

# 11<sup>th</sup> Global Microbial Identifier Program

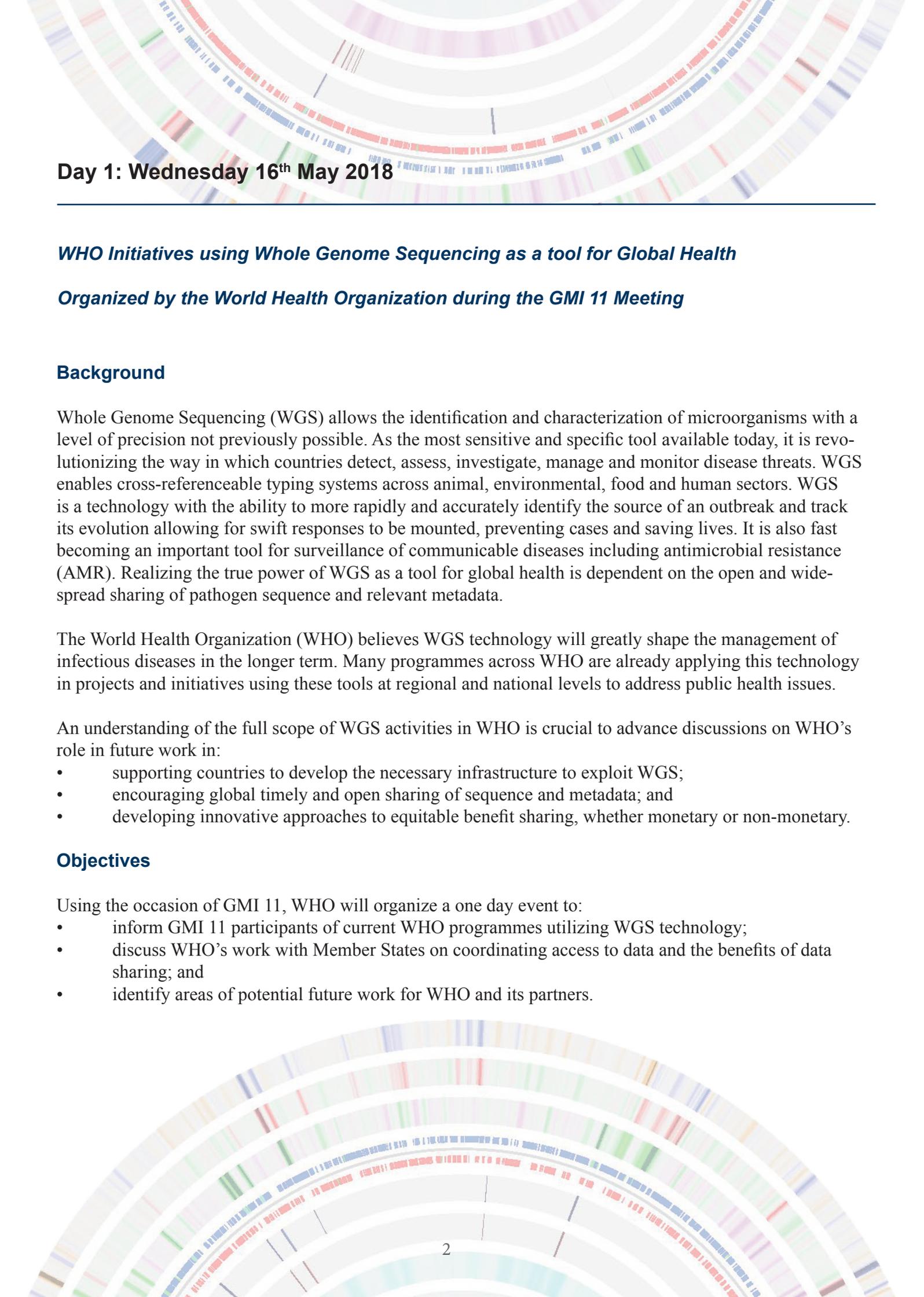
16 - 18 May 2018

Centre International de Conférences, Geneva, Switzerland  
17 rue de Varembé, CH - 1211 Geneva 20



