

7th Annual CEND Symposium
**Vaccines and Therapeutics for Emerging and Neglected Diseases:
From Science to Solutions**

9:00 AM **Breakfast & Coffee**

9:30 AM **Welcome & Opening Remarks**, Michael Eichberg, Executive Director, CEND

9:40 AM **Erica Ollmann Saphire**, Scripps Research Institute & Director of Viral Hemorrhagic Fever Immunotherapeutic Consortium
Antibodies against Ebola Virus: The Roadmap

This summer, antibody therapies made headlines when one unpublished cocktail, ZMapp, was offered compassionately to several Ebola virus patients. Saphire will describe the antigenic target of these antibodies, how they function against Ebola virus, and the genesis of a global consortium to develop these therapeutics.

10:30 AM **Matthias Schnell**, Thomas Jefferson University
Two Birds with One Stone: A Rabies Virus-based Vaccine against Filoviruses

The identification of vaccination strategies to combat filovirus infections remains an important pursuit. The use of an established, safe vaccine platform based on rabies virus (RABV) may simplify the development and application of a vaccine that protects against different diseases like Ebola and rabies. The presentation will give an update on the development of the RABV-EBOV vaccine but also present an overview on the importance of rabies, which is a neglected infectious disease claiming more than 65,000 lives a year.

11:20 AM **Panel Discussion: Translating Academic Innovation to Biotechnology Development**

Featuring: Dan Portnoy, UC Berkeley, Tom Dubensky, Aduro Biotech, Gerald Pier, Harvard, and Vu Truong, Aridis Pharmaceuticals, Jay Keasling, UC Berkeley, Chris Paddon, Amyris

12:10 PM **Lunch**

1:10 PM

Joanne Flynn, University of Pittsburgh School of Medicine
Variability Defines Mycobacterium tuberculosis infection

Tuberculosis is variable in presentation among hosts within a population, with a spectrum from stable latent infection to fulminant disease. A spectrum of infection also exists within a single host, with granulomas ranging from sterile to disseminating, and inflammation and T cell responses that are variable at each local site. Understanding the factors behind this individual host variability can lead to better treatment and prevention of tuberculosis

2:00 PM

David Russell, Cornell University
How Host Physiology Impacts the Drug Susceptibility of Mycobacterium tuberculosis

The physiology of the host macrophage is critical in determining the course of infection with *Mycobacterium tuberculosis* (Mtb) and new therapies ought to consider the infected macrophage as the “minimal unit” of infection. In a recent HTS for compounds active against intracellular bacteria we found that 50% of the hits showed conditional activity dependent on the host environment. Moreover, immune modulation of this environment impacted Mtb tolerance to frontline drugs emphasizing that the host must be integral to new drug discovery programs.

2:50 PM

Coffee break

3:20 PM

Gerald Pier, Harvard Medical School
Molecular Factors Mediating Immunity Targeting the Conserved Microbial Surface Polysaccharide, Poly-N-Acetyl Glucosamine

Poly-N-acetyl glucosamine (PNAG) is a broadly expressed surface or capsular polysaccharide detected on major bacterial and eukaryotic pathogens. Natural antibody to PNAG is generally poorly effective at mediating protection against infection, but by using modified glycoforms of the antigen antibodies can be elicited or selected from libraries that have the ability to kill target organisms facilitated by activation of the classical pathway of complement. Protective efficacy has been validated in a broad range of mouse systems of infection with different organisms and in pigs challenged with *Actinobacillus pleuropneumoniae*. The unexpected discovery by multiple investigators of a highly conserved surface antigen on most major pathogens, and means to engender effective immunity, opens up the potential for a single vaccine to provide partial or perhaps complete protection against many of the major infectious agents relevant to animal and human health.

4:10 PM

Richard Glynn, Genomics Institute of the Novartis Research Foundation

Finding New Drugs for Kinetoplastid Diseases: Sleeping Sickness, Chagas Disease, and Leishmaniasis

Chagas disease, leishmaniasis and human African trypanosomiasis are caused by related kinetoplastid parasites. We have used unbiased compound screens to find inhibitors of parasite growth. From these screen hits, we have developed lead chemical series, and identified new targets to seed future discovery efforts.

5:00 PM

Poster Session & Reception