

POST-DOCTORAL POSITION AVAILABLE

A 2-year post-doctoral position funded by the ANR-21-CE12-0006 project: Life-Saving Toxins, is open at the “Robustness and evolvability of life “ team at the Cochin Institute (INSERM U1016 - CNRS UMR8104 - Université de Paris) in Paris.

PROJECT: Our laboratory aims at elucidating biological role of toxin-antitoxin (TA) systems controlled by genotoxic-stress response regulon called SOS in *Escherichia coli*.

TA systems are genetic entities that are widespread in prokaryotes. While the molecular mode of action of many TA is identified, their biological roles are still mostly unknown or misinterpreted.

The advantage of studying SOS-controlled TAs is that SOS is arguably the best characterized DNA damage response regulon. The study of the SOS regulon contributed hugely to the understanding of how different DNA damage repair and tolerance functions are coordinated as a function of the nature, quantity and persistence of DNA damages. Because SOS regulon was first identified as a response to DNA damages, the role of SOS genes that are not directly involved in the DNA repair, such as TAs, was largely ignored.

By using a multidisciplinary approach based on phylogeny, natural isolates, genetics, molecular biology and animal models, this project aims at investigating how SOS-controlled toxins, which modulate cellular energy production and translation capacity, are functionally and temporally integrated in cellular strategy for dealing with DNA damages. We will also investigate if/how these toxins provide a competitive edge to their hosts when they have to deal with the fierce chemical warfare with other microbiota members, in particular during gut colonization and during infection-induced inflammation.

Identifying factors that contribute to bacterial robustness to environmental perturbations may provide new targets for antibacterial drugs and can also be useful for improvement of industrial microorganisms.

CANDIDATE PROFILE: We are looking for an experienced, motivated, independent and dynamic postdoc candidate. Candidate should have solid experience with the microbiology and molecular biology methodologies. The candidate is expected to contribute both experimentally and intellectually to the performance and development of the project. The candidate should be proficient in English both in writing and speaking.

APPLICATION: Please, send applications including CV with names and contact information of 2 referees, a complete list of publications and a statement of research interest directly to: ivan.matic@inserm.fr.

STARTING DATE: The position is available from the 1st January 2022. Note that the duration of the settlement of all administrative paperwork is around two months. Salary will be commensurate to previous experience and in line with the INSERM regulations.