Global Epidemics and Public Health

Friday, November 21st, 2014

University of Florida
Cancer Genetics Research Complex
8:15am-3:30pm

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We are delighted you could join us for a day full of opportunities! Health care professionals and teachers are once again “Partnering for Tomorrow’s Health” by sharing knowledge and insight to better educate the scientists and health care leaders of the future. Join us for a day of “Personalized Medicine” from the latest research to the clinical applications and all the fun in between.

Mini Medical School is an opportunity for middle and high school teachers to experience some of the many facets of the University of Florida’s College of Medicine, much like a medical or graduate student would. Participants visit clinical and research sites, attend lectures, engage in thought-provoking discussions, share ideas and gain an appreciation for the breadth of knowledge and discovery at the University of Florida.

We hope you will find the day enjoyable and educational. Within the University of Florida’s Health Science Center and UF Health, some of the most talented and gifted researchers and clinicians are housed. We are fortunate to be able to spend time with some of them as a sampling of the fascinating work taking place at the University of Florida.

2013 marks the thirteenth year of Mini Medical School. Your feedback is particularly important in shaping Mini Medical School’s future – the constructive comments received from the evaluations will be a tremendous help in planning for next year. Please complete the evaluation and return it before leaving at the end of the day.

University of Florida Medical Guild

The University of Florida Medical Guild was founded in 1959 as a non-profit volunteer organization. Through the fundraising and volunteer efforts of Guild members, extraordinary support is made possible for the J. Hillis Miller Health Science Center. The funds support scholarships for students in the College of Medicine and for projects throughout the Health Science Center and UF Health – the guild has raised over $20,000 for these awards.

Since the Guild underwrote Mini Medical School IV in 1996, this annual event has attracted participants from school age to retirees. For the past twelve years, Mini Medical School has focused on science educators throughout Florida, as it is through them that students will come to know the opportunities available to them through the study of science.

University of Florida Center for Precollegiate Education and Training

UF CPET is the University of Florida’s “umbrella” for the articulation and transfer of current science, technology, engineering and mathematics (STEM) by linking research faculty and students with K-12 school teachers and students through a variety of campus and statewide programs. For more than half a century, CPET has offered discovery-based learning opportunities for secondary school students and, in more recent years, for teachers. The infrastructure of this University Center allows efficient and effective use of resources to administer programs on campus and throughout Florida. Its programs incorporate bridging activities that include teachers, researchers and industry professionals in preparing and delivering effective STEM education and career opportunities from middle school through graduate school. National and state science education standards govern CPET instructional programs. Activities are designed around National Research Council and Florida criteria for students to learn skills and acquire knowledge, and for developing curricula.

As a Center in Academic Affairs, CPET involves more than 300 UF scientists and engineers annually in its outreach programs. CPET also has an established history of collaborations with local, regional and state schools, and with educational and scientific professional societies. Professional development programs supported by HHMI, NIEHS, NIH, NSF, Woodrow Wilson Foundation and the University of Florida expand the content knowledge, skills, resources, and enthusiasm of in-service teachers. They also forge long-term relationships with researchers that result in converting new expertise into measurably successful new learning modules for students.

Please visit our website at: [http://www.cpet.ufl.edu](http://www.cpet.ufl.edu) for more information about our programs.
Mini Medical School 2014 was made possible by the following sponsors:
- Center for Precollegiate Education and Training
- UF Medical Guild
- UF Health

We would like to thank:

**Plenary Lecturers** – Michael Good, John Lednicky, Reuben Ramphal, Claudia Ganser

**Panel Presenters** – Tim Nevin, Greg Glass, Sarah McKune, Rick Rheingans

**UF Medical Guild Volunteers** – Beth Anderson, Michelle Donelly, Marissa Fernan-Taasan, Tina Rivkees

**UF CPET**:
- Mary Jo Koroly (Director)
- Julie Bokor (Asst. Director)
- Rimza Afzal, Mike Anthony, Houda Darwiche, Harriet Ganious, Victoria Graham, Cathleen Huynh, Charles Lawrence, Sean McKenna, Katie Meese, Christy Rodkin

Mini Medical School is coordinated by the UF Center for Precollegiate Education and Training through an award from the University of Florida Medical Guild, and sponsored in part by UF Health.

