



Call for Fellowships Afrique One-ASPIRE

TTP1: Canine Rabies Control and Elimination

[Ref: TTP1-Rabies-PhD4/PDF](#)

Project Title: The relationship of dog density, social network of dogs, human demography and socio-cultural background in regard to rabies transmission

Enrolment: A PhD Fellow will be most likely enrolled at CSRS, Côte d'Ivoire. A Postdoctoral Fellow may negotiate to be enrolled/based at one of the Afrique One-ASPIRE institutions.

Project summary: Rabies is a deadly zoonosis that kills 59,000 people every year, mostly in resource limited settings in Africa and Asia. Over 95% of human rabies cases are due to exposure through an infected domestic dog. The feasibility of elimination of canine rabies has been proven by a large body of epidemiological evidence and international agencies have set the target of zero human deaths from canine-mediated rabies by 2030. However, gaps remain regarding the understanding of the intermediate and long-distance transmission of rabies. Detailed knowledge of the epidemiological dynamics and spatial progression of rabies are a prerequisite to guide future elimination strategies and prevention of reintroduction of rabies into previously vaccinated areas. Rabies transmission is influenced by multiple factors such as dog density and social interaction, geographical barriers, human mediated movement of dogs and socio-economic and socio-cultural aspects of human populations that shape dog demography.

A project funded by the Swiss National Foundation on social networks of dogs in N'Djaména, Chad using georeference contact sensors is currently on-going and will be extended in the scope of the proposed PhD program to Ivory Coast and Mali. Incidence data and rabies strains are currently being collected in selected regions of Chad, Ivory Coast and Mali, within the project on the estimation of the burden of rabies in West and Central Africa and will continue to be collected during the proposed PhD duration.

All positive samples collected over 4 years of surveillance will be sequenced and provide insight into the phylogeographical distribution and the epidemiological

progression of rabies virus over time by phylodynamic methods. Together with data on the social and economic background of the study areas and the dog population determinants the transmission of rabies can be described in detail and the analysis will provide a decision framework for the planning of national dog mass vaccination interventions. Comparison with similar data of studies in East Africa can complement the analysis.

The program will be built on data collected during the GAVI funded project on Estimation of the burden of rabies in West and Central Africa and the SNF funded project on social networks of dogs.

Mentorship team: Experts in rabies epidemiology, One Health and intervention research including: Jakob Zinsstag (Swiss TPH), Monique Léchenne and Vesally Kallo, Direction des Services Vétérinaires (DSV), Hervé Bourhy (Institut Pasteur); Tanja Stadler (ETHZ)

Qualifications: The candidate must be a citizen of an African country. Candidates from any discipline contributing to One Health (e.g. public health, veterinary and animal sciences and epidemiology) will be considered. Candidates with a Master's degree in a relevant field and proficiency in English are preferred. The project could also be adapted for a Postdoc position.

Duration and Training: The project duration will be 3.5 years. Training will be provided primarily at CSRS, with opportunities for further training within the Afrique One-ASPIRE consortium and with supervisory partners in Switzerland. Laboratory training will be provided by Institut Pasteur in Paris.

For more information, contact the co-leads:

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