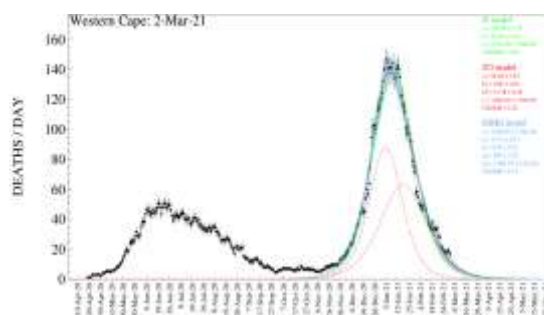# Mini-School

"Mathematical modelling of COVID-19"

Instructors: Nico Orce (University of the Western Cape, UWC), José Enrique Amaro (Universidad de Granada, Spain), Jérémie Dudouet (CNRS, Univ Lyon, France), Azwinndini Muronga (Nelson Mandela University, SA), Dephney Mathebula (University of Venda, SA), Nikita Bernier (UWC/University of Zululand), Thifhe Bucher (UWC/University of Zululand), Michelle Lochner (UWC)

Abstract: Within the umbrella of COVID-19 - but not restricted to – we have developed computational programs, android apps and other computational and fundamental-science tools, which involve CERN-based ROOT codes in C++, Python, FORTRAN, Monte Carlo simulations, etc. These are based on simple epidemiological models that we have developed to follow the evolution of COVID-19 coronavirus worldwide following official data from Worldometer: https://www.worldometers.info/coronavirus Our paper has been published in the prestigious journal Applied Mathematical Modelling and is now part of the Elsevier Public Health Emergency Collection: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7580557

The overall program encompasses the fields of epidemiology, modeling, computation, mathematics, biology and physics. The different tools we have developed will be presented during the workshop. Some have already been implemented at the Universities of Pretoria, Western Cape, Nelson Mandela, Venda and Zululand. This mini-workshop is open to any undergrad and postgrad students from any South African and international universities and institutions who wish to join.

Lecture 1: Introduction to simple epidemiological models. 9 March 2021.
Lecture 2: Mathematical Modelling of Covid-19 waves.. 16 March 2021.
Lecture 3: C++/Python applications I 23 March 2021.
Lecture 4: Plank MonteCarlo and Android App Awareness. 30 March 2021.

Time: 14h00 -15h00

Register in advance for this webinar:
https://ukzn.zoom.us/webinar/register/WN_FtjNuHTDR0ysn-wpQjDNAw

After registering, you will receive a confirmation email containing information about joining the webinar.