

Research interests

- 1- Differential Equations (ODE & PDE)
- 2- Fractional Dynamic Systems
- 3- Inclusions, Inequalities and Multivalued Maps
- 4- Semigroup Theory and Abstract Analysis
- 5- Control Theory, Optimal Control and Optimization
- 6- Stochastic Analysis and Random Variables
- 7- Dynamical Systems
- 8- Mathematical Modelling
- 9- Cancer & HIV/AIDS Dynamics
- 10- Infectious and noninfectious diseases models

Project description

Possible research projects include but are not limited to ones represented in list of publications (see my CV). For instance,

- M. Boukhobza, A. Debbouche, L. Shangeranesh, D.F.M. Torres, Modeling the dynamics of the Hepatitis B virus via a variable-order discrete system, . *Chaos, Solitons & Fractals*, 184 (2024),
- N.H. Tuan, A.T. Anguyen, A. Debbouche, V. Antonov, Well-posedness results for nonlinear fractional diffusion equation with memory quantity, *Discrete and Continuous Dynamical Systems-S*, in press, 16(10) (2023) 2815-2838,
- N. Hakkar, R. Dhayal, A. Debbouche, D.F.M. Torres, Approximate Controllability of Delayed Fractional Stochastic Differential Systems with Mixed Noise and Impulsive Effects, *Fractal and Fractional*,
- etc.