based molecular therapy for human disease
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- Targeted molecular therapy including Pharmacogenetics/Pharmacogenomics
- Gene & Genome based Therapeutics
- Practice of Intergrated precision genomic and molecular medicine

### **Targeted Audience**

Postgraduates in Medicine and Surgery including Paediatrics, Pathology and Preventive Medicine  
 Secondary and Tertiary level Medical Practitioners  
 Academic and Researchers in Bio-Medical Sciences

### **Format**

Selected Faculty Lectures; Interactive case discussions; Illustrative discussions; Practical demonstrations  
 Quiz & Single best answer questions

### **Syllabus**

1. Introduction Genomic & Molecular Medicine	Genetic, genomic and molecular basis of human disease- nucleic acids, genome architecture, inheritance patterns, genetic heterogeneity, genetic imprinting and epigenetics
2. Genetic/Genomic diseases I	Mendelian Genetics- Neuro-developmental disorders, Cardiovascular diseases and Inherited Cancer
3. Genetic Genomic diseases II	Disorders of genome architecture- Constitutional Pre/Post-natal Disorders; Microdeletion/Microduplication syndromes and Copy number variations
4. Genetic Genomic diseases III	Complex genetics/genomics- multi-factorial/polygenic causation; heritability, genome wide association study, single nucleotide polymorphisms, somatic versus germ line mutations/variants; paradigms of cancer & diabetes mellitus



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5. Laboratory Genetics & Genomics	Introduction to conventional genetic laboratory methods and next generation genome sequencing- Karyotype analysis and FISH ; Array comparative genomic hybridisation (aCGH): Principle and applications in clinical genomics/ molecular; Gold Standard-Sanger Sequencing- principle, methodology, analysis; Whole exome and whole genome sequencing- scope and limitations- biomedical research and clinical practice; Interpretation of genomic variants for clinical use- guidelines and International consensus; Overview of Third Generation Sequencing Technologies and Application
6. Therapeutic applications	Gene & Genome Therapeutics I RNA interference; antisense oligonucleotides, gene therapy and gene/genome editing
7. Genetics/ Genomics in Clinical Practice	Personalised and Precision Medicine including Pharmacogenetics & Pharmacogenomics and Targeted Molecular therapy
8. Infectious Diseases	Microbial/ Pathogenomics, Genome-based diagnosis and screening for communicable diseases, anti-microbial resistance, HIV, endemic/pandemic viral infections, anti-viral therapy and genome vaccines and parasitic diseases- malaria/ filaria etc.
9. Public and Community Health	Population genomics, community genetic diseases (Thalassemia/ Sickle cell); genetic screening; prevention, forensic applications and disaster management
10. Clinical Genomic and Molecular Medicine	Integrated genomic and molecular medicine- organization; multi-disciplinary team, consent & confidentiality, database, quality/ outcome measures and ethical, legal, social issues (ELSI)
11. Clinical Genetics and Medicine	Genetic rare diseases Rare diseases genes part of common diseases Contributions of rare diseases in modern clinical medicine

#### **Practical sessions:**

##### **1. Laboratory Demonstrations-**

Demonstration of Real Time-PCR & Microarray-aCGH based Identification and analysis of variations  
Demonstration of Sanger Sequencing & Third generation sequencing

##### **2. Clinical Genomics/ Molecular Medicine**

Family history interpretation and Pedigree drawing  
Genetic risks assessment and calculation  
Interpretation of Karyotype/ FISH  
Interpretation of Array CGH & genetic and genomic laboratory reports  
Genetic counselling & Discussion of key ethical issues



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#### **Organizers:**

Professor M.L.B. Bhatt, KGMU, India: Convenor

Professor Dhavendra Kumar, Cardiff, UK: Co-Convenor

Dr. Neetu Singh, KGMU, Lucknow, India: Co-Convenor

#### **Chief Guest:**

Prof. Devendra Kumar Gupta, AIIMS New Delhi

#### **International Faculty: Speakers**

Prof. William Newman, Center for Genomic Medicine, University of Manchester, UK

Prof. Patrica Munroe, Professor of Molecular Medicine, Queen Mary University of London, UK

Prof. Indu Singh, Department of Haematology, Griffiths University, Goldcoast, Australia

Dr. Chris Yoo, Systems Imagination, USA

#### **National Faculty: Speakers**

Professor Narinder Mehra, AIIMS/ICMR, New Delhi, India

Professor Ratna Puri, SGRH, New Delhi, India

Professor Meena Bhatt, CGH, Bangalore, India

Professor Reena Das, PGI, Chandigarh, India

Dr. Vinod Scaria, IGIB/CSIR, New Delhi, India

Professor Sunit Kumar Singh, BHU, India

Dr. Akhtar Ali, BHU, India

Professor Ashutosh Halder, Reproductive Biology, AIIMS, New Delhi

Dr. C.V. Ramprasad, Senior Scientist/Director, Medgenome, Bangalore

#### **Local Faculty: Speakers**

Professor Shubha Phadke, SGPGI, Lucknow, India

Dr. Swasti Tiwari, SGPGI, Lucknow, India

#### **Local Faculty: Chair Persons**

Professor Amita Jain, Center for Advance Research, KGMU, Lucknow, India

Professor Abbas Ali Mahdi, Vice Chancellor, Era Medical University, Lucknow, India

