

One Health meets Whole genome sequencing

Summary: Whole genome sequencing (WGS) has become the new gold standard for typing of pathogens. WGS enables to understand transmission chains of bacteria, mobile genetic elements, and viruses with the highest resolution. In the near future national and international databases will allow tracking pathogen transmissions based on WGS data in and across complex settings such as humans, animals, food, water and other environmental sources. Understanding the complexity and the dynamics of those compartments will also help us to reduce transmissions of multi-drug resistant pathogens.

Several important challenges for public health and oneHealth-related questions could be identified such as setting standards for data analysis, access to important epidemiological metadata, data sharing, data protection and ethical considerations. This symposium aims to presenting current and ongoing projects in oneHealth and whole genome sequencing taking place in Switzerland – fostering the ongoing discussion on the identified challenges and paving the way for solutions in public health, diagnostics and research.

Goals of the meeting: Learning new perspectives based on presentations and discussions between scientists, clinicians, public health experts, and regulatory institutions. Possibility to network within the community. Starting new incentives.

Talk format: 15min talk followed by 5min discussion

Target audience: Clinical microbiologists, biologists, epidemiologists, public health experts and infectious disease specialists interested in molecular epidemiology and usage of whole genome sequencing for oneHealth-related aspects such as antibiotic resistance, transmission of pathogens and clinical impact.

Location: KKL Lucerne (<https://www.kkl-luzern.ch/en/conventions>)

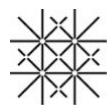
Max space: 80-100 participants (registration via email: Birke.Mebold@usb.ch) -> first come first serve basis.

Date: 21st of May 2019

CME credits: FAMH contacted

Organization committee: Adrian Egli, Jacques Schrenzel, Roger Stephan

Organizational institutions:



University
of Basel



Schweizerische Eidgenossenschaft
Confédération suisse
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Eidgenössisches Departement des Innern EDI
Bundesamt für Gesundheit BAG



Antimicrobial Resistance
National Research Programme



Schweizerische Eidgenossenschaft
Confédération suisse
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Confederaziun svizra

Eidgenössisches Departement des Innern EDI
Bundesamt für Lebensmittelsicherheit und
Veterinärwesen BLV

Program for “OneHealth meets Whole Genome Sequencing”:

08:30 – 09:30: Registration and coffee

09:30 – 09:40 Welcome

Session I: Perspectives on Whole Genome Sequencing

Chairs: Adrian Egli and Jacques Schrenzel

09:40 – 10:00 Daniel Koch (FPO) **(confirmed)**

Perspectives on the WGS technology

10:00 – 10:20 Jürg Danuser (FSVO) **(confirmed)**

Perspectives on the WGS technology

10:20 – 11:00 Rene S Hendriksen (National Food Institute, Technical University of Denmark):
(confirmed)

Usage of whole genome sequencing to address one Health challenges

11:00 – 11:20 Coffee break

Session II: Ethics, data protection and data sharing

Chairs: Daniel Koch and Helena Seth-Smith

11:20 – 11:40 Adrian Egli (USB) **(confirmed)**

Overview Swiss Pathogen Surveillance Platform (NRP72 project)

11:40 – 12:00 Susanne Driessen (Swiss Ethics) **(confirmed)**

Ethical and legal requirements for surveillance

12:00 – 12:20 Diana Elena Coman Schmid (ETH Zurich) **(confirmed)**

Data protection of medical data

12:20 – 12:40 Richard Neher (University of Basel) **(confirmed)**

Incentives for WGS data sharing

12:40 – 14:00 Lunch

Session III Food borne pathogens**Chairs: Jürg Danuser and Gilbert Greub**14:00 - 14:20 Mirjam Mäusezahl (FPO) **(confirmed)***Foodborn pathogens in Switzerland*14:20 - 14:40 Helena Seth-Smith (University Hospital Basel) **(confirmed)***Campylobacter spp.: always from chicken to men?*14:40 - 15:00 Guido Bloemberg (University of Zurich) **(confirmed)***Outbreak investigation of Salmonella spp. in Switzerland*15:00 - 15:20 Sarah Tschudin-Sutter (University Hospital Basel) **(confirmed)***Transmission of ESBL-producing E. coli in Basel (NRP72 project)*

15:20 – 15:40 Coffee break

Session IV Transmissions from the environment and animals to humans**Chairs: Roger Stephan and Sarah Tschudin-Sutter**15:40 – 16:00 Andrea Endimiani (University of Bern) **(confirmed)***Carbapenemase producing Enterobacteriaceae in humans (NRP72 project)*16:00 – 16:20 Vincent Perreten (VetSuisse, Bern) **(confirmed)***Carbapenemase producing Enterobacteriaceae in animals*16:20 – 16:40 Jacques Schrenzel (University Hospital Geneva) **(confirmed)***Unusual zoonoses: the contribution of NGS*16:40 – 17:00 Gilbert Greub (University Hospital Lausanne) **(confirmed)***Genomics of Chlamydia-related bacteria*

17:00 – 17:40 Coffee break

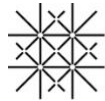
Session V Discussions

17:40 – 18:10 Moderated round table discussion

Daniel Koch (FPO), Jürg Danuser (FSVO), Susanne Driessen (Swiss ethics), Jacques Schrenzel (Diagnostics), Roger Stephan (Food & Veterinary), Richard Neher (Basic Research), Sarah Tschudin-Sutter (Hospital Epidemiology).

18:10 – 18:20 Closing remarks

Adrian Egli (University Hospital Basel), Roger Stephan (University of Zurich), Jacques Schrenzel (University Hospital Geneva)

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