Mathematical Advances in Studying Rare and Novel Diseases

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Message from the Guest Editors

By now, mathematics has contributed many models, methods and algorithms to the fight against human diseases. Mathematical analysis is widely used to control the load on public health systems, to monitor and predict disease spread, to assist drug and vaccine development, and to evaluate and confirm empirical biological methods. Researchers of rare diseases have a specific interest in analytical and computational methods when they deal with limited possibilities of clinical trials. In the fight against novel diseases, of particular importance is an accurate and reliable prediction of disease spread and severity. Under epidemiological threat, the challenge is to develop a quick response including the discovery of drugs and vaccines under the conditions of an intrinsic lack of biomedical data for analysis.

In this Special Issue, we aim to gather new and unpublished works on mathematical advances targeting research of rare and novel diseases. We welcome mathematical models, computational algorithms and other contributions to this interdisciplinary area with a strong mathematical basis.

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Special Issue

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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