*Whole Genome Sequencing - One Health Microbiology*





**Day 1: Wednesday 16<sup>th</sup> May 2018**

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## ***WHO Initiatives using Whole Genome Sequencing as a tool for Global Health***

***Organized by the World Health Organization during the GMI 11 Meeting***

### **Background**

Whole Genome Sequencing (WGS) allows the identification and characterization of microorganisms with a level of precision not previously possible. As the most sensitive and specific tool available today, it is revolutionizing the way in which countries detect, assess, investigate, manage and monitor disease threats. WGS enables cross-referenceable typing systems across animal, environmental, food and human sectors. WGS is a technology with the ability to more rapidly and accurately identify the source of an outbreak and track its evolution allowing for swift responses to be mounted, preventing cases and saving lives. It is also fast becoming an important tool for surveillance of communicable diseases including antimicrobial resistance (AMR). Realizing the true power of WGS as a tool for global health is dependent on the open and widespread sharing of pathogen sequence and relevant metadata.

The World Health Organization (WHO) believes WGS technology will greatly shape the management of infectious diseases in the longer term. Many programmes across WHO are already applying this technology in projects and initiatives using these tools at regional and national levels to address public health issues.

An understanding of the full scope of WGS activities in WHO is crucial to advance discussions on WHO's role in future work in:

- supporting countries to develop the necessary infrastructure to exploit WGS;
- encouraging global timely and open sharing of sequence and metadata; and
- developing innovative approaches to equitable benefit sharing, whether monetary or non-monetary.

### **Objectives**

Using the occasion of GMI 11, WHO will organize a one day event to:

- inform GMI 11 participants of current WHO programmes utilizing WGS technology;
- discuss WHO's work with Member States on coordinating access to data and the benefits of data sharing; and
- identify areas of potential future work for WHO and its partners.

# AGENDA

TIME	SESSION	SPEAKERS
09:00-09:20	Opening	Jørgen SCHLUNDT, GMI Steering Committee Chair
	Welcome remarks	Kazuaki MIYAGISHIMA, Director, Food Safety and Zoonoses
	Overview of the day and objectives	Tim CORRIGAN, Consultant, Food Safety and Zoonoses
09:20-10:00	Whole genome sequencing in foodborne disease surveillance: improving surveillance	Jorge MATHEU ALVAREZ, Project Officer, Food Safety and Zoonoses
	The International Food Safety Authorities Network (INFOSAN) and recent outbreaks	Peter BEN EMBAREK, Scientist, INFOSAN Secretariat
10:00-10:30	Discussion	Moderator: Carmen Savelli, Technical Officer, INFOSAN Secretariat
10:30-11:00	Coffee Break	
11:00-12:00	Genetic sequencing for surveillance of drug resistance in tuberculosis	Matteo ZIGNOL, Scientist, TB Monitoring and Evaluation
	Genetic sequencing and HIV	Silvia BERTAGNOLIO, Medical Officer, HIV Treatment and Care
	Genetic sequencing and Influenza	Wenqing ZHANG, Manager, High Threat Pathogens
12:00-12:30	Discussion	Moderators: Matteo ZIGNOL, Scientist, TB Monitoring and Evaluation; Carmem PESSOA DA SILVA, Me- dical Officer, AMR Surveillance
12:30-13:30	Lunch	
13:30-14:30	Implications for emerging pathogens	Sylvie BRIAND, Director, Infectious Hazard Management
	Pandemic Influenza Preparedness (PIP) Framework	Anne HUVOS, Manager, PIP Secretariat
	International legal perspectives	Steven SOLOMON, Principal Legal Officer, Governing Bodies and Public International Law
14:30-15:00	Discussion	Moderator: Sebastien COGNAT, Team Leader, Preparedness, Readiness & Core Capacity Building
15:00-15:30	Coffee Break	

