## comokit4py : a python package to ease GAMA model's simulation integration into a high performance computing workflow

A. Brugière<sup>1,2</sup>, K. Chapuis<sup>3</sup>

 <sup>1</sup> UMI 209 UMMISCO, IRD, Sorbonne Université, France
<sup>2</sup> Thuyloi University, Hanoi, Vietnam
<sup>3</sup> ESPACE-DEV, Univ Montpellier, IRD, Univ Antilles, Univ Guyane, Univ Réunion Montpellier, France

arthur.brugiere@ird.fr, kevinchapuis@gmail.com

## Keywords

Model exploration, high-performance computing, software engineering, covid-19

## Abstract

Agent-based model (ABM) are a kind of computer model that makes it possible to simulate a set of autonomous interacting programs called agents in a shared virtual environment. Among other application field, it has been commonly used to simulate social phenomena such as urban segregation, opinion dynamic or epidemiological crisis. Recently, a research emphasis has been put on ABM to study *in silico* the impact of non-pharmaceutical interventions to mitigate the SARS-CoV-2 outbreak of 2020, with few of them that had a great impact on global political responses. Among the model used COMOKIT has been design to simulate the every-day-life of inhabitant of various cities in Vietnam and test policy interventions for various COVID-19 spread scenarios. Such endeavor required huge computational power to handle a huge number of simulation replication over a large set of parameters. In this proposal we present a python package that enables to easily generate, explore and build reports for any COMOKIT experiment to be launched over High-Performance Computing (HPC) infrastructure.

## **Additional material**