ADVANCED BIOMEDICAL SCIENCE COURSE 2011
Today's Science for Tomorrow's Medicine
May 12 – May 23, 2014

Course Directors:
Susanna Cunningham-Rundles, PhD and Marcus Reidenberg, MD

Location: ABS meets in Weill Auditorium, C200 except for Monday May 12th and Monday May 19th when the course will meet in A250

Format: The course begins at 9 AM, ends by 1:00 PM except for Friday May 23rd when due to construction the small group discussions will begin at 1 PM and end at 2 PM. There is a coffee break each day in honor of the graduating class, compliments of Weill Cornell Medical College.

Monday, May 12, 2014 (Location: Room A-250)
Module: Host Pathogen Interactions
Director, Dr. Carl Nathan
First Session: 9:00 – 10:00 AM
   Carl Nathan, MD  Running Out of Antibiotics: A Challenge for Science and Society
Coffee break: 10:00- 10:15 (Location: Archbold Commons)
Second Session: 10:15- 12:00 Noon
   Tim Wilkin, MD   HIV and Drug Resistance  (10:15-11:00 AM)
   Kirk Deitsch, PhD  Resistance to Vaccines: Malaria & Other Challenges  (11:00-11:45 AM)
   Drs. Wilkin and Deitsch  Discussion (11:45-12:00)

Tuesday, May 13, 2014 (Location: Weill Auditorium: Room C200)
Module: Tissue Injury in Autoimmune Disease
Director: Dr. Jane E. Salmon
First Session: 9:00 – 9:45 AM
   Jane Salmon, MD  Mediators and mechanisms of antiphospholipid antibody-induced pregnancy implications
Second Session: 9:45 – 10:30 AM
   Doruk Erkan, MD  Mechanisms of antiphospholipid antibody-induced thrombosis inform new treatments
Coffee break: 10:30 – 10:45 AM (Location: Archbold Commons)
Third Session: 10:45 – 11:30 AM
   George Kalliolas, MD, PhD  Why is synovitis chronic in rheumatoid arthritis? Insights from intracellular signaling & chromatin states
Fourth Session: 11:30 – 12:15 PM
   Theresa Lu, MD, PhD  Tissue injury in Scleroderma
Discussion: 12:15PM – 12:30PM
Wednesday, May 14, 2014 (Location: Weill Auditorium: Room C200)

**Module: Advances in Neurodevelopment and Psychiatry**

**Director: Dr. Sibel Klimstra**

First Session: 9:00 –10:00 AM

- **Janna Gordon-Elliot, MD**    Introduction (9:00-9:10 AM)
- **Evelyn Attia, MD**    Eating Disorders: (9:10-10:00 AM)

Second Session: 10:00-10:50 AM

- **Conor M. Liston, MD**    Adolescent Brain Development & Risk for Psychopathology

Coffee break: 10:50-11:10 AM (Location: Archbold Commons)

Third Session: 11:10-12:00 Noon

- **Francis Lee, MD**    Models of Neuropsychiatric Disorders

Fourth Session: 12:00 Noon– 12:50 PM

- **JoAnn Difede, PhD**    Novel Therapeutics for Anxiety Disorder

Thursday, May 15, 2014 (Location: Weill Auditorium: Room C200)

**Module: Mechanisms of Vascular Health and Disease**

**Director: Dr. Katherine A. Hajjar**

First Session  9:00–9:55 AM

- **Katherine A. Hajjar, MD**    The Molecular Basis of Vascular Malformation

Second Session: 10:00- 10:45 AM

- **David P. Hajjar, PhD**    Atherosclerosis: Building the Plaque

Coffee break: 10:45- 11:15 AM (Location: Archbold Commons)

Third Session: 11:15 AM– 12:00 Noon

- **Ralph L. Nachman, MD**    Bleeding: An Exercise in Microvascular Logic

Friday, May 16, 2014 (Location: Weill Auditorium: Room C200)

**Module: Integrating Science and Medicine in Health Care**

**Director: Dr. Marcus Reidenberg**

First Session: 9:00 10:15 AM

- **Marcus Reidenberg, MD:**    Introduction
- **Jeffrey M. Perlman, MB, ChB**    Improving Newborn Health Care in a Resource Limited Environment

Coffee break: 10:15- 10:45 AM (Location: Archbold Commons)

