CME Course, March 11-13, 2020, Alexandria, Virginia

Concepts, Methods and Clinical Implementation in Precision Medicine

Course Director
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Persona Biomed Inc. The Office of International Medicine Programs, School of Medicine and Health Sciences at the George Washington University offers a 20 AMA Physicians Recognition Award (PRA) Category 1 credits Continuing Medical Education Course on Precision Medicine: Concepts, Methods and Clinical Implementation for physicians and health care providers from around the world.

Precision Medicine is an emerging model of health care delivery that holds tremendous potential for improving diagnoses and outcomes and monitoring of patients. However, there remain important challenges to its clinical implementation that need attention.

The goal for the course is to inform students of the Precision Medicine model of healthcare and how molecular composition and gene expression patterns are controlling pathogenic and pathophysiological mechanisms of disease and are teaching us on what is specific and targetable in each patient's disease. In addition, participants will learn the ethical, legal, economic, social and operational issues around how molecular biomarkers, genomic data, aggregated clinical data, and patient-reported data are being brought to bear on refining diagnoses and personalizing treatments, and on predicting disease susceptibility.

Venue: 1800 Diagonal Rd, Suite 600, Alexandria, VA

The George Washington University School of Medicine and Health Sciences designates this live activity for a maximum of 20 *AMA PRA Category 1 Credit(s)* ™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

LEARNING OBJECTIVES AND OUTCOMES

- The Precision Medicine model of healthcare.
- How molecular composition and gene expression patterns are controlling pathogenic and pathophysiological mechanisms of disease and are teaching us on what is specific and targetable in each patient's disease.
- Clinical use and interpretation of newest laboratory developed tests (LDTs) for enhanced diagnosis and therapeutic management of patients.
- Laboratory and information technologies and their regulatory environments during Precision Medicine.
- The Precision Medicine Business model, company's landscape, marketing strategies, commercialization channels and reimbursement.
- Ethical, legal, economic, social and operational issues around how molecular biomarkers, genomic data, aggregated clinical data, and patient-reported data are being brought to bear on refining diagnoses and personalizing treatments, and on predicting disease susceptibility.

PROGRAM DESCRIPTION

March-11 (1:00PM-5:00PM). Background and New Trends in Precision Medicine

- Concepts and methods of Molecular Medicine
- Signature genes and molecules to each patient's mechanism of disease and response to environmental factors, food, and drugs
- Translating genomic big data into clinical practice for health care improvement
- Complementary and companion diagnostic tests tailoring diagnosis and therapy to each patient
- TUTORIAL LECTURE: Translating genomic and molecular data into clinical practice.

March-12 (8:00AM-12:00PM). Precision Medicine Adoption, Regulation and Outcome's Monitoring

- Health care organization models of Precision Medicine, their cost-effectiveness and metrics
- Human resources, technologies, and infrastructures of Precision Medicine
- Contribution of IT and digital health to Precision Medicine's effects on outcomes
- Artificial intelligence, interactive simulation and point of care support in Precision Medicine
- TUTORIAL LECTURE: Contribution of computer sciences and digital health to Precision Medicine.

March-12 (1:00PM-5:00PM). Economics and Business Models of Precision Medicine

- Companies developing clinical technologies and providing clinical services in Precision Medicine
- Marketing and commercialization models; reimbursement/non-reimbursement markets
- The economic models of Precision Medicine, including sustainable and scalable business
- Blockchain technologies in the logistical management of data for Precision Medicine
- TUTORIAL LECTURE: Moving towards Precision Medicine Business.

March-13 (8:00AM-12:00PM). Clinical Case Studies in Precision Medicine

- Clinical cases on immune-inflammatory, endocrine-metabolic, and neurodegenerative disorders will be used. LDTs identifying changes that occur at key pathogenic pathways of the patients will help to tailor diagnosis and therapy to each patient's disease using molecular and genetic data.

March-13 (1:00PM-5:00PM). Clinical Case Studies in Precision Cancer Medicine

- Most prevalent malignancies in lung, colorectal, breast, prostate and skin will be used to show how molecular biomarkers and genomic data from the tumor and the tumor microenvironment are associated with aggregated pathophysiological data to refine diagnosis and personalize therapy.