TIME	SESSION	SPEAKERS
15:30-16:00	WGS across WHO	Vaseeharan MOORTHY, Coordinator, Research, Ethics and Knowledge Management
16:00-16:50	Final discussion	Moderator: Peter BEN EMBAREK, Scientist, INFOSAN Secretariat
	Next steps and way forward	Jorge MATHEU ALVAREZ, Project Officer, Food Safety and Zoonoses
16:50-17:00	Closing	Steven MUSSER, Deputy Director for Scientific Operations, United States Food and Drug Administration
17:00	End of day	

***The meeting will be followed by a reception.***

## Day 2: Thursday 17<sup>th</sup> May 2018



### ***Active Systems and Barriers to International Data Sharing***

Chair: Joergen Schlundt, NTU NAFTEC, SG

08:30-08:50	Welcome – the future of WGS	
08:50-09:10	Active Systems and Overcoming NGS Barriers in the Developing World	Enrique Delgado, UNAM, MX
09:10-09:20	Genomic Data Sharing under Nagoya Protocol – Future International Initiatives	George Haringhuizen, RIVM, NL
09:20-09:40	The Vision of Sharing	Eric Stevens, US FDA, USA
09:40-10:00	Metagenomic Sewage Surveillance	Frank Moeller Aarestrup, DTU, DK
10:00-10:30	Discussion Panel: Data Sharing	
10:30-11:00	Coffee Break	

### ***Advances in the Use of WGS in Clinical Microbiology and Functional Genomic***

Chair: Marion Koopmans, Erasmus MC, NL

11:00-11:20	Biology and Epidemiology of Shiga Toxin-Producing E. coli – NGS Investigations	Eelco Franz, RIVM, NL
11:20-11:40	Practical Issues in Implementing Next-Generation-Sequencing in Routine Diagnostic Microbiology	John WA Rossen, University of Groningen, NL
11:40-12:00	Prospective Genomic Surveillance in a Clinical Environment: Tracking Resistance and its Mobilization.	Lynn Bry, Harvard Medical School, USA

TIME	SESSION	SPEAKERS
12:00-12:20	The Impact of Pathogen Genomics in U.S. Public Health	Greg Armstrong, US CDC, USA
12:20-12:40	NGS Provides Functional Insight into the Survival and Persistence of Bacterial Pathogens: The Case of Salmonella	Jie Zheng, US FDA, USA
12:40-13:50	Lunch	

