PCW 12

One Health in the Era of Big Data

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Duration: Half Day

The world is changing rapidly, and mankind faces planetary environmental problems related to climate change, human population increase, loss of biodiversity, and deterioration of ecosystems. These environmental changes are linked to the emergence and re-emergence of infectious and multifactorial non-communicable diseases. The multidisciplinary and cross-sector collaborative “One Health” approach was developed to address health hazards that originate at the animal-human-environment interface. One Health focuses on effective detection, response, and prevention of diseases that can spread between animals and humans, food safety problems, and antimicrobial resistance, but its concepts can be extended to non-infectious disease risks. To advance understanding of human-animal-ecosystem health challenges, One Health researchers often integrate large datasets from multiple sources. A major development in the field is the increasing use of molecular methods to assess the microbiome, virome, or whole metagenome in human, animal, and environmental samples. This pre-conference workshop will provide examples of current One Health research in the era of ‘omics’ and Big Data. Given
the explosive growth of publication of One Health studies, it also will address challenges with data synthesis across studies. Finally, it will touch upon the importance and challenges for use of One Health data to inform policy.