Stanford

Desirée Rodrigues Plaça

Postdoctoral Scholar, Infectious Diseases

Bio

HONORS AND AWARDS

- Fellowship for research internship abroad, São Paulo State Research Support Foundation (FAPESP) (2022)
- Doctoral Researcher Fellowship, São Paulo State Research Support Foundation (FAPESP) (2020)
- Santander Universities Ibero-American Scholarship, Santander (2017)
- PIBIC scholarship grant, CAPES (2015)
- Scientific Initiation scholarship awarded by the Young Talents for Science Program,, CAPES (2013)

PROFESSIONAL EDUCATION

- Ph.D, University of Sao Paulo, Brazil , Pharmacy and Pathophysiology (2024)
- B.S., Institute of Science and Technology, Federal University of Sao Paulo, Brazil , Biotechnology (2017)
- Studentship, Superior Health School of Porto, Portugal , Medicinal Biotechnology (2017)
- Research Internship, Paulista School of Medicine, Federal University of Sao Paulo, Brazil , Medicine (2016)
- B.S., Institute of Science and Technology, Federal University of Sao Paulo, Brazil , Science and Technology (2015)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I am dedicated to understanding the interplay between Flaviviridae viruses, particularly dengue (DENV) and Zika (ZIKV), and the human host in the context of viral infections and disease pathogenesis. My research focuses on T cell and myeloid dysregulation in severe dengue to inform safer and more effective vaccine design, as well as the identification of biomarkers and therapeutic targets.

I've employed a systems immunology approach to identify immune determinants shared between DENV vaccines and natural infection. My work provided a phenotypic characterization of T cell subtypes in the DENV-specific immune response, shedding light on T cell differentiation mechanisms. Since beginning my postdoctoral training in November 2024, I have generated and analyzed high-quality CITE-seq data from dengue patients and have been characterizing the regulatory immune response to DENV through integrative systems analysis. My ultimate goal is to contribute to the development of improved diagnostic tools and vaccines for pediatric infectious diseases, particularly in endemic regions like Brazil.

Publications

PUBLICATIONS

- **Immunological signatures unveiled by integrative systems vaccinology characterization of dengue vaccination trials and natural infection.** *Frontiers in immunology*

Plaça, D. R., Fonseca, D. L., Marques, A. H., Zaki Pour, S., Usuda, J. N., Baiocchi, G. C., Prado, C. a., Salgado, R. C., Filgueiras, I. S., Freire, P. P., Rocha, V., Camara, N. O., Catar, et al

2024; 15: 1282754

- **Interferome signature dynamics during the anti-dengue immune response: a systems biology characterization.** *Frontiers in immunology*

  Usuda, J. N., Plaça, D. R., Fonseca, D. L., Marques, A. H., Filgueiras, I. S., Chaves, V. G., Adri, A. S., Torrentes-Carvalho, A., Hirata, M. H., Freire, P. P., Catar, R., Cabral-Miranda, G., Schimke, et al

  2023; 14: 1243516

- **Integrative systems immunology uncovers molecular networks of the cell cycle that stratify COVID-19 severity.** *Journal of medical virology*

  Prado, C. a., Fonseca, D. L., Singh, Y., Filgueiras, I. S., Baiocchi, G. C., Plaça, D. R., Marques, A. H., Dantas-Komatsu, R. C., Usuda, J. N., Freire, P. P., Salgado, R. C., Napoleao, S. a., Ramos, et al

  2023; 95 (2): e28450

- **Autoantibodies targeting GPCRs and RAS-related molecules associate with COVID-19 severity.** *Nature communications*

  Cabral-Marques, O., Halpert, G., Schimke, L. F., Ostrinski, Y., Vojdani, A., Baiocchi, G. C., Freire, P. P., Filgueiras, I. S., Zyskind, I., Lattin, M. T., Tran, F., Schreiber, S., Marques, et al

  2022; 13 (1): 1220