Opportunity for Postdoctoral Position in Atmospheric Physics

The Institute of Physics (IF) of the University of São Paulo (USP), located in São Paulo-Brazil, is seeking a Postdoc to work on aerosol-cloud interaction studies. The proposed activities involve coordinate observations from vertically-pointing radars and Lidars installed close to the Amazon Tall Tower Observatory (ATTO) tower (https://www.attoproject.org/), and running high resolution models. The fellowship will be part of the FAPESP Thematic Project 2017/17047-0 ("Aerosol and clouds life cycles in Amazonia: biogenic emissions, biomass burning and impacts on ecosystem").

The main goal of the project is to perform idealized large-eddy simulations (LES) of shallow cumulus clouds to identify possible regimes of convective invigoration or inhibition due to increased aerosol pollution. This analysis will be performed on clouds affected differently by aerosols in the wet season as well as in the biomass burning season. The overall characteristics of the clouds will be validated against the vertically pointing cloud radar MIRA-35C in operation 5 km from ATTO. This radar detects the early development stages of the clouds and is ideally suited to constrain the simulations of the shallow cumulus. The vertical motions both outside and inside the clouds will be retrieved using the radar wind profiler LAP3000, providing a more complete picture to guide the simulations. Vertical aerosol distribution will be measured with polarized Micro Pulse Lidar, as well as with a Raman Lidar in operation at the same ATTO site.

The candidate should have a Ph.D. in Atmospheric Sciences, physics or meteorology, with good communication skills in English (both written and spoken forms) and a proven record of international collaborations as well as publications. Necessary skills include: 1) ability to work with Fortran or other programming languages; 2) experience with data analysis from meteorological radars (either scanning or vertically pointing); 3) experience with data handling and visualization software such as Python, MatLab and R; 4) good theoretical understanding of cloud microphysics and aerosol-cloud interactions.

Interested candidates should send a letter of intent together with a CV to Prof. Paulo Artaxo, e-mail: **artaxo@if.usp.br**. We will accept candidates until **September 27, 2020**.

The contract is for 1 year, with possibility of renewal upon performance for one more year. The current FAPESP Post-Doc scholarship is at R$ 7,373.10 monthly and includes an additional fund equivalent to 15% of the annual value of the scholarship to cover other costs involved in the project. For researchers outside São Paulo, FAPESP also covers relocation expenses with air ticket and an additional monthly payment for initial setup in Brazil. Rules of the FAPESP Pos Doc program can be found at https://fapesp.br/en/postdoc.

Candidates can contact Prof. Paulo Artaxo, artaxo@if.usp.br if any extra information is needed.