



Jacob P Schwartz

Ph.D. Student in Molecular and Cellular Physiology, admitted Autumn 2021

Bio

BIO

I am interested in the epigenetic regulation of large chromatin domains and the dynamics of protein-DNA interactions at genomic scale, with a particular fondness for all things centromere.

EDUCATION AND CERTIFICATIONS

- BA, Carleton College , Biology (Biochemistry) (2019)

Research & Scholarship

LAB AFFILIATIONS

- Aaron Straight (6/1/2022)

Publications

PUBLICATIONS

- **Haplotype-resolved centromeric chromatin organization from a complete diploid human genome.** *bioRxiv : the preprint server for biology*
Xu, Y., Loucks, H., Menendez, J., Ryabov, F., Lucas, J. K., Cechova, M., Morina, L., Xu, E., Dubocanin, D., Chittenden, C., Asri, M., Violich, I., Ortiz, et al
2026
- **Phosphorylation of Xenopus M18BP1 governs centromeric localization and CENP-A nucleosome assembly.** *EMBO reports*
Brown, R. R., Schwartz, J. P., Ghadri, L., Straight, A. F.
2026
- **Integrated analysis of multimodal long-read epigenetic assays.** *bioRxiv : the preprint server for biology*
Marcus, J., Dixon-Luinenburg, O., Gamarra, N., Schwartz, J. P., Rozenwald, M., Maslan, A., Urnov, F. D., Straight, A. F., Altemose, N., Ioannidis, N. M., Streets, A.
2025
- **Histone H3 lysine methyltransferase activities control compartmentalization of human centromeres.** *bioRxiv : the preprint server for biology*
Sidhwani, P., Schwartz, J. P., Fryer, K. A., Straight, A. F.
2025
- **DiMeLo-cito: a one-tube protocol for mapping protein-DNA interactions reveals CTCF bookmarking in mitosis.** *bioRxiv : the preprint server for biology*
Gamarra, N., Chittenden, C., Sundararajan, K., Schwartz, J. P., Lundqvist, S., Robles, D., Dixon-Luinenburg, O., Marcus, J., Maslan, A., Franklin, J. M., Streets, A., Straight, A. F., Altemose, et al
2025

- **Structure of phosphorylated-like RssB, the adaptor delivering σ s to the ClpXP proteolytic machinery, reveals an interface switch for activation.** *The Journal of biological chemistry*
Brugger, C., Schwartz, J., Novick, S., Tong, S., Hoskins, J. R., Majdalani, N., Kim, R., Filipovski, M., Wickner, S., Gottesman, S., Griffin, P. R., Deaconescu, A. M.
2023; 299 (12): 105440
- **Phospho-dependent signaling during the general stress response by the atypical response regulator and ClpXP adaptor RssB** *PROTEIN SCIENCE*
Schwartz, J., Son, J., Brugger, C., Deaconescu, A. M.
2021; 30 (4): 899-907
- **Sexually experienced, but not naive, female rats show a conditioned object preference (COP) for mating after a single training trial** *PHYSIOLOGY & BEHAVIOR*
Piergies, A. M. H., Hicks, M. E., Schwartz, J. P., Meerts, S. H.
2019; 198: 42-47