

Future scope

In the future, one can follow the possible directions:

- Explore different types of fractional derivative operators to better understand epidemiological models.
- Collaborate with researchers to validate the proposed fractional models using real world data. This can enhance the reliability and applicability of fractional calculus.
- Extend the modelling of cancer growth to include optimization strategies for treatment. Use fractional calculus to find optimal treatment strategies for cancer patients, such as the best timing, dosage, and combination of therapies.
- Develop and apply advanced numerical methods for fractional systems. Investigate how machine learning algorithms and advanced optimization techniques can be integrated to improve the simulation accuracy and efficiency.
- Add time delays to fractional models to capture the effects of delays in transmission, treatment response, or immunity, and study how they affect the system stability and dynamics.
- Collaborate with medical experts to apply the fractional models to clinical settings, such as early diagnosis, prognosis, and personalized treatment planning.