

# Mathematical Models for Epidemiological Surveillance and Forecast: From the Lab to the Public

Marcelo Gomes (FIOCRUZ) marfcg@fiocruz.br

## **Resumo/Abstract:**

Mathematical and computational models in epidemics is already a established field of study in mathematics and physics. Not only several insights have been drawn from theoretical compartmental models, we are currently seeing ever more complex models, in the hopes of bringing them closer to reality and, therefore, making them more useful for preparedness and policy making in public health. If in the one hand this necessary increase in complexity makes models more useful, on the other hand it makes them more difficult to present to public health professionals and to implement them in near-real time in order to provide results in a timely manner. In this talk we will discuss two recent efforts for disease surveillance aimed at dengue and severe acute respiratory illness in the Brazilian territory. The first is already implemented and being used by municipalities in the states of Rio de Janeiro, Espírito Santo and Paraná, with access to public health authorities and to the general public, while the later is in its final stage before release to public health authorities.