

CUSO Doctoral Program in Microbial Sciences

WORKSHOP “MICROBIOLOGY IN THE HOT ZONE”

June 28, 2013

Spiez Laboratory, Spiez, BE

Organizers:

Prof. Stephen Leib, Spiez Laboratory

Dr. Marc Strasser, Spiez Laboratory

Dr. Oliver Engler, Spiez Laboratory

Prof. Silke Stertz, University of Zurich

Dr. Lukas Flatz, University Hospital Center Lausanne

Prof. Stefan Kunz, University Hospital Center Lausanne

Dr. Sylvia Rothenberger, Program Coordinator CUSO

Highly pathogenic viruses and bacteria that cause incurable diseases with high mortality represent a major challenge for current microbiology research. Due to their high virulence and the absence of efficacious treatment, research on these pathogens must be conducted in high containment laboratories of biosafety level 3/4 (BSL3/4), the so called “Hot Zone”. This joint workshop with the BSL4 facility of Labor Spiez will give an opportunity to learn more about these important pathogens and to visit a real “Hot Zone” laboratory of BSL3/4.

The first part of the workshop (morning session) will start with an introduction into the subject of emerging highly pathogenic microbes in the context of public and global health. This will be followed by presentations on research and diagnostics performed under BSL3/4 conditions, given by invited experts. This part will cover the particular challenges of research on these pathogens from a basic science, biosafety, biomedical, and agricultural point of view.

The second part will consist of a presentation of the activities of the Spiez Laboratory combined with an interactive visit of the newly constructed state-of-the-art BSL3/4 facility at Spiez Laboratory. The visit will allow insights into the reality of microbiology work in a “Hot Zone” BSL3/4 laboratory, combined with explications and information on the biosafety aspects associated with this type of research.

PROGRAM

9:30 -10:00 Welcome Coffee

10:00 Presentation of the program Stephen Leib & Stefan Kunz

MORNING SESSION

10:10 – 10:45 Highly pathogenic microbes in veterinary medicine

PD Dr. Christian Griot, Institute of Virology and Immunoprophylaxis (IVI) Mittelhäusern

10:45 – 11:20 Vaccine development and animal models for human pathogenic BSL4 viruses

Dr. Lukas Flatz University Hospital Center and University of Lausanne

11:20 – 11:55 Emerging viruses from small mammals

Dr. Felix Drexler, Bonn, Germany

Lunch: 12:00 – 13:00

AFTERNOON SESSION

13:00-13:15 Presentation of the Spiez Laboratory (Prof. Stephen S. Leib)

Research projects on “Microbiology in the Hot Zone”

13:15-13:40 MALDI-TOF: The Universal Typing Tool (M. Witter)

13:40-14:05 The pathogenicity of *Naegleria fowleri* (D. Zysset-Burri)

14:05-14:30 Tick borne diseases in Switzerland (C. Beuret)

14:30-15:55 Next-generation sequencing for the diagnostic and identification of new pathogens (Pierre Schneeberger)

15:55-15:20 Surveillance of Emerging Viruses in Switzerland (O. Engler)

Coffee Break

15:40 -16:00 Planning and Construction of the Biocontainment Laboratory in Spiez –Risk and Security (M. Strasser)

16:00-17:20 Interactive visit of the BSL 3/4 facility (D. Kumin)

17:30 Conclusion of Workshop