



## Rafael Stern

Postdoctoral Scholar, Earth System Science

### Bio

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#### BIO

Rafael Stern was born and raised in Rio de Janeiro, Brazil. He is 35 years old, and married to Gal. Rafael has a BSc in Geography from the Geosciences Department of Universidade Federal Fluminense, in Niterói, Rio de Janeiro, Brazil. He has a MSc from the Climate and Environment Department of the National Institute of Amazon Research in Manaus, Amazonas, Brazil, with the supervision of prof. Paulo Artaxo, and he measured the physical and chemical properties of atmospheric particles during forest fires season in the Amazon rainforest. He has a PhD from the Earth and Planetary Sciences Department of the Weizmann Institute of Science in Rehovot, Israel, with the supervision of prof. Dan Yakir, and he used a mobile eddy covariance station to compare the biogeophysical and biogeochemical effects of different ecosystems and of PV fields on drylands.

#### STANFORD ADVISORS

- Rob Jackson, Postdoctoral Faculty Sponsor

### Publications

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#### PUBLICATIONS

- **Key Environmental and Ecological Variables of Wetland CH<sub>4</sub> and CO<sub>2</sub> Fluxes Change With Warming** *EARTHS FUTURE*  
Li, M., Li, F., Malhotra, A., Knox, S. H., Stern, R., Jackson, R. B.  
2025; 13 (6)
- **Photovoltaic fields largely outperform afforestation efficiency in global climate change mitigation strategies.** *PNAS nexus*  
Stern, R., Muller, J. D., Rotenberg, E., Amer, M., Segev, L., Yakir, D.  
2023; 2 (11): pgad352
- **The underappreciated importance of small wetlands in global methane emissions** *NATURE CLIMATE CHANGE*  
Li, F., Zhu, Q., Yuan, K., Fluet-Chouinard, E., Zhang, X., Wang, J., Knox, S. H., You, H., Chen, M., Li, M., Stern, R., Hoyt, A. M., McNicol, et al  
2026
- **Strong influence of black carbon on aerosol optical properties in central Amazonia during the fire season** *ATMOSPHERIC CHEMISTRY AND PHYSICS*  
Stern, R., de Brito, J. F., Carbone, S., Varanda Rizzo, L., Muller, J., Artaxo, P.  
2025; 25 (16): 9451-9469
- **Leaf carbon monoxide emissions under different drought, heat, and light conditions in the field.** *The New phytologist*  
Muller, J. D., Qubaja, R., Koh, E., Stern, R., Bohak, Y. L., Tatarinov, F., Rotenberg, E., Yakir, D.  
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