

# WEBINAR

## Grupo de Análise Funcional e Aplicações Functional Analysis and Applications Group

### The pandemic seen from a simple mathematical model perspective

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#### Abstract

In this talk, we will describe a simple Susceptible-Infected-Quarantine-Recovered (mSIQR) model, for the dynamics of SARS-CoV-2, responsible for the COVID-19 pandemic. After the relevant theoretical analysis, including the well-posedness of the model, calculation of the reproduction number and the corresponding sensitivity indices, we discuss the results of the simulations of the model. COVID-19 pandemic data, from several countries, including France, US, UK, and Portugal, are fitted by the model. We discuss the epidemiological relevance of the results and provide insights on future patterns, subjected to health policies.

KEYWORDS epidemiology, mSIQR model, real data fitting, SARS-CoV-2

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