



MOOD hybrid workshop

IDENTIFY SIGNS AND DRIVERS OF ZONOTIC DISEASES EMERGENCE AND DIGITAL DATA RESOURCES FOR EPIDEMIC INTELLIGENCE

Date

28th-29th September 2022

Venue: Science Museum MUSE -TRENTO (Italy)

Scientific program

28th September 2022

Time 8.30-9.00 am

Registration

Time 9.00-9.30

Welcome and opening speech by Dr.ssa Annapaola Rizzoli (FEM), Dr.ssa Elena Arsevaska (CIRAD), Prof. Mario Pezzotti (FEM), Dr. Michele Lanzinger (MUSE), Dr Stefano Merler (FBK), Dr.ssa Valentina Perrotta (PAT), Dr. Giancarlo Ruscitti (PAT), Dr Francesco Pizzo (APSS).

Time 9.30-10.30

Chair Dr Heidi C. Hauffe

Plenary presentation: Prof. Peter Hudson. Science and pre-emergent prevention

Time 10.30-11.00

Coffee break

Time 11.00-12.00

Chair Dr Heidi C. Hauffe

Plenary presentation (on-line): Prof. Marion Koopmans. Tracking and real-time risk assessment of emerging viruses: lessons learned from the COVID-19 pandemic

Time 12.00-13.00

Lunch break

Time 13.00-14.50

Session 1: Cross cutting theme: Which drivers and how they affect disease emergence

Session 1a: Climate and environment as drivers of infectious disease: the evidence.

Chair Dr William Wint

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| 13.00-13.25 | Keynote: Dr. William Wint. What climate data are out there and which should you use for modeling |
| 13.25-13.50 | Keynote: Dr. Donal Bisanzio. What needs to be done to climate drivers to make them model friendly? |
| 13.50-14.05 | Dr Olivier Restif. Untangling the seasonal drivers of zoonotic spillover from wildlife: Hendra virus dynamics in an Australian bat colony. |
| 14.05-14.20 | Dr. Eleanor M Rees. Effect of hydrometeorological indicators on leptospirosis risk in Fiji: a modelling study. |
| 14.20-14.35 | Dr. Francesca Dagostin. Does high habitat diversity reduce the risk of TBE in Europe? |
| 14.35-15.50 | Dr. Giulia Mencattelli. West Nile virus Lineage 2 overwintering in Italy. |

Time 14.50-15.10

Short break

Time 15.10-17.25

Session 1b: Biodiversity loss, wildlife conservation, host and pathogen traits.

Chair Dr. Valentina Tagliapietra

- 15.10-15.35 Keynote: Prof. Raina Plowright. Cornell University. Pathogens spillover: lesson learned from bat borne viruses.
- 15.35-16.00 Keynote: Dr. Xavier Bailly. Describing the diversity of tick-borne pathogens to understand their transmission routes and manage their emergence.
- 16.00-16.25 Keynote: Dr. Lorenzo Serra. Changes in bird migration pattern in relation to West Nile virus emergence in Europe.
- 16.25-16.40 Dr. Joanne Lello. Macroparasites as drivers of emerging disease.
- 16.40-16.55 Dr. Sarah Perkins. Merging ecology and technology: the capacity for detecting infectious diseases in wildlife using computer vision
- 16.55-17.10 Dr. Benjamin Roche. Prezode: Preventing zoonotic disease emergence
- 17.10-17.25 Dr Nicola Ferrari. Epidemiological intelligence for surveillance of animal health: monitoring mass mortality events in wildlife

Time 17.25-17.50

Coffee break

Time 17.50-18.40

Session 1c: Socio-economical drivers of diseases emergence

Chair Dr. Luca Busani

- 17.50-18.15 Keynote. Dr. Stefano Merler. Epidemiology of SARS-Cov-2 and public health indicators
- 18.15-18.40 Keynote. Dr. Anna Ruggieri. Gender and infectious diseases

Time 19.30-22.00

Aperi-dinner at MUSE

29th September 2022

Time 9.00-10.00

Chair Dr Heidi C. Hauffe

Plenary presentation. Prof. Jan Semenza. Harvesting the potential of big data for vector-borne disease outbreaks

Time 10.00-11.00

Chair Dr Heidi C. Hauffe

Plenary presentation. Prof. Emily Gurley. Spillover Surveillance and One Health Response: Understanding Emerging Zoonotic Threats in Real Time.

Time 11.00-11.30

Coffee break

Time 11.30-13.00

Session 2: Cross cutting theme: What methods and tool can be applied to drivers to provide early warning and rapid disease risk assessment?

Session 2a: Automatic data acquisition via web-scraping

Chair Dr. Maguelonne Teisseire

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| 11.30-11.55 | Keynote. Dr. Mathieu Roche. How text-mining could improve epidemiological surveillance? |
| 11.55-12.20 | Keynote: Dr. Linda MacKinnon. Innovative Surveillance: ISID's Program for Monitoring Emerging Diseases (ProMED). |
| 12.20-12.35 | Dr. Paolo Tizzani. Contribution of epidemic intelligence to transparency and timeliness in reporting to the World Organisation for Animal Health. |
| 12.35-12.50 | Dr. Andrzej Jarynowski. Social tensions due to ASF and HPAI on Polish Twitter. |

Time. 13.00-14.00

Lunch break

Time 14.00-16.05

Session 2b: Innovative modelling methodologies that enable risk modelling and mapping.

Chair Dr. Giorgio Guzzetta and Prof. Roberto Rosà

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| 14.00-14.25 | Keynote. Dr. Vittoria Colizza. Source-sink epidemic dynamics shaping COVID-19 pandemic waves. |
| 14.25-14.50 | Keynote. Dr. Moriz Kraemer. The context specific emergence and spread of novel SARS-CoV-2 VOCs |
| 14.50-15.05 | Dr. Giovanni Marini. Drivers of West Nile virus human transmission risk in Europe |
| 15.05-15.20 | Dr. Carla Ippoliti. EO data and Deep Learning methods to map Culex pipiens distribution in central Italy. |
| 15.20-15.35 | Dr. Ioannis Kioutsoukis. Early warning of WNV human cases issued from a climate-dependent epidemiological model operating in a probabilistic framework. |
| 15.35-15.50 | Dr. Chiara Poletto. Global spatiotemporal pattern and potential drivers of influenza decline during the COVID-19 pandemic. |
| 15.50-16.05 | Dr Chiara Sabbatini. Local vs nationwide restriction against COVID-19 pandemic in France between September 2020 and June 2021. |

Time 16.05-16.30

Coffee break

Time 16.30-17.30

Chair dr. Heidi C.Hauffe

Plenary presentation (on-line). Prof. Hector Aguilar- Carreno. Broad-spectrum countermeasures in response to early spillover events.

Time 17.30

Closing of the meeting