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**Center for Precollegiate Education and Training**

**UNIVERSITY of FLORIDA**

*Celebrating 50 Years of Science Outreach!*

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Program Agenda

8:15am-9:00am 
Registration
Coffee and Light Breakfast available
Location: Cancer Genetics Research Complex (CGRC) Lobby

9:00am-9:45am 
Welcome
Location: CGRC Auditorium (Room 101, North Wing)
Ms. Michelle Donnelly, UF Medical Guild
Dr. Houda Darwiche, MMS Coordinator, UF CPET
Dr. Mary Jo Koroly, Director UF CPET and Research Associate Professor, Biochemistry and Molecular Biology

9:45am-10:00am 
Introduction
Location: CGRC Auditorium (Room 101, North Wing)
Dr. Michael Good, M.D.
Dean, College of Medicine

10:00am-10:45am 
Presentation: Ebola 101
Location: CGRC Auditorium (Room 101, North Wing)
Dr. John Lednicky, Ph.D.
Associate Professor, Environmental and Global Health
College of Public Health and Health Professions

10:45am-11:15am 
Presentation: Ebola, the disease
Location: CGRC Auditorium (Room 101, North Wing)
Dr. Reuben Ramphal, M.D.
Professor, Infectious Diseases
College of Medicine

11:25am-12:10pm 
Breakout: Session One
Location: Various sites (see full listing in program folder).

12:10pm-12:55pm 
Lunch - Sponsored by UF Health
Location: Cancer Genetics Research Complex

1:00pm-1:45pm 
Breakout: Session Two
Location: Various sites (see full listing in program folder).
2:00pm-2:30pm  Presentation: *The Science Behind the Contagion*
Location: CGRC Auditorium (Room 101, North Wing)
Claudia Ganser, Doctoral Candidate
Laboratory of Juliet Pulliam
Department of Wildlife Ecology and Conservation
College of Agricultural and Life Sciences

2:30pm-3:15pm  Panel Presentation (in conjunction with the UF Center for African Studies):
*Infectious Disease and Public Health: Beyond the Medicine*
Location: CGRC Auditorium (Room 101, North Wing)
- Dr. Timothy Nevin, Department of History
  Assistant Professor, William V.S. Tubman University, Liberia
- Dr. Greg Glass, Professor, Department of Geography, College of Liberal Arts
  and Sciences; Emerging Pathogens Institute
- Dr. Sarah McKune, Assistant Professor, Department of Epidemiology and
  Director of Public Health Programs, College of Public Health and Health
  Professions
- Dr. Rick Rheingans, Associate Professor, Department of Environmental and
  Global Health, College of Public Health and Health Professions

3:30pm  Closing remarks and program evaluation
Breakout Sessions
In order to use the content from today’s workshop efficiently in your classrooms, CPET has provided three offerings for hands-on labs and activities.

The table below details the room locations for each session. For a listing of participants for each session, please see Breakout Session insert in your program folder.

<table>
<thead>
<tr>
<th>Session Title</th>
<th>Session Moderator</th>
<th>Session Description</th>
<th>Room Number</th>
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</thead>
<tbody>
<tr>
<td>Menacing Microbes</td>
<td>Christy Rodkin</td>
<td>Introduction to pathogenic microorganisms and their connection to human health</td>
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<tr>
<td>Tracking an Outbreak</td>
<td>Houda Darwiche</td>
<td>Epidemiology of disease and management strategies for epidemics</td>
<td>451A/B</td>
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<tr>
<td>Detecting Disease</td>
<td>Julie Bokor</td>
<td>An antibody test for disease detection using patient samples</td>
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Campus Map
Plenary Lecturers

Michael Good, MD
Dean
College of Medicine
Department of Biology and Emerging Pathogens Institute

Dr. Good graduated with distinction from the University of Michigan with a bachelor's degree in computer and communication sciences. He also earned his medical degree from Michigan and then came to Gainesville in 1984 to complete residency training in anesthesiology and a research fellowship at UF, where he then joined the College of Medicine faculty in 1988.

Michael L. Good, MD, is the ninth and current dean of the University Of Florida College of Medicine, where he focuses on the professional development of nearly 1,000 clinical and research faculty as well as the continued strengthening of the educational curricula for the more than 1,600 learners. Dr. Good serves on the Board of Directors for UF Health Shands and chairs the Board of Directors for the UF Health Proton Therapy Institute in Jacksonville. In his 20-plus years on the faculty, Dr. Good has held numerous leadership positions at UF and its clinical affiliates. Before being named interim dean of the College of Medicine in May 2008, he served as senior associate dean for clinical affairs in the college and chief of staff for UF Health Shands Hospital and Shands AGH. His leadership experience also extends to the Malcom Randall VA Medical Center and the North Florida/South Georgia Veterans Health System, where he served as chief of staff and system medical director, respectively.

