From: Stevens, Rita (NIH/CC/OD) [E] [mailto:rita.stevens@nih.gov]
Sent: Thursday, November 16, 2017 4:37 PM
Subject: NIH Principles of Clinical Pharmacology 2017-2018 Course

The **National Institutes of Health "Principles of Clinical Pharmacology"** (PCP) course is a free online lecture series covering the fundamentals of clinical pharmacology as a translational scientific discipline focused on rational drug development and utilization in therapeutics. The course consists of approximately 50 lectures by thought-leaders from around the world. **Topics covered in the course include pharmacokinetics, drug metabolism and transport, drug therapy in special populations, assessment of drug effects, drug discovery and development, pharmacogenomics and pharmacotherapy.** Attached is the 2017-2018 course syllabus.

The 2017-2018 PCP course will be provided entirely in a web-based format. Progression through the course is self-paced from November 2017 through June 2018. The course will be of interest to graduate students, post-doctoral scholars, medical and pharmacy students, scientists, and health professionals interested in expanding their pharmacology knowledge base. There is no continuing education credit offered for the course. However, a certificate of completion is awarded to registered participants who achieve a passing score on the final examination.

To register as a remote site, please review the requirements and have the Remote Site Chairperson submit a brief request form by clicking here: https://pcp.nihtraining.com/remote_site_request.php .

- Each remote site must have at least 3 participants register for the course.
- Each remote site must have a Chairperson and Liaison (which can be the same person). The Chairperson must hold an advanced degree (MD, PhD, PharmD, DO, DDS, MPH, NP, etc).
    - Role of the Remote Site Chairperson
        - Engage their institutional participants in discussion regarding practical applications of the course's didactic content and help convey the lecture information into practical applications for their participants.
    - Role of Remote Site Liaison
        - Advertise the availability of the course at their site and encourage institutional colleagues to participate.
        - Encourage their participants to take the examination and obtain a certificate of completion.

For additional information on the course, please visit the PCP website at https://www.cc.nih.gov/training/training/principles1.html or contact the course coordinator at cc-od_clinp@mail.cc.nih.gov. **Registration for the course is open now through January 22, 2018**. Please feel free to share the course information website link with any internal or external colleagues that you feel may benefit from this course. We aim to continue to make this course a national and international success.

Sincerely,

Dr. William D. Figg & Dr. Lisa M Cordes
NIH Principles of Clinical Pharmacology Course Co-Directors

Principles of Clinical Pharmacology Course Syllabus
2017-2018

Module 1: Introduction to Clinical Pharmacology

- Introduction to Clinical Pharmacology and Therapeutics
  - Dr. Juan J. L. Lertora (NIH, retired)
- Introduction to Pharmacology, Drug Development and Clinical Pharmacology
  - Dr. William Douglas Figg (NCI)
- Practical Pharmacology
  - Dr. Anne Zajicek (NIH)
- Biochemical Mechanisms for Drug Toxicity
  - Dr. A Beasley Green (NIST)

Module 2: Pharmacokinetics

- Drug Absorption and Bioavailability
  - Dr. Jan Beumer (University of Pittsburgh)
- Use of Positron Emission Tomography (PET) in Pharmacokinetics
  - Dr. Robert Innis (NIMH)
- Compartmental Analysis of Drug Distribution
  - Dr. Art Atkinson (Northwestern)
- Noncompartmental vs. Compartmental Approaches to Pharmacokinetic Analysis
  - Dr. Paolo Vicini (Medimmune)
- Population Pharmacokinetics
  - Dr. Robert R. Bies (University of Buffalo)
- Chemical Analysis of Drugs and Metabolites
  - Dr. Sanford P. Markey (NIMH)
- Pharmacokinetics/Pharmacodynamics of Protein Drugs
  - Dr. Jurgen Venitz (VCU)

