Bitten: Zika Virus

Friday, November 4th, 2016

University of Florida
Cancer Genetics Research Complex

8:30am - 4:00pm
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. 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. Some of the most talented and gifted researchers and clinicians are housed at the University of Florida’s Health Science Center. 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.

2016 marks the sixteenth 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 UF CPET allows efficient and effective use of resources to administer programs on campus and throughout Florida. CPET programs incorporate activities that connect 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 is made possible by the following sponsors:
- Center for Precollegiate Education and Training
- UF Medical Guild
- UF Health

We would like to thank:

*Plenary Lecturers* – Thomas Pearson, J. Glenn Morris, Sarah K. White, C. Roxanne Connelly


*UF CPET:* Mary Jo Koroly (Director), Julie Bokor (Asst. Director), Mike Anthony, Grace Burmester, Houda Darwiche, Harriet Ganious, Maggie Hernandez, Charles Lawrence, Sean McKenna, Christy Rodkin, Brooke Bedford, Josiah McLaughlin, and Ember Warren

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

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2016 Mini Medical School

Bitten: Zika Virus

Program Agenda

8:30am-9:15am  Check-In  
Coffee and Light Breakfast available  
Location: Cancer Genetics Research Complex (CGRC) Atrium

9:15am-10:00am  Welcome  
Location: CGRC Auditorium (Room 101, North Wing)  
Ms. Linda Allegra, President, UF Medical Guild  
Dr. Houda Darwiche, MMS Coordinator, UF CPET  
Dr. Mary Jo Koroly, Director UF CPET and  
Research Associate Professor, Biochemistry & Molecular Biology

10:00am-10:15am  Introduction  
Location: CGRC Auditorium (Room 101, North Wing)  
Thomas Pearson, M.D., M.P.H., Ph.D.  
Executive Vice President for Research & Education, UF Health Sciences Center

10:15am-11:00am  Presentation: *Zika, and other things that go bump in the night*  
Location: CGRC Auditorium (Room 101, North Wing)  
J. Glenn Morris, M.D., M.P.H.  
Professor and Director, Emerging Pathogens Institute  
College of Medicine

11:10am-11:45am  Presentation: *Detection and identification of travel-acquired Zika virus infections*  
Location: CGRC Auditorium (Room 101, North Wing)  
Sarah K. White, M.P.H.  
Doctoral Candidate, Environmental and Global Health  
College of Public Health and Health Professions

11:55am-12:40pm  Breakout: Session One  
Location: Various sites (see program book).

12:45pm-1:30pm  Lunch - Sponsored by UF Health  
Location: Cancer Genetics Research Complex Atrium

1:30pm-2:15pm  Breakout: Session Two  
Location: Various sites (see program book).

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2:20pm-3:05pm  Breakout: Session Three  
Location: Various sites (see program book).

3:15pm-4:00pm  Presentation: Biology, distribution, and insecticide susceptibility status of Florida vectors of Zika virus  
Location: CGRC Auditorium (Room 101, North Wing)  
C. Roxanne Connelly, Ph.D.  
Professor, Florida Medical Entomology Laboratory  
Institute of Food and Agricultural Sciences

4:00pm  Closing remarks and program evaluation
Breakout Sessions
In order to use the content from today’s workshop efficiently in your classrooms, CPET has provided four 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>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccines and Antibodies</td>
<td>Christy Rodkin</td>
<td>Create models to study pathogens, antibodies, and Ab/Ag interactions, and perform a lab test for Ab levels in vaccinated vs unvaccinated children</td>
<td>351</td>
</tr>
<tr>
<td>Protein Analysis: ELISA</td>
<td>Houda Darwiche</td>
<td>ELISA for Zika diagnostics, as well as structural analysis via Protein Data Bank and Jmol</td>
<td>451</td>
</tr>
<tr>
<td>DNA Analysis: PCR</td>
<td>Maggie Hernandez</td>
<td>PCR and gel electrophoresis, as well as DNA sequence analysis using BLAST</td>
<td>184</td>
</tr>
</tbody>
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Plenary Lecturers