John Lednicky, PhD
Associate Professor
College of Public Health and Health Professions
Department of Environmental and Global Health
jlednicky@phhp.ufl.edu

Dr. John Lednicky has broad training and experience in microbiology and molecular biology, and performs both basic and applied research. He has worked with various bacteria, fungi, and viruses, some of which are select agents, in a variety of settings that include A/BSL3 laboratories. At the University of Florida, he is establishing an aerobiology laboratory for BSL2 and BSL3 work using a nose-only inhalation exposure system to study the effects of respiring aerosolized pathogens. Work in the aerobiology laboratory includes mechanisms of pathology by respiratory pathogens, assessments of inhalation threats posed by airborne pathogens, vaccine efficacy/safety studies, and the refinement of air-sampling technologies for the detection of airborne pathogens. Recent work includes the genetic characterization of a unique rhinovirus C, and an obscure human polymavirus. The Lednicky laboratory also engineers cells that express specific viral receptors; these cells facilitate the isolation and propagation of the viruses that bind the receptors. Finally, the laboratory also evaluates antivirals (synthetic and natural) in-vitro and in animal models.
Reuben Ramphal, MD
Professor, Department of Infectious Disease
College of Medicine
reuben.ramphal@medicine.ufl.edu
Dr. Reuben Ramphal is an infectious disease specialist in Gainesville, Florida and is affiliated with UF Health Shands Hospital. He received his medical degree from McGill University Faculty of Medicine and has been in practice for 41 years. He is currently an adjunct professor of Medicine at UF and attending physician at Shands. Dr. Ramphal's research has recently been focused on Psuedomonas and flagellar biogenesis, and has shown that the bacterium stops making its flagella when it enters the lungs.

Claudia Ganser
Doctoral Candidate, Department of Wildlife Ecology and Conservation
College of Agricultural and Life Sciences
Laboratory of Dr. Juliet Pulliam
gancla@ufl.edu
Claudia Ganser is a Ph.D. student in the Department of Wildlife Ecology and Conservation at the University of Florida and studies avian malaria community relationships across a range of ecosystems and their impact on regional and global transmission dynamics. C. Ganser has conducted epidemiological studies for 6 years across a broad range of taxa, with particular emphasis on disease agents of avian species. Dr. Pulliam’s research focuses on quantitative approaches to understanding the determinants and dynamics of viral host jumps and on the interactions between human, domestic animal, and wildlife health. Much of the lab’s research has focused on the processes driving Nipah virus emergence in Malaysia.

Panel Discussion Participants

Timothy Nevin, Ph.D.
Visiting Lecturer, Department of History
Center for African Studies
College of Liberal Arts and Sciences
Dr. Tim Nevin is a Visiting Lecturer for the Department of History. He received his Ph.D. in African History from the University of Florida in 2010, and went on to become an associate professor at William V.S. Tubman University in Liberia, teaching Liberian history and World History classes. Dr. Nevin’s research interests include African Popular Music History, History of African National Cultural Troupes, West African Earth Shrines, History of African Prisons, The Historical Legacy of President Tubman of Liberia, West Africa’s place in World History.
Greg Glass, PhD
Professor, Medical Geography
College of Liberal Arts and Sciences
Department of Geography and Emerging Pathogens Institute
gglass@ufl.edu
http://geog.ufl.edu/dr-gregory-glass/
http://epi.ufl.edu/gregory-glass/
Greg Glass, Ph.D. is one of the newest additions to the Emerging Pathogens Institute faculty. As part of University of Florida’s Preeminence Plan, Glass comes with more than 30 years of experience in immunology, ecology, epidemiology and other public health areas. His research at UF will focus on furthering the mathematical modeling of disease outbreaks.

Sarah L. McKune, PhD
Assistant Professor, Epidemiology
Director, Public Health Programs
Center for African Studies
College of Public Health and Health Professions
smckune@ufl.edu
http://africa.ufl.edu/mckune/
Dr. Sarah L. McKune is an assistant professor of Epidemiology and the Director of Public Health Programs for the College of Public Health and Health Professions. She is also the Health Liaison for the International Center. She received an M.P.H. from Emory University, and Ph.D. from University of Florida. Her research interests include Pastoralism, livelihoods, human and environmental interactions, vulnerability / resilience, climate change, health outcomes associated with climate change, maternal and child health, food security, health in the African Sahel, HIV/AIDS.

Richard Rheingans, PhD
Associate Professor, Department of Environmental and Global Health
Center for African Studies
College of Public Health and Health Professions
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http://egh.phhp.ufl.edu/personnel/faculty/richard-rheingans-phd/
Dr. Richard Rheingans is an associate professor in Environmental and Global Health in College of Public Health and Health Professions. He received his Ph.D. from Yale University in Forestry and Environmental Studies. His research interests include the effectiveness, sustainability and scaleability of school-based water and sanitation interventions; determinants of disparities in water quality and sanitation in peri-urban areas; impact and cost-effectiveness of diarrheal control strategies in low-income countries; impact of water and sanitation on psychosocial stress; equity and distributional effects of vaccination in low-income countries; and temporal patterns in vaccination disparities in low- to middle-income countries.
Resources

The CPET website has several resources available for both teachers and students. A special page has been created with resources specific to today’s program content, which can be accessed via the following URL – http://www.cpet.ufl.edu/teachers/mms/mms-2014-program-resources. You can also reach the website by scanning the following QR code using your smart phone or tablet. If you do not already have a code reader on your device, a free app can be downloaded from the app store as per your provider (please ask Houda if you have any questions about this).
2014 Mini Medical School Participant Distribution Map