

Accepted Manuscript

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PII: S2452-3100(18)30055-6

DOI: [10.1016/j.coisb.2018.08.009](https://doi.org/10.1016/j.coisb.2018.08.009)

Reference: COISB 185

To appear in: *Current Opinion in Systems Biology*

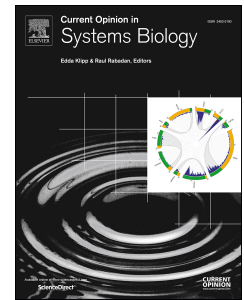
Received Date: 24 May 2018

Revised Date: 20 July 2018

Accepted Date: 19 August 2018

Please cite this article as: Handel A, Liao LE, Beauchemin CAA, Progress and trends in mathematical modelling of influenza A virus infections, *Current Opinion in Systems Biology* (2018), doi: 10.1016/j.coisb.2018.08.009.

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Progress and trends in mathematical modelling of influenza A virus infections

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Abstract

Mathematical modelling of influenza A virus infection has seen increased use over the last several years. Models applied to both *in vitro* and *in vivo* data have provided important new understanding of the kinetics of the virus, the role of different components of the immune response, the importance of non-infectious influenza A virus particles, the issue of drug treatment and resistance, and the interaction mechanisms during bacterial co-infections. We review these contributions by mathematical models, with a focus on studies performed in the last several years. For continued progress, we emphasize robust data and parameter estimation approaches.

Keywords: influenza virus, mathematical modelling, antiviral resistance, defective interfering particles

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