Second Session: 10:45- 11: 30 AM

- **Marcus Reidenberg, MD**    Making Essential Medicines Available to All: The Role of the World Health Organization & the Affordable Health Care Act

Third Session: 11:30-12:15

- **Alvin I. Mushlin, MD, ScM**    Role of Scientific Research in Improving Health Care
Monday, May 19, 2014  (Location: Room A250)

Module: Origins of Obesity and Approach to Treatment Options
Director: Susanna Cunningham-Rundles
First Session  9:00–9:55 AM
  Rudolph L. Leibel, MD  Origins of Obesity
Second Session: 10:00- 10:45 AM
  Lori Zeltser, PhD  Mechanisms of Obesity in Growth and Development
Coffee break: 10:45- 11:15 AM (Location: Archbold Commons)
Third Session: 11:15 AM- 12:00 Noon
  Louis Aronne, MD  New Approaches to Treatment of Obesity

Tuesday May 20, 2014  (Location: Weill Auditorium: Room C200)

Module: Cancer
Director: Dr. Anthony Brown
First Session:  9:00 –10:00 AM
  Anthony M. C. Brown, PhD  Introduction
  Craig B. Thompson, MD  Targeting Cancer through Metabolism
Coffee break: 10:00- 10:30 (Location: Archbold Commons)
Second Session: 10:30- 11:20 AM
  John Leonard, MD  Targeted Therapies for Lymphoma
Third Session: 11:25 AM-12:15 PM
  David Solit, MD  The Power of One: Lessons from the Genomic Study of Extraordinary Responder

Wednesday May 21, 2014  (Location: Weill Auditorium: Room C200)

Module: Normal and Neoplastic Stem Cells:
Director: Dr. Susanna Cunningham-Rundles
First Session:  9:00 –10:00 AM
  Susanna Cunningham-Rundles, PhD  Introduction
  Shahin Rafii, MD  Potential Use of Stem Cells for Tissue and Organ Repair
Coffee break: 10:00- 10:30 (Location: Archbold Commons)
Second Session: 10:30- 11:15 AM
  David C. Lyden, MD, PhD  New Concepts on the Cellular Basis of Metastasis
Third Session: 11:15 AM-12:00 PM
  Monica Guzman, PhD  Targeting Stem Cells in Leukemia

Thursday, 5/22/14  (Location: Weill Auditorium: Room C200)

Module: Hospital Mobilization and Emergency Preparedness
Director: Nathaniel Hupert, MD, MPH
First Session: 9:00 -9:45AM  
**Nathaniel Hupert, MD, MPH: Simulated Public Health Disaster**

Coffee break: 9:45- 10:10 AM (Location: Archbold Commons)

Second Session: 10:15 -11:30AM  
**Chris Williams, NYC Dept of Health and Mental Hygiene: Incident Command for Emergencies**

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Friday, 5/23/14  (Location: Weill Auditorium: Room C200)

Module: Shock & Respiratory Failure

**Director, Dr. Oren Friedman**

First Session: 9:00- 9:45 AM

**Oren Friedman, MD**  
Cardiac Arrest

Second Session: 9:45-10:30 AM  
**Akhi Sista, MD and Jim Horowitz, MD**  
Advanced Therapies for Pulmonary Embolism

Coffee break: 10:30-11:00AM (Location: Archbold Commons)

Third Session; 11:00-11:45 AM

**Natalia Ivascu, MD**  
Extracorporeal Membrane Oxygenation

Fourth Session: 11:45-12:30 AM  
**David Berlin, MD:**  
Role of Critical Physiology in Care of Sick Patients

Discussion Group: Role of Translational Research in Clinical Practice

Breakout Session (1:00PM- 2:00PM)

Rooms will be assigned for each student group. Class of 2014 will be assigned to a group according to their residency or other postgraduate medical activity

**Group #1A& #1B: Medicine**

**Medicine A:** Internal Medicine, Primary Care, Pathology, Ophthalmology, Oncology, Radiation-Oncology, Otolaryngology  
**Medicine B:** Internal Medicine, Obstetrics /Gynecology, Pathology, Dermatology, Physical Med and Rehab

**Group #2:** Pediatrics and Family Medicine

**Group #3:** Surgery and Anesthesia

**Group #4:** Psychiatry and Neurology

**Group #5:** Emergency Medicine and Diagnostic Radiology

On line course evaluation for students follows the end of the course.