POSTDOCTORAL fellowship position

Antibiotic-inspired, activity-based probes for serine proteases profiling in *Trypanosoma cruzi*.

NTD Global Network – Proof of Concept Funding

GCRF (Global Challenges Research Fund)-UK

PI: Dr. Guillermo Labadie.
Co-PIs: Dr. Patrick Steel (Durham University)
Dr. Julia Cricco (IBR-CONICET)
Dr. Iqbal Choudhary (University of Karachi).

Place: Department of Organic Chemistry, Fac. de Cs. Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario. Rosario, Santa Fe. Argentina.

Conditions: Ph.D. in Chemistry or similar (Ph.D. finished by March 31st, 2019). A complete CV, an intention letter and 2 (two) references. Experience in synthetic organic chemistry, solid phase synthesis, parasitology will be considered (not excluding) and good English skills.

Applications must be submitted by e-mail to: Dr. Carina Delpiccolo (delpiccolo@iquir-conicet.gov.ar) and/or Dr. Agustina La Venia (lavenia@iquir-conicet.gov.ar).

Deadline: 1/03/2019.

Position starts on 01/04/2019 and extended for 24 months (fellowship stipend equivalent to CONICET postdoctoral fellowship, transportation and installation expenses are not included).

Abstract:
There are between 6 to 7 million people infected worldwide with *Trypanosoma cruzi*, the parasite that causes Chagas disease, principally in Latin America but the disease is spreading to other continents. Benznidazole and nifurtimox are the approved drugs for treatment of *T. cruzi* infection, but are only effective against the acute form of the disease, and their efficacy varies according to the drug susceptibility of different parasite strains. This treatment scenario, together with natural resistance in some strains to both drugs, underpins the urgent need to develop new anti-*T. cruzi* drugs.
A critical step in the new drug-development pipeline is the discovery and validation of well-characterized targets. This project offers an opportunity to develop a set of chemical probes, and use these to identify new *T. cruzi* proteins as putative drug targets. These probes will contain irreversible inhibitors attached to a detectable or handle group, allowing protein target identification, isolation and purification.
Serine proteases have been indicated previously as potential drug targets in *T. cruzi*, but not systematically studied in trypanosomatids. Using b-lactam antibiotics as warheads for activity-based probes, we will identify and validate new *T. cruzi* serine proteases as new drug targets, enabling the initiation of novel drug development programmes within the wider NTD Network membership.