

# **Digital-twin approach for mathematical modelling**

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The work we present revolves around the theory of Stieltjes derivatives applied to ODE as well as to EDP models, a field which has started expanding recently with important findings and a wide range of applications. On one hand, the ideas are applied to infectious diseases by considering ODEs involving Stieltjes derivatives. Moreover, the importance of these derivatives are shown by considering a mathematical model to analyze the population dynamics of *Vespa Velutina*.