

LERU STudent REseArch Mobility Programme (STREAM)  
Project proposal



**Host University:**  
Università degli studi di Milano



**Field:**  
Chemistry

**Specified field, subject:**  
Biomolecular and biochemistry sciences

**Research project title:**  
Investigation on a class of polyether antibiotics as potential anti-malarial agents



Possible starting month(s):

Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
x											

Possible duration in months:

1	2	3	4	5	6
					x

**Suitable for students in:** 2<sup>nd</sup> cycle (Master students)

**Prerequisites:** Students at the end of 2<sup>nd</sup> cycle degree

**Restrictions:** Students in Biology, Biotechnology, Pharmacology; basic skills in molecular and cell biology, biochemistry. English level B2

**Description:**

Chemotherapy is the most effective tool to cure and to prevent the transmission of malaria. However, the increased parasite resistance to the WHO approved, conventional treatments makes very urgent the identification of new curative and transmission blocking agents.

Our group has demonstrated the activity of a series of monovalent ionophores (salinomycin, monensin), largely used in veterinary medicine, against *P. falciparum* asexual and sexual stages, the gametocytes, those responsible for malaria transmission (D'Alessandro et al 2015). The focus of the project is to analyze the mechanism of action of the monovalent ionophores against the gametocytes; to identify the target; to screen a library of polyether antibiotics of the same class as potential novel antimalarial agents.

The 2<sup>nd</sup> cycle student will learn specialized in vitro techniques for growing *Pf* gametocytes, performing drug susceptibility assays to screen the new library, investigating the biochemical/cellular modification induced by the novel ionophores.



**Faculty or Department** Department of Pharmacological and Biomolecular Sciences - Università degli Studi di Milano

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