Thomas A. Pearson, MPH, M.D., Ph.D.
Executive Vice President for Research and Education
Health Sciences Center
tapearson@ufl.edu
Dr. Pearson is a graduate of the University of Wisconsin in Madison. He earned his medical degree, master’s of public health, and doctorate from The Johns Hopkins University 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. Dr. Pearson serves as the Executive Vice President for Research and Education at the University of Florida Health Sciences Center, with a faculty appointment with the Department of Epidemiology. He reports to Dr. David S. Guzick, senior vice president for health affairs and president of UF Health. Dr. Pearson’s position serves as a catalyst for optimizing approaches to research and education across the colleges, institutes and research centers of the UF Health Science Center. Direct reports to this position include the directors of the McKnight Brain Institute, the UF Health Cancer Center, the Institute on Aging, the Clinical and Translational Science Institute, which reports jointly to the UF vice president for research; the Institute for Therapeutic Innovation at Lake Nona; and the Center for Pharmacogenetics and Systems Pharmacology at Lake Nona. He also works with the associate deans for professional education, graduate education and research in various colleges.

J. Glenn Morris, M.P.H., M.D.
Professor and Director, Emerging Pathogens Institute
College of Medicine
jgmorris@epi.ufl.edu
Dr. Glenn Morris assumed the position of Director of the Emerging Pathogen Institute in August 2007. He was recruited from the University of Maryland, Baltimore, where he was a professor and chairman of the Department of Epidemiology and Preventive medicine in their School of Medicine, as well as an interim dean of their School of Public Health. Morris has worked in public health and pathogen related fields for more than 30 years, and has had a continuing fascination with emerging pathogens. At EPI, Morris has helped to shape the creative vision behind a web of campus-wide projects to anticipate, understand and control the emergence of new, disease-causing microorganisms. Current research initiatives at EPI include work with vector-borne diseases (malaria, West Nile, equine encephalitis, blue-tongue (a major animal pathogen), and citrus greening, tuberculosis, multi-antibiotic resistant bacteria (such as methicillin-resistant staphylococcus aureus or MRSA), and food safety and diarrheal infections (including cholera and E. coli O157:H7). Studies range from very basic work on evolutionary genetics
through use of real-world data and bioinformatics to develop predictive mathematical models for disease transmission within populations.

C. Roxanne Connelly, M.P.H., M.D.
Professor, Florida Medical Entomology Laboratory
Cooperative Extension Service, Institute of Food and Agricultural Sciences
crr@ufl.edu
Dr. Connelly is Professor and Extension State Specialist of Medical Entomology at the University of Florida. She specializes in mosquito-borne diseases in the U.S., mosquito control, and mosquito biology. She works with mosquito control agencies, county health departments, and county extension offices statewide and provides training in mosquito identification and on other topics in medical entomology. She is the editor-in-chief of BUZZWORDS, the bimonthly newsletter of the Florida Mosquito Control Association; and Managing Editor of the Florida Mosquito Control Handbook. She develops educational materials for Florida County Cooperative Extension Service offices and Florida Mosquito Control Districts including fact sheets, technical bulletins, and journal articles and is part of the ENCEPHALITIS INFORMATION SYSTEM (EIS) team.

Sarah K. White, M.P.H.
Doctoral Candidate, Department of Environmental and Global Health
College of Public Health and Health Professions
Sek0005@epi.ufl.edu
Sarah White, MPH is presently a PhD Candidate in the Department of Environmental and Global Health in the UF College of Public Health and Health Professions. Her current research, under advisement from Dr. John Lednicky, focuses on virology techniques in the context of One Health - looking at zoonotic and vector-borne diseases. Prior to coming to UF, Sarah completed a Bachelor of Science in Animal Sciences at Auburn University where she gained experience in agricultural research with cattle, pigs, and horses. She then received her Master's in Public Health from Armstrong State University in Savannah, Georgia where her focus was on infectious disease and studied methods to combat antimicrobial resistant nosocomial infections at a local hospital.
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/2016resources. 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).