Modeling and simulation of infectious diseases

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Published online: 19 August 2020

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The pandemic of 2020, due to SARS-CoV-2, named COVID-19 and referred to as coronavirus, has been responsible for hundreds of thousands of deaths in 2020 alone. Literally overnight, the COVID-19 pandemic has led to an explosion of research in the area of modeling and simulation of infectious diseases. Without a doubt, it is probably the single most important health issue that has faced modern civilization-ever. Accordingly, this special issue explores numerous aspects associated with this epoch-changing event that is now facing humanity. Contributions include, modeling and simulation of

- Disease propagation
- Logistical responses
- Political responses, etc.

Time is of essence. Accordingly, we firmly believe that even qualitative results are useful at this point in time. Today, policy decisions are being made with literally life or death consequences, and it our belief that modeling and simulation can play a key role in guiding these decisions. Thus, while we understand that definitive statements cannot be made at this time, we believe that modeling and simulation can help guide research toward concrete, tangible results in a timely fashion. This special issue collects works

of several top researchers in computational mechanics who are actively modeling and simulating infectious diseases. The special issue provides a “snapshot” of this research, which we hope will provide insight, spark discussion, and shape ways towards solving this public health problem that continues to vex humanity.

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Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

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