

i) **FAPESP/ Belmont/Brasil** (Processo: 19/23593-3).

Title: Cartography of Pathogenic Landscapes involved in the occurrence and dynamics of Schistosomiasis in the Microregion of Ourinhos, SP

ii) Supervisor: Dr. Antonio Miguel Vieira Monteiro

iii) Institution where the Project will be developed: INPE

iv) Summary

This PostDoc opportunity is linked to a FAPESP sponsored project that is part of the transnational project, “Integrated risk mapping and targeted snail control to support schistosomiasis elimination in Brazil and Cote d'Ivoire under future climate change”, promoted by Belmont Forum and with participating teams from United States, United Kingdom, Africa and Brazil. The postdoc fellow will be supervised by Dr. Antonio Miguel Vieira Monteiro, at National Institute for Space Research, INPE at São José dos Campos, São Paulo, in partnership with researchers and labs of the four countries.

The micro-region of Ourinhos has a combination of environmental and social factors (hydrology, vegetation, soil characteristics, land cover and land use, dams, an agrarian dynamics, the health system services) that has kept schistosomiasis transmission active in the region. The objective of this project is to produce innovative cartographies to represent elements of the natural landscape and the social landscape in an integrated manner for an area, in the middle section of the Paranapanema river, of active transmission of schistosomiasis involving municipalities in the micro region of Ourinhos, SP. The project involves mainly the use of optical images from the Earth Observation Satellites Programs (Landsat-USA/NASA) , CBERS-China/Brazil and Sentinel-EU/ESA) and images generated by drone with embedded Multispectral Camera and Laser Scanner sensors. In addition to the remote sensing data information from different sources for hydrographic databases, land use and coverage databases, geomorphometric databases, geology and pedology mappings and the point-localisation of intermediate hosts (snails), the demographic and agricultural censuses and the CNEFE (IBGE) bases, the information from the CAR-*Cadastro Rural Ambiental* and data from the health information systems. The resulting cartographies must describe the characteristics of this regional landscape associated with the conditions involved in the production of the risk for schistosomiasis in this territory.

Qualifications

Ph.D. in Remote Sensing, Landscape Ecology, Geography, Geoinformation Science, Data Science, Spatial Econometrics, Spatial Epidemiology, Biology, Environmental Engineer or related fields (completed no more than seven years ago)

The candidate must be able to work independently, as well as with an interdisciplinary team. Experience with techniques associated with remote sensing images; Experience with census databases and health databases; Experience with statistical analysis techniques and knowledge of spatial statistics; Experience with Geographic Information Systems and open computational statistics environments. A good command of the written and spoken English language is required.

Fellowship

The selected candidate will be awarded with a FAPESP Post-Doctoral fellowship. It includes a monthly stipend of R\$ 7,373.10 (Brazilian Real) plus a research contingency fund of 15% of the annual value of the fellowship, each year. For more details, please see <https://fapesp.br/en/postdoc>, modality (a)

The FAPESP process to which this fellowship is linked is 2019/23593-3.

The doctorate degree must have been earned no longer than seven years before the beginning of the postdoc fellowship

The fellowship is yearly renewable, for up to two Years

Application instructions

The position is available immediately, with application subject to approval by FAPESP

Interested candidates should send an email to miguel.monteiro@inpe.br, with subject "*Belmont FAPESP Postdoc application*", containing the following information:

- CV
- A brief cover letter explaining research experiences and how the candidate's research interests fit the goals of the project,
- The names and contact information of two to three references that area familiar with the applicant's research and academic work.

Further information

For additional information, please contact Miguel Monteiro - INPE at miguel.monteiro@inpe.br and Roseli Tuan – SUCEN at roselitan@gmail.com .