



## *CUSO Doctoral Program in Microbial Sciences*

### **WORKSHOP “MICROBE HUNTERS”**

**December 3/4 2015, Spiez Laboratory, Spiez, BE**

#### **Organizers:**

**Dr. Marc Strasser, Spiez Laboratory**

**Dr. Oliver Engler, Spiez Laboratory**

**Prof. Stephen Leib, Institute for Infectious Diseases, University of Bern**

**Prof. Volker Thiel, Vetsuisse/Univ. Bern & Institute for Virology and Immunology IVI**

**Prof. Stefan Kunz, Lausanne University Hospital**

**Dr. Sylvia Rothenberger, Program Coordinator CUSO**

The ongoing outbreaks of Ebola virus and MERS Coronavirus dramatically demonstrate the impact of emerging highly pathogenic microbes on human health, politics, and society at a global scale. The surveillance and discovery of novel pathogens, as well as the development of novel therapeutics is therefore of utmost importance for public health.

Spiez Laboratory is the Swiss Federal institute for the civilian protection against nuclear, biological, and chemical threats. The Biology Section is responsible for providing state-of-the-art methods for the detection and characterization of emerging highly pathogenic microorganisms and for providing expert support in dealing with biological threats on national and cantonal level.

The first part of the workshop starting in the afternoon of the first day will provide an introduction into the discovery of emerging highly pathogenic microbes given by invited experts. This will be followed by presentations on the surveillance and characterization of emerging pathogens performed at Spiez Laboratory. A joint dinner will close the first day and hotel accommodation will be provided for participants.

The second part on the second day will start with an overview of the planning and construction of the new high containment facility at Spiez. This will be followed by an interactive visit of the BSL3/4 facility. The visit will allow insights into the reality of microbiology work on pathogen discovery, combined with a practical experience on personal protective equipment, explications, and information on the biosafety aspects associated with this type of microbiology work.

*Coordinator, Sylvia Rothenberger, PhD, microbiologie@cuso.ch*

2015-11-30

## PROGRAM

### Day 1: Thursday December 3, 2015

12:30 Welcome Coffee

13:00 Presentation of the program

13:15- 14:00 **Volker Thiel**, Vetsuisse/Univ. Bern & Institute for Virology and Immunology IVI  
*A decade after SARS – what have we learned?*

14:00 – 14:45 **Jens Kuhn**, Integrated Research Facility at Fort Detrick, National Institute of Allergy and Infectious Diseases, Maryland, USA  
*Filoviruses – Myths, Politics, and Very Few Facts.*

14:45 – 15:30 **Sheli Radoshitzky**, United States Army Medical Research Institute of Infectious Diseases (USAMRIID), Fort Detrick, Frederick, Maryland, USA  
*siRNA screen identifies host factors that mediate actin-remodeling during alphavirus infection*

15:30 – 16:00 Coffee break with snacks

16:00 -16:30 Presentation of Spiez Laboratory

16:30 – 17:15 Planning and Construction of the Biocontainment Laboratory in Spiez –Risk and Security

17:15 – 18:15 Interactive visit of the BSL 3/4 facility of Spiez Laboratory in 3 groups

Biosafety Instructors:

**Dr Olivier Engler**

**Dr Christian Beuret**

**Dr Benjamin Weber**

18:15 – 18:45 Questions and answers visit of the BSL 3/4 facility

19:30 Dinner with members of Spiez Laboratory and the invited speakers

### Day 2: Friday December 4, 2015

9:00 - 10:30 Presentation of projects pathogen surveillance and countermeasures at Spiez Laboratory.

**Olivier Engler**, *Projects in Virology at Spiez Laboratory; an overview.*

**Corinne Oechslin**, *Metagenomics to diagnose central nervous system infections of unknown aetiologies.*

**Pierre Schneeberger**, *Molecular assessment using metagenomics to characterise the microbial contamination of the wastewater treatment network around the city of Kampala, Uganda.*

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**Nicole Lenz**, *Sinergia Project: Plasticity of Tick-Borne Encephalitis Virus (TBEV)*  
**Matthias Wittwer** *Genome wide SNP phylogeny of Swiss Francisella tularensis holarctica isolate.*

*10:30-11:00 Coffee break*

11:00 – 11:45 **Christian Griot**, Institut für Virologie und Immunologie IVI, Mittelhäusern  
*Future challenges of public health surveillance; the veterinarians view*

12:00 – 13:30 Lunch

13:30 – 15:30 Practical experience with personal protective equipment (PPE)

Biosafety Instructors:

**Dr Olivier Engler**

**Dr Christian Beuret**

**Dr Benjamin Weber**

15:30 – 16:00: Questions and Answers

16:00 Conclusion of the workshop