

## **Post-doctoral position at Institut Pasteur Paris:**

### **Spatial temporal modelling of antibiotic resistant bacteria diffusion**

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A 2-year post-doctoral position in mathematical modelling is available at Institut Pasteur Paris, France, in the “Epidemiology and Modeling of evasion to antibacterials” unit (EMEA, ex Phemi) to work on antibiotic resistance diffusion at a global scale.

The antibiotic resistant bacteria and antibiotic resistance genes spread at the global scale, between countries and across boundaries or through long distance flights has been poorly investigated.

The post-holder will analyse the massive ATLAS database (<https://atlas-surveillance.com/>) and build mathematical models with the aim to predict the spatial and temporal spread of antibiotic resistance genes and species and to characterize associated risk factors. The analysis will rely on a variety of datasets describing resistance surveillance, antibiotic consumption and populations at the global level.

The post-holder will work in close collaboration with researchers from different fields (epidemiology, genomics, AMR, mathematical modelling) and will interact strongly with

- Lulla Opatowski (<https://research.pasteur.fr/fr/member/lulla-opatowski/>),
- Philippe Glaser (<https://research.pasteur.fr/en/team/ecology-and-evolution-of-antibiotics-resistance/>)
- Simon Cauchemez (<https://research.pasteur.fr/en/team/mathematical-modelling-of-infectious-diseases/>)

at Institut Pasteur.

This project is also a great opportunity to apply a variety of mathematical and statistical methods, in particular dynamic and spatial modelling, in a context of bacterial epidemiology and public health.

Applicants should have a PhD in infectious disease epidemiology, mathematical modelling, computational biology or relevant quantitative subject (e.g. mathematics, statistics, physics, etc). Applicants should have strong background in computer programming, modelling or related methodological development and excellent communication skills. Experience in epidemiology, health care related research and/or large datasets handling would be an advantage.

The appointment is for two years starting in spring 2020.

Interested candidates should send their application (CV, list of publications, motivation letter and names and two reference letters) to Lulla Opatowski ([lulla.opatowski@pasteur.fr](mailto:lulla.opatowski@pasteur.fr)) and Cecile Limouzin ([cecile.limouzin@pasteur.fr](mailto:cecile.limouzin@pasteur.fr)). Applications will be evaluated continuously until the position is filled.