## NGS Proficiency Testing and New Areas

Chair: Eric Brown, US FDA, USA

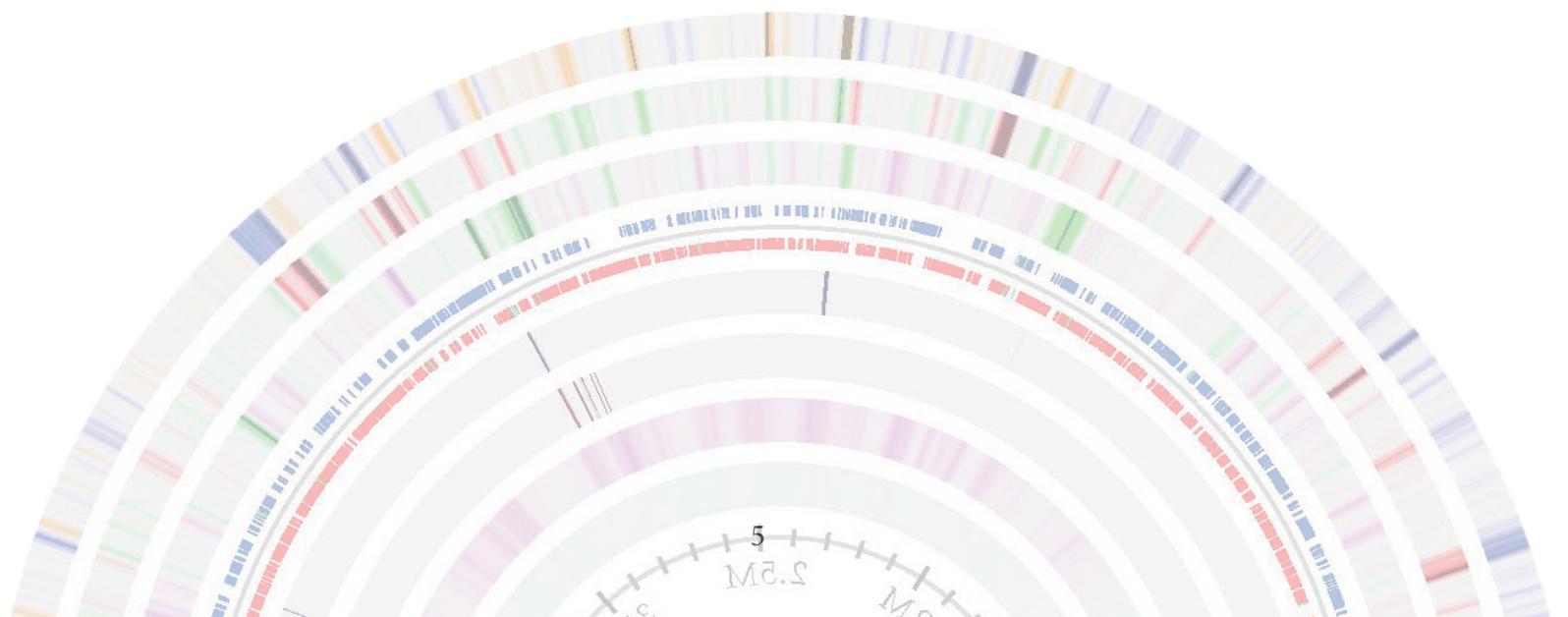
13:50-14:10	Next Generation Sequencing Technologies for Plant Pest Diagnostics	Baldissera Giovani, EUPHRESKO, FR
14:10-14:30	NGS in the Detection of Genetic Exchange in Streptococci and Staphylococci from Food, Human and Animal Sources	Christoph Jans, ETH, Zurich, CH
14:30-14:50	UNSGM PT + GMI PT Bacs	Rene Hendriksen, DTU, DK
14:50-15:10	Establishment of Quality Control in PulseNet/GenomeTrakr	Eija Trees and Ruth Timme -TBC
15:10-15:30	CDC experience on using WGS for patient management – implications on QA/QC	Eija Trees, US CDC, USA
15:30-16:00	Coffee Break	

## AMR NGS and Accreditation of NGS Labs

Chair: Andreas Nitsche, RKI, DE

16:00-16:20	AMR Genes	David L. Trees, US CDC, USA
16:20-16:40	The NCBI Pathogen Detection Browser: Integrating Antimicrobial Resistance Genotypes and Phenotypes	Bill Klimke, NCBI, USA
16:40-17:00	Tracking the Resistome in One Health Surveillance	Patrick McDermott and Heather Tate, US FDA, USA
17:00-17:20	The EUCAST Consultations on WGS for Predicting Antimicrobial Susceptibilities	Matthew Ellington, Public Health England, UK

*Conclusion of Day 2*





TIME	SESSION	SPEAKERS
16:40-16:50	WG1 Outcome	Joergen Schlundt, NAFTEC, SG
16:50-17:00	WG2 Outcome	Bill Klimke, NCBI, USA
17:00-17:10	WG3 Outcome	Marion Koopmans, Erasmus MC,NL
17:10-17:20	WG4 Outcome	Rene Hendriksen, DTU, DK
17:20-17:50	Concluding Discussion – incl. suggestions for GMI12 Venue	
<i>Conclusion of Day 3</i>		

### Further details

The meeting will be held at the Centre International de Conférences (CICG). A list of suggested nearby accommodation, further details and updates of the programme are available at: <http://www.globalmicrobial-identifier.org/news-and-events/11th-meeting-on-global-microbial-identifier-in-genva-switzerland>

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### Registration

Register for your attendance at: <https://reg.unog.ch/event/23651/>

