Special Issue

Artificial Intelligence (AI) as One Health Tool in Pathology to Monitor and Control Infectious Diseases

Message from the Guest Editors

Over the last decade, Artificial intelligence (AI) has received much attention and is dramatically transforming all human activities. “Deep learning” (DL) has been used in biomedical sciences. “Convolutional neural network” (CNN), successfully applied to diagnostic imaging and pathology.

As far as pathology is concerned, most AI research is currently targeted to neoplastic disorders, aiming to improve/standardize the diagnosis and the grading of cancer. However, several research groups are currently developing CNNs to detect the lesions caused by different pathogens. This is particularly true in veterinary medicine, as CNNs could act as efficient and effective tools to monitor the trend of infectious diseases.

Likewise, CNNs could be trained to early detect emerging, foreign, and zoonotic diseases, which might represent a serious threat for human health, food safety and profitability of livestock farming.

Considering the recent occurrence and spreading of severe human infectious diseases (e.g., COVID-19, monkeypox virus infection), we do not rule out that AI-based technologies could gain greater importance in human pathology in the next future.

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Message from the Editor-in-Chief

The worldwide impact of infectious disease is incalculable. The consequences for human health in terms of morbidity and mortality are obvious and vast but, when infections of animals and plants are also taken into account, it is hard to imagine any other disease that has such a significant impact on our lives—on healthcare systems, on agriculture and on world economics. *Pathogens* is proud to continue to serve the international community by publishing high quality studies that further our understanding of infection and have meaningful consequences for disease intervention.

Editor-in-Chief

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