Stanford

Piere Rodriguez Aliaga

Basic Life Research Scientist

Biology

Bio

ACADEMIC APPOINTMENTS

- Basic Life Research Scientist, Biology

HONORS AND AWARDS

- Postdoctoral fellowship, Hereditary Disease Foundation

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Chair of the organizing committee, Biophysical Society Thematic Meeting: "Revisiting the Central Dogma at the Single Molecule Level" (2018 - 2019)

Publications

PUBLICATIONS

- **Dissection of the conformational switch that regulates huntingtin's aggregation and toxicity**
  Rodriguez-Aliaga, P., Sosa, R. P., Bustamante, C., Frydman, J.
  CELL PRESS.2025

- **BPS2025-Brain malformations and seizures by impaired function of TRiC chaperonin folding machinery**
  Rodriguez-Aliaga, P., Kraft, F., Yuan, W., Pak, S., Frydman, J., Elbracht, M., Kurth, I.
  CELL PRESS.2025: 174A

- **In situ analysis reveals the TRiC duty cycle and PDCD5 as an open-state cofactor.** *Nature*
  Xing, H., Rosenkranz, R. R., Rodriguez-Aliaga, P., Lee, T. T., Majtner, T., Böhm, S., Turoňová, B., Frydman, J., Beck, M.
  2024

- **Brain malformations and seizures by impaired chaperonin function of TRiC.** *Science (New York, N.Y.)*
  Kraft, F., Rodriguez-Aliaga, P., Yuan, W., Franken, L., Zajt, K., Hasan, D., Lee, T. T., Flex, E., Hentschel, A., Innes, A. M., Zheng, B., Julia Suh, D. S., Knopp, et al
  2024; 386 (6721): 516-525

- **Clinical validation of RCSMS: A rapid and sensitive CRISPR-Cas12a test for the molecular detection of SARS-CoV-2 from saliva.** *PloS one*
  Abugattas-Núñez Del Prado, J., Quintana Reyes, A., Leon, J., Blume La Torre, J., Gutiérrez Loli, R., Pinzón Olejua, A., Chamorro Chirinos, E. R., Loza Mauricio, F. A., Maguiña, J. L., Rodriguez-Aliaga, P., Málaga-Trillo, E.
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- **Diversity, Equity and Inclusion in the Laboratory: Strategies to Enhance Inclusive Laboratory Culture.** *Molecular cell*
  Marshall, A. G., Vue, Z., Beasley, H. K., Neikirk, K., Stephens, D., Wanjalla, C. N., Damo, S. M., Trejo, J., Rodriguez-Aliaga, P., Headley, C. A., Shuler, H., Liu, K., Smith, et al
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- **A Practical Guide to Graduate School Interviewing for Historically Excluded Individuals.** *American journal of physiology. Heart and circulatory physiology*

Ransey, E., Brookens, S., Beasley, H. K., Marshall, A., Marlin, B. J., Rodriguez-Aliaga, P., Headley, C. A., Wanjalla, C., Vazquez, A. D., Murray, S., Damo, S., Taabazuing, C. Y., Hinton, et al
2023

- **Dissecting the structural basis of Huntingtin pathogenesis: one molecule at the time**
  Rodriguez-Aliaga, P., Sosa, R. P., Bustamante, C., Frydman, J.
  CELL PRESS.2022: 22

- **Knots can impair protein degradation by ATP-dependent proteases.** *Proceedings of the National Academy of Sciences of the United States of America*
  San Martín, Á. n., Rodriguez-Aliaga, P. n., Molina, J. A., Martin, A. n., Bustamante, C. n., Baez, M. n.
  2017; 114 (37): 9864–69

- **Substrate-translocating loops regulate mechanochemical coupling and power production in AAA plus protease C1pXP** *NATURE STRUCTURAL & MOLECULAR BIOLOGY*
  Rodriguez-Aliaga, P., Ramirez, L., Kim, F., Bustamante, C., Martin, A.
  2016; 23 (11): 974-981

- **Key Roles of Translocating Loops in the Mechanochemical Coupling and Power Production of a AAA(+) Protease Machine**
  Rodriguez-Aliaga, P., Ramirez, L., Kim, F., Bustamante, C., Martin, A.
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- **New insights into the regulatory mechanisms of ppGpp and DksA on Escherichia coli RNA polymerase–promoter complex** *Nucleic Acids Research*
  Doniselli*, N., Rodriguez-Aliaga*, P., Amidani, D., Bardales, J. A., Bustamante, C., Guerra, D. G., Rivetti, C.
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- **Protein denaturation at a single-molecule level: the effect of nonpolar environments and its implications on the unfolding mechanism by proteases.** *Nanoscale*
  Cheng, B., Wu, S., Liu, S., Rodriguez-Aliaga, P., Yu, J., Cui, S.
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- **The ClpXP Protease Unfolds Substrates Using a Constant Rate of Pulling but Different Gears** *CELL*
  Sen, M., Maillard, R. A., Nyquist, K., Rodriguez-Aliaga, P., Presse, S., Martin, A., Bustamante, C.
  2013; 155 (3): 636-646