PHARMACOGENOMICS AND STRATIFIED HEALTHCARE

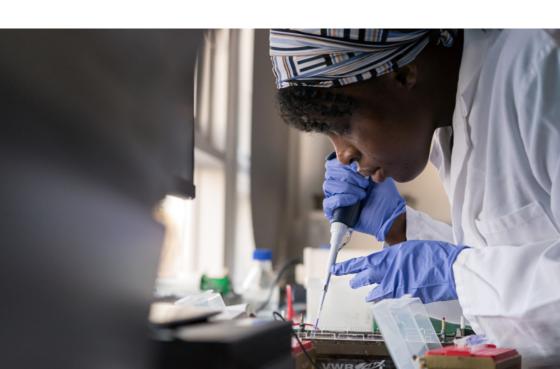|	
Duration	4 days of face-to-face teaching plus self-directed learning (including pre-module learning)
Cost:	£1250. If you are an NHS employee, full funding is available through Health Education England
Tutors:	Dr Paola di Meglio – King's College London, Lecturer in Cutaneous Immunology
Location:	King's College London (Waterloo campus)

Pharmacogenomics and stratified health aim at ensuring that patients are offered the 'right treatment, for the right person, at the right time'. Biomarkers are the tools for optimising drug response and preventing adverse drug reactions.

This module will provide an overview of the techniques and analytical strategies used in pharmacogenomics, and explore some of the challenges and limitations in this field.

Mechanisms linking genetic information to drug efficacy/drug reactions will be illustrated, along with concepts for the development of "omics"-based biomarkers for stratified healthcare.

AIMS

The aim of this module is to describe the complexity of pharmacogenomics and the effect of medication on individuals based on their genetic make-up i.e. tailoring drug treatment to improve patient response and techniques to stratify patients at risk of adverse drug reactions. The module will use examples of known validated pharmacogenomic tests relevant to the use of drug treatments.

LEARNING OUTCOMES

On successful completion of the module, you should be able to:

- Evaluate the mechanism of genomically-determined differential drug response, and drug reaction
- Appraise the strategies and analytical approaches for stratifying patients for optimal drug response or adverse drug reactions
- Analyse the challenges and limitations of pharmacogenetic studies
- Evaluate the different types of current and emerging biomarkers used in personalised medicine
- Critically evaluate how genomic information can enable development of drugs targeted for particular genotypes
- Critically evaluate the use of pharmacogenetic testing for patient stratification and the integration into standard health care

ENTRY REQUIREMENTS

Applicants should have a minimum of a lower second class degree (2:2) in a subject that offers an appropriate grounding in science, genetics or healthcare. Alternative professional qualifications may be considered.

We would recommend that candidates interested in this module consider first completing one or both of the following modules from our Genomic Medicine portfolio: Fundamentals of Human Genetics and Genomics; and Omics Techniques and Technologies and Their Application to Genomic Medicine.

PREREQUISITES

We offer Massive Open Online Courses (MOOCs) which you can study online to deepen your understanding.

We suggest the following courses:

The Genomics Era: the Future of Genetics in Medicine
Genomic Technologies in Clinical Diagnostics: Molecular Techniques
Genomic Technologies in Clinical Diagnostics: Next Generation Sequencing

These courses are available at: www.futurelearn.com/partners/sgul

More information at kcl.ac.uk/genomicmedicine
Apply via sgul.ac.uk/genomics