Professor Madan Madhav, SGPGI, Lucknow, India

Professor Tapankumar N. Dhole, SGPGI, Lucknow, India

Dr. Anil Kumar Balapure, CSIR-CDRI, Lucknow, India

Prof. Shailendra Saxena, Center for Advance Research, KGMU, Lucknow, India

Professor. Amita Pandey, KGMU, Lucknow, India

Dr. S.K. Rath, CSIR-CDRI, Lucknow, India

Professor Monisha Banerjee, Lucknow University, Lucknow, India

Dr. Ashutosh Shrivastava, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Dr. Satyendra K Singh, Stem Cell Unit, CFAR, KGMU, Lucknow, India

Dr. Nitu Nigam, Cytogenetics Unit, CFAR, KGMU, Lucknow, India

Dr. Dinesh Kumar Sahu, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Dr. Ratnesh Kumar Tripathi, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Dr. Shivani Dixit, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Dr. Hari Shyam, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Dr. Pratap Pathak, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Dr. Abhishek Mishra, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Ms. Archana Mishra, Molecular Biology Unit, CFAR, KGMU, Lucknow, India

Mr. Md. Nawazish Alam, Molecular Biology Unit, CFAR, KGMU, Lucknow, India



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### **REGISTRATION FORM**

#### **Part 1: Registration Information (please write in block capitals)**

Title \_\_\_\_\_ Last Name \_\_\_\_\_ Middle Name \_\_\_\_\_ First Name \_\_\_\_\_

Affiliation \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Country \_\_\_\_\_

Zip/Postal Code \_\_\_\_\_ Telephone \_\_\_\_\_

Fax \_\_\_\_\_ Email \_\_\_\_\_

#### **Part 2: Registration Payment**

**Options are also available for only attending the lecture series/CME on 19th and 21st November-2018 for INR 1500/- only.**

#### **Till October 30, 2018:**

	<b>Registration Fee</b>	<b>18% GST</b>	<b>Total</b>
<b>Student Applicant (MS, MDS, MSc., Ph.D.) With Accommodation</b>	<b>Rs. 20,000</b>	<b>Rs. 3,600</b>	<b>Rs. 23,600</b>
<b>Regular Academic (Faculty position in Govt/Private Institutions) With Accommodation</b>	<b>Rs. 25,000</b>	<b>Rs. 4,500</b>	<b>Rs. 29,500</b>
<b>Business/Industry</b>	<b>Rs. 30,000</b>	<b>Rs. 5,400</b>	<b>Rs. 35,400</b>

#### **Till October 30, 2018:**

	<b>Registration Fee</b>	<b>18% GST</b>	<b>Total</b>
<b>Student Applicant (MS, MDS, MSc., Ph.D.) without Accommodation</b>	<b>Rs. 10,000</b>	<b>Rs. 1,800</b>	<b>Rs. 11,800</b>
<b>Regular Academic (Faculty position in Govt/Private Institutions) without Accommodation</b>	<b>Rs. 15,000</b>	<b>Rs. 2,400</b>	<b>Rs. 17,400</b>
<b>Business/Industry</b>	<b>Rs. 20,000</b>	<b>Rs. 3,600</b>	<b>Rs. 23,600</b>



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### REGISTRATION FORM

#### Registration Fee Paid

Amount (Rs.) \_\_\_\_\_ GST Charges (18%) (Rs.) \_\_\_\_\_ Total (Rs.) \_\_\_\_\_

#### Method of Payment (Kindly tick the appropriate box)

Payment (by one of the methods listed below) must accompany the registration form. **Please note your registration will not be processed until payment has been received in full.**

- A  Cheque (payable to **Research Grant Account**; enclose registration details)
- B  Bank draft (payable at Lucknow in favour of **Research Grant Account**; enclose registration details)
- C  Bank transfer (Account Number: 50187533205; IFSC Code; ALLA0211028; enclose registration details)
- D  Credit card (Account Number: 50187533205; IFSC Code; ALLA0211028; enclose registration details)


#### Payment details

A: Cheque no: \_\_\_\_\_ Date \_\_\_\_\_

Name of the Bank \_\_\_\_\_

B: Draft no: \_\_\_\_\_ Date \_\_\_\_\_

Name of the Bank \_\_\_\_\_

C: Date of Transfer: \_\_\_\_\_ Reference No \_\_\_\_\_

Name of the Bank \_\_\_\_\_

D: Type of Credit Card \_\_\_\_\_ Date \_\_\_\_\_

Credit Card No \_\_\_\_\_ Exp Date \_\_\_\_\_

Date:

Signature:

Name:

*(Please send the form along with the payment to Molecular Biology Unit, Center for Advance Research, King George's Medical University, Uttar Pradesh, 226 003, INDIA. You can also email the details at [neetusingh@kgmcindia.edu](mailto:neetusingh@kgmcindia.edu)  
(In any case of difficulty, please contact Co Convenor at +91-9984801444)*