Module 3: Drug Metabolism and Transport

- Pathways of Drug Metabolism
  - Dr. Sanford P. Markey (NIMH)
- Drug Transporters in ADME and Drug Action
  - Dr. Joseph Ware (Genentech)
- P-Glycoprotein and Drug Transport Part 1
  - Dr. Michael Gottesman (NCI)
- P-Glycoprotein and Drug Transport Part 2
  - Dr. Matthew Hall (NCATS)
- Membrane Transport
  - Dr. Kathy Giacomini (UCSF)
- Drug Transport Across the Blood Brain Barrier
  - Dr. Sadhana Jackson (NCI)

Module 4: Pharmacokinetics and Drug Therapy in Special Populations

- Pharmacokinetics in Patients Requiring Renal Replacement Therapy Part 1
  - Dr. Arthur Atkinson (Northwestern)
- Pharmacokinetics in Patients Requiring Renal Replacement Therapy Part 2
  - Dr. Gregory Susla (Medimmune)
- The Liver and Drugs
  - Dr. Jurgen Venitz (VCU)
- Drug Therapy in Pregnant and Nursing Women
  - Dr. Anne Zajicek (NIH)
- Developmental and Pediatric Pharmacology
  - Dr. John N. van den Anker (Children's National)
- Drug Therapy in the Geriatric Population
  - Dr. Darrell R. Abernathy (FDA)
- Pharmacokinetics and Obesity
  - Dr. Manjunath Pai (University of Michigan)

Module 5: Assessment of Drug Effects

- Biomarkers of Drug Effects
  - Dr. Robert Schuck (FDA)
- Pharmacodynamic and Pharmacokinetic Modeling of Data
  - Dr. Joga Gobburu (University of Maryland)
- Disease Progression Models
  - Dr. Diane Mould (Projections Research Inc)
- Role of Pharmacodynamics in Drug Development
  - Dr. James Doroshow (NCI)
- Immunotherapeutics
  - Dr. James Gulley (NCI)

Module 6: Drug Discovery and Development

- Drug Discovery
  - Dr. Edward Sausville (University of Maryland)
- Quantitative Systems Pharmacology
  - Dr. D. Lansing Taylor (University of Pittsburgh)
- Computational Methods of Drug Discovery and Design
  - Dr. Glen Kellogg (VCU)
- Combinatorial Drug Screening
  - Dr. Craig Thomas (NCATS)
- Animal Scale Up and First-in-Human Studies
  - Dr. Jerry Collins (NCI)
- Dose Selection and Optimization in the Adult Population
  - Dr. Yaning Wang (FDA)
- Drug Development in the Pediatric Population
  - Dr. Anne Zajicek (NIH)
- Drug Formulation and Delivery
  - Dr. Ping Gao (Abbvie)
- Natural Products
  - Dr. Barry O'Keefe (NCI)
- T-Cell Therapies: Principles and Practice
  - Dr. James Yang (NCI)

- Pharmacokinetic and Pharmacodynamic Considerations in the Development of Macromolecules
    - Dr. Pamela Garzone (Pfizer)
- Design of Clinical Drug Development Programs
    - Dr. Christopher D. Breder (FDA)
- FDA Approval Considerations
    - Dr. Paul Kluetz (FDA)

Module 7: Pharmacogenomics and Pharmacotherapy

- Pharmacogenomics
    - Dr. Michael Pacanowski (FDA)
- Dose Modifications Based on Pharmacogenetics Research
    - Dr. Howard McLeod (Moffitt)
- Clinical Pharmacogenomics Testing
    - Dr. Mary Relling (St. Jude)
- Clinical Drug Interactions
    - Dr. Sarah Robertson (Vertex Pharmaceuticals)
- Clinical Assessment of Adverse Drug Reactions
    - Dr. Christopher D. Breder (FDA)
- Post-Marketing Drug Safety Surveillance
    - Dr. Timothy Jancel (FDA)
- Quality Assurance for Drug Therapy
    - Dr. Charles Daniels